

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

Minimálne kritéria na získanie titulu profesor na STU v Bratislave. Odbor inauguračného konania: Automatizácia. Schválené vo VR STU 22.02. 2021 - Tabuľka

Minimálne kritéria na získanie titulu profesor na STU v Bratislave. Odbor inauguračného konania: Automatizácia. Schválené vo VR STU 22.02. 2021:

Minimálne povinné požiadavky	Požadované minimálne hodnoty	Skutočné
	Profesor	
I. Vzdelávacia činnosť a tvorba študijných materiálov: Vzdelávacia činnosť v rozsahu: Vysokoškolská učebnica alebo učebný text(skriptá) Záverečné práce obhájené pod vedením uchádzača	3 roky po doc. 1 (3 AH)	6 2(9,91 AH)
	2 (3 AH)	1(2,68 AH)
	15	112
II. Vedeckovýskumná alebo tvorivá umelecká aktivita *) Výstupy v kategóriách A+, A, A- a B z toho výstupy v kategóriách A+ a A:	40(10)	73(29)
	6(3)	8(7)
III. Ohlasy na publikačnú alebo umeleckú aktivitu*) Ohlasy spolu z toho: Ohlasy registrované vo WoS alebo SCOPUS:	40(12)	186(145)
	20(10)	166(140)
IV. Vedecká škola Výchova doktorandov: (skončený/po dizertačnej skúške): Účastník/vedúci výskumného umeleckého projektu:	2	6
	1/1	3/2
	3/1	24/8

*) V zátvorke sú uvedené počty za posledných 5 rokov.

Kategorizácia výstupov:

A+	publikácie v časopise Q1 alebo Q2 (WoS, alebo SCOPUS), monografia alebo kapitola MRV, publikácie vo WoS alebo SCOPUS ¹⁾ , medzinárodný patent
A	publikácia v časopise Q3 alebo Q4 ³⁾ , ostatné publikácie vo WoS alebo SCOPUS ²⁾ , publikačný výstup zo svetového kongresu (vedecká práca v recenzovanom zborníku svetového kongresu WoS alebo Scopus, vydanom celosvetovo uznávanými inštitúciami IFAC, IFIP, IEEE, ACM, IET, SPIE, IACM, ECCOMAS), vedecká monografia alebo kapitola v monografii vo svetovom jazyku vydaná v zahraničnom vydavateľstve nezaradená v A+
A-	ostatné publikácie vo WoS alebo SCOPUS, vedecká monografia alebo kapitola v monografii vo svetovom jazyku vydaná v domácom vydavateľstve, národný patent
B	ostatné recenzované publikácie v časopisoch alebo v zborníkoch z medzinárodnej konferencie, úžitkový vzor

Vysvetlivky:

Akceptuje sa zaradenie časopisu do kvartilov podľa WoS alebo SCOPUS.

MRV - medzinárodné renomované vydavateľstvo (zoznam STU)

1) aspoň 10 citácií (bez autocitácií) vo WoS alebo SCOPUS

2) aspoň 5 citácií (bez autocitácií) vo WoS alebo SCOPUS

3) časopis Q4 (WoS alebo SCOPUS) s IF > 0,4

V Bratislave, 02.11.2021

doc. Ing. Ján Vachálek, PhD.
uchádzač

prof. Ing. Stanislav Ďuriš, PhD.

Prodekan pre vedu, výskum a
doktorandské štúdium

Strojníckej fakulty STU v Bratislave

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

I. Vzdelávacia činnosť a tvorba študijných materiálov

Vzdelávacia činnosť v rozsahu

Vzdelávacia činnosť v rozsahu:

Požadované: 3 roky po doc.

Plnené: 6 rokov po doc.

Dekrét č. 708 vedecko pedagogický titul docent v odbore automatizácia s účinnosťou 1. 4. 2015, **6 rokov po doc. (notársky overený originál je v prílohe č. 02 žiadosti).**

SLOVENSKÁ REPUBLIKA
SLOVENSKÁ TECHNICKÁ UNIVERZITA V BRATISLAVE

DEKRÉT

číslo 708

Podľa § 10 ods. 7 zákona č. 131/2002 Z. z. o vysokých školách
a o zmene a doplnení niektorých zákonov v znení neskorších predpisov
udelujem

Ing. Jánovi Vacháľkovi, PhD.,

nar. 3. decembra 1973 v Bratislave

vedecko-pedagogický titul

docent


v odbore: automatizácia

s účinnosťou od 1. 4. 2015.

Názov habilitačnej práce: Dlhodobá priebežná identifikácia časovo premenlivých systémov.

Predseda habilitačnej komisie: prof. Ing. Boris Rohal-Ilkiv, CSc.

Miesto a dátum obhajoby: SJF STU v Bratislave 17. 3. 2015.


prof. Ing. Robert Redhammer, PhD.
rektor

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

I. Vzdelávacia činnosť a tvorba študijných materiálov

Vysokoškolská učebnica alebo učebný text (skriptá)



**SLOVENSKÁ TECHNICKÁ
UNIVERZITA V BRATISLAVE**

Vysokoškolská učebnica alebo učebný text (skriptá), rozsah 3AH**Požadované: 1 učebnica alebo 2 skriptá, rozsah 3AH****Plnené: 2 učebnice (v percentuálnom prepočte: 4.465 AH a 5.46 AH) a 1 skriptá (2.68 AH)****2 učebnice:**

1. VACHÁLEK, Ján [50 %] - TAKÁCS, Gergely [50 %]. Robotika. 1. vyd. Bratislava : Nakladateľstvo STU, 2014. 166 s., 96 obr., 2 tab. ISBN 978-80-227-4163-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie. ACB. Rozsah 8.930 AH.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=4D971E4325F38162E7AD77C822>

2. TAKÁCS, Gergely [40 %] - VACHÁLEK, Ján [40 %] - ROHAL-ILKIV, Boris [20 %]. Identifikácia sústav. 1. vyd. Bratislava Nakladateľstvo STU 2014. 281 s., 100 obr., 5 tab. ISBN 978-80-227-4288-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie. ACB. Rozsah 13.651 AH.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=E138F683DEDF5BB9C67C048369>

1 skripta:

1. VACHÁLEK, Ján [50 %] - KRASŇANSKÝ, Pavol [25 %] - TÓTH, Filip [25 %]. Robotika : návody na cvičenia. 1. vyd. Bratislava : Nakladateľstvo STU, 2014. 125 s., 88 obr., 4 tab. ISBN 978-80-227-4164-4. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie. BCI. Rozsah 5.361 AH.

http://www.crepc.sk/portal?fn=*recview&uid=1367063&pageId=resultform&full=0



doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

I. Vzdelávacia činnosť a tvorba študijných materiálov

Záverečné práce obhájené pod vedením uchádzača



**SLOVENSKÁ TECHNICKÁ
UNIVERZITA V BRATISLAVE**

Záverečné práce obhájené pod vedením uchádzača**Požadované: 15****Plnené: 112****Počet: 112 (38 BP, 71 DP, 3 DizP)****Bakalárske práce (BP) za roky 2008 až 2021, výpis z AIS:**

Por. Typ	Meno	Názov práce	Dokedy
1. BP	<u>Bartko Michal, Ing., PhD.</u>	Moderné metódy priebežnej identifikácie systémov a ich nasadenie v strojárstve	jún 2011
2. BP	<u>Brňo Adam, Ing.</u>	Koncepčný návrh robotizovaného pracoviska s využitím projekčného softvéru ABB RobotStudio pre paletizačné logistické úkony	jún 2016
3. BP	<u>Bunová Mária, Ing.</u>	Využitie bezdrôtových technológií na báze Z-Wave pre návrh konceptu inteligentnej domácnosti za pomoci vnorených platforiem na báze Raspberry PI	jún 2016
4. BP	<u>Čakvári Štefan, Ing.</u>	Metódy riadenia a stabilizácie mobilného lietajúceho agenta kvadrikopty	jún 2013
5. BP	<u>Demeter Václav, Ing.</u>	Návrh a prevedenie konštrukčných úprav lietajúceho mobilného prieskumného agenta	jún 2012
6. BP	<u>Domin Adam, Ing.</u>	Využitie súčasných sieťových technológií v strojárstve	jún 2013
7. BP	<u>Đuriš Sabína, Bc.</u>	Metódy inteligentného zobrazovania dát a vzdialeného ovládania IoT zariadení	máj 2021
8. BP	<u>Findl Oliver, Ing.</u>	Možnosti nasadenia WiFi bezdrôtovej komunikácie a jej využitie v strojárstve	jún 2011
9. BP	<u>Gajdoš Tomáš, Ing.</u>	Koncepčný návrh robotizovaného pracoviska pre bezkontaktné zváranie s využitím projekčného softvéru ABB RobotStudio	jún 2016
10. BP	<u>Géci Marián, Ing.</u>	Programové vybavenie laboratórneho robotického ramena	jún 2013
11. BP	<u>Haburčák Ivan, Ing.</u>	Využitie bezdrôtových technológií na báze ZigBee pre návrh konceptu inteligentnej domácnosti	jún 2014
12. BP	<u>Hapena Jozef, Bc.</u>	Návrh a simulácia robotického pracoviska v prostredí Siemens Tecnomatix Proces Simulate	jún 2020
13. BP	<u>Harmata Ľubomír, Ing.</u>	Návrh robotickej logistickej paletovacej linky v prostredí ABB Robot Studio	jún 2015
14. BP	<u>Hošo Ján, Ing.</u>	Využitie najnovších 3D herných grafických akcelerátorov pre strojárenské softvérové aplikácie	jún 2011
15. BP	<u>Chvostaľ Matúš, Ing.</u>	Ovládanie mobilného prieskumného robotického agenta v 3D priestore	jún 2014
16. BP	<u>Kasanovský Matúš, Bc.</u>	Proces triedenia materiálu na robotickom pracovisku pomocou RGB snímača	jún 2020
17. BP	<u>Klapáč Maroš, Ing.</u>	Návrh výrobnjej robotickej obrábacej linky v prostredí ABB Robot Studio	jún 2015

Por. Typ	Meno	Názov práce	Dokedy
18. BP	<u>Kmet' Vladimír, Ing.</u>	On-line programovanie robotizovaného pracoviska s priemyselným robotom KUKA KR3R540	máj 2019
19. BP	<u>Kotora Marek, Ing.</u>	Možnosti využitia interných GPU procesorov u moderných 3D akcelerátorov pre numerické výpočty v strojárenských aplikáciách	jún 2013
20. BP	<u>Kožuškanič Dávid, Bc.</u>	Realizácia zabezpečenia robotického pracoviska využitím nových bezpečnostných prístupov	jún 2020
21. BP	<u>Kvocera Martin, Ing.</u>	Využitie 3D senzorických systémov na báze MS Kinect pre návrh konceptu inteligentnej domácnosti	jún 2014
22. BP	<u>Leginus Matúš, Ing.</u>	Využitie RTLS lokalizačných systémov v priemyselnej praxi	máj 2019
23. BP	<u>Lubelan Jakub, Bc. et Bc.</u>	Siemens Technomatix PLM Process Simulate a možnosti tvorby robotických priemyselných výrobných pracovísk	máj 2018
24. BP	<u>Michal Marko, Ing.</u>	Inteligentná domácnosť na báze protokolu Z-Wave s vytvorením vlastného snímača na riadenie osvetlenia domácnosti na platforme Arduino	máj 2018
25. BP	<u>Pollák Matej, Ing.</u>	Využitie súčasných dostupných technológií na grafických kartách pre potreby modelovania a simulácie v strojárenstve	jún 2008
26. BP	<u>Ruža Peter, Ing.</u>	Ovládanie mobilných robotických prieskumníkov v 3D priestore	jún 2012
27. BP	<u>Sándor Ľudovít, Ing.</u>	Možnosti nasadenia WiFi bezdrôtovej komunikácie a jej využitie v petrochemickom priemysle	jún 2012
28. BP	<u>Staroň Martin, Ing.</u>	Inteligentná domácnosť na báze systému Homey a externá komunikácia cez Z-Wave, ZigBee a 433Mhz	máj 2019
29. BP	<u>Suchý Adam, Bc.</u>	Smart Home na báze protokolu Z-Wave	máj 2018
30. BP	<u>Sulír Marek, Ing.</u>	Programovanie robotizovaných pracovísk s priemyselným robotom KUKA KR3R540	máj 2019
31. BP	<u>Šauša Martin, Ing.</u>	Využitie bezdrôtových technológií na báze ZigBee pre návrh konceptu inteligentnej domácnosti a riadenia vybraných funkčných prvkov	jún 2014
32. BP	<u>Šíma Patrik, Ing.</u>	Inteligentná domácnosť na báze protokolu Z-Wave s vytvorením vlastného snímača na kvalitu ovzdušia na platforme Arduino	máj 2018
33. BP	<u>Tabačiar Martin, Bc.</u>	Návrh robotickej baliacej linky v prostredí ABB Robot Studio	jún 2015
34. BP	<u>Tóth Štefan, Ing.</u>	Návrh využitia GPGPU akcelerátorov na báze Nvidia CUDA technológie pre súčasné strojárenské aplikácie	jún 2011
35. BP	<u>Vdoleček Marcel, Bc.</u>	Návrh zabezpečenia robotického pracoviska a jeho simulácia v prostredí ABB Robot Studio	máj 2017
36. BP	<u>Vico Michal, Ing.</u>	Tvorba digitálnych rozhraní a ich riadenie pre priemyselné roboty rady KUKA KR3R540	máj 2019
37. BP	<u>Vilášek Lukáš, Ing.</u>	Koncepčný návrh robotizovaného pracoviska pre konzerváciu guľčkových ložísk s využitím projekčného softvéru ABB RobotStudio	jún 2016

<u>Por. Typ</u>	<u>Meno</u>	<u>Názov práce</u>	<u>Dokedy</u>
38. BP	<u>Žabka Ivan, Ing.</u>	Ovládanie lietajúceho mobilného prieskumného agenta	jún 2012

Diplomové práce (DP) za roky 2009 až 2021, výpis z AIS:

<u>Por. Typ</u>	<u>Meno</u>	<u>Názov práce</u>	<u>Dokedy</u>
1. DP	<u>Bartko Michal, Ing., PhD.</u>	Moderné metódy priebežnej identifikácie systémov a ich nasadenie v strojárstve	jún 2013
2. DP	<u>Bíro Matúš, Ing.</u>	Návrh metodiky a funkčného konceptu zistenia zabezpečenia kybernetickej bezpečnosti priemyselných sieťových prvkov	jún 2020
3. DP	<u>Bohuš Pavel, Ing.</u>	Súbor didaktických úloh v rámci Robotiky pre off-line programovanie v prostredí ABB Robot Studio	máj 2017
4. DP	<u>Brňo Adam, Ing.</u>	Súbor didaktických úloh v simulačnom prostredí Siemens Tecnomatix PLM Process Simulate pre potreby výučby predmetu Priemyselná robotika	máj 2018
5. DP	<u>Cintula Lukáš, Ing.</u>	Použitie GPGPU akcelerácie v strojárnských aplikáciách a ich prínos	jún 2010
6. DP	<u>Demeter Václav, Ing.</u>	Návrh a realizácia mobilného lietajúceho agenta – kvadrikoptéra	jún 2014
7. DP	<u>Domin Adam, Ing.</u>	Návrh bodovej zvärackej linky s využitím simulačného softvéru ABB RobotStudio	jún 2015
8. DP	<u>Držka Ján, Ing.</u>	Koncepčný návrh robotizovaného pracoviska pre povrchové lakovanie materiálov s využitím projekčného softvéru ABB RobotStudio	jún 2014
9. DP	<u>Fazekas Daniel, Ing.</u>	Návrh a vývoj konceptu robotickej humanoidnej ruky	máj 2021
10. DP	<u>Findl Oliver, Ing.</u>	Praktická aplikácia využitia bezdrôtovej technológie ZigBee na modely regulácie osvetlenia v miestnosti	jún 2013
11. DP	<u>Gajdoš Tomáš, Ing.</u>	Robotizovaná linka pre zváranie výstužných konštrukcií do sedačiek pre automobilový priemysel s využitím zväracích systémov ABB Spot Systems	máj 2018
12. DP	<u>Géci Marián, Ing.</u>	Hĺbkové rozpoznávanie obrazu za účelom lokalizácie objektov pre mobilný robotický systém	jún 2015
13. DP	<u>Godiška Stanislav, Ing.</u>	Moderné metódy akcelerácie numerických výpočtov s použitím GPGPU a CLUSTER technológii v strojárstve pod OS Linux a Windows	jún 2012

Por.	Typ	Meno	Názov práce	Dokedy
14.	DP	<u>Haburčák Ivan, Ing.</u>	Využitie vnorenej platformy pre meranie a spracovanie fyzikálnych veličín na základe snímačov pre negravitačné zrýchlenie a gyroskopov	jún 2016
15.	DP	<u>Hošo Ján, Ing.</u>	Practical applications of GPGPU for accelerating real-time tasks on a motor brake system	jún 2013
16.	DP	<u>Chvostaľ Matúš, Ing.</u>	Využitie vnorenej platformy pre meranie a spracovanie fyzikálnych veličín na základe snímačov pre spracovanie ultrazvukových a infračervených vln a elektro-indukčný snímač	jún 2016
17.	DP	<u>Ingeli Ján, Ing.</u>	Použitie bezdrôtových technológií v systémoch riadenia vzdialených strojárenských prevádzok	jún 2009
18.	DP	<u>Janík Tomáš, Ing.</u>	Využitie bezdrôtových technológií na riadenie, monitoring a zber dát pre bezobslužné strojárenské prevádzky	jún 2009
19.	DP	<u>Janík Vladimír, Ing.</u>	Možnosti využitia interných GPU procesorov u moderných 3D akcelerátorov pre numerické výpočty v strojárenských aplikáciách	jún 2009
20.	DP	<u>Jukl Matej, Ing.</u>	Návrh a tvorba komplexného robotizovaného pracoviska v softvérovom prostredí Siemens Tecnomatix Process Simulate	jún 2020
21.	DP	<u>Keszeli Albert, Ing.</u>	Monitorovanie bezobslužných prevádzok v strojárenstve s využitím dedikovaného video servera na báze "Open Source" softvéru	jún 2010
22.	DP	<u>Klapáč Maroš, Ing.</u>	Využitie vnorených platforiem na sledovanie pohybov na báze technológie RTLS (Real Time Locating System) v rámci konceptu Priemysel (Industry) 4.0	máj 2017
23.	DP	<u>Kmeco Filip, Ing.</u>	Robustné metódy priebežnej identifikácie na báze algoritmu rekurzívneho exponenciálneho zabúdania s alternatívnou kovariančnou maticou	jún 2011
24.	DP	<u>Kmeť Vladimír, Ing.</u>	Manipulácia s komponentmi na robotickom pracovisku s využitím strojového videnia	máj 2021
25.	DP	<u>Koník Ervín, Ing.</u>	Návrh didaktických cvičení na základe vnorených platforiem na báze ARDUINO pre fluidné systémy	máj 2017
26.	DP	<u>Konkoly Tibor, Ing.</u>	Využitie systémov strojového videnia pre rozpoznávanie tvarov a objektov na báze priemyselného systému Cognex a ich implementácia v priemysle	jún 2020
27.	DP	<u>Kotora Marek, Ing.</u>	Návrh robotickej obrábacej linky v prostredí ABB RobotStudio	jún 2015

Por.	Typ	Meno	Názov práce	Dokedy
28.	DP	<u>Kováč Ján, Ing.</u>	Simulačný model robotického 3D ramena pre výpočet priamej a inverznej kinematiky	jún 2014
29.	DP	<u>Kováč Michal, Ing.</u>	Využitie bezdrôtových technológií na báze ZigBee a riadiaceho systému na báze ARM Raspberry Pi pre návrh konceptu inteligentnej domácnosti	jún 2013
30.	DP	<u>Kvocera Martin, Ing.</u>	Využitie vnorenej platformy pre meranie a spracovanie fyzikálnych veličín pre detekciu magneteických síl a el. prúdu na základe Hallovo javu a snímanie frekvencie využitím optických snímačov	jún 2016
31.	DP	<u>Markovič Boris, Ing.</u>	Praktická aplikácia využitia bezdrôtovej technológie ZigBee na modely regulácie teploty v miestnosti	jún 2013
32.	DP	<u>Matlovič Martin, Ing.</u>	Koncepčný návrh robotizovaného pracoviska obrábacej linky pre povrchovú úpravu plastových výliskov automobilových nárazníkov v projekčnom softvéri ABB RobotStudio	jún 2016
33.	DP	<u>Melicher Markus, Ing.</u>	Komplexná optimalizácia architektúry počítačovej siete na ŠD Mladá Garda	máj 2017
34.	DP	<u>Michálek František, Ing.</u>	Návrh robotickej výrobnéj linky na výrobu plastových ovládacích prvkov pre automobilový priemysel s využitím ABB RobotStudio	jún 2015
35.	DP	<u>Michal Marko, Ing.</u>	System pre automatizované testovanie komunikácie na báze štandardu KNX v oblasti automatizácie inteligentných budov	jún 2020
36.	DP	<u>Nagy Lukáš, Ing.</u>	Návrh a simulácia robotizovanej montážnej linky v prostredí Robot Studio	jún 2012
37.	DP	<u>Nákačka Jozef, Ing.</u>	Moderné metódy akcelerácie numerických výpočtov v prostredí Matlab s použitím GPGPU a CLUSTER technológii	jún 2012
38.	DP	<u>Petruľa Dávid, Ing.</u>	Meranie výrobného taktu zvracej robotickej linky pomocou CEE (Cyclic Event Evaluator) a SIEMENS Tecnomatix PLM	máj 2017
39.	DP	<u>Podbielančík Miloš, Ing.</u>	Automatizované robotické pracovisko s využitím ABB priemyselných robotov	máj 2019
40.	DP	<u>Pohrebovič Michal, Ing.</u>	Použitie bezdrôtových technológií v systémoch riadenia vzdialených strojárnských prevádzok a aspekty ich zabezpečenia	jún 2011
41.	DP	<u>Pollák Matej, Ing.</u>	Praktické využitie technológie GPGPU výpočtov na súčasných 3D grafických akcelerátoroch v strojárstve	jún 2010

Por.	Typ	Meno	Názov práce	Dokedy
42.	DP	<u>Radoský Tomáš, Ing.</u>	Využitie bezdrôtových technológií v procesoch riadenia bezobslužných strojárenských prevádzok v pásmach WiFi a MMW	jún 2011
43.	DP	<u>Rozbora Ján, Ing.</u>	Využitie bezdrôtových dátových procesov v stojárstve	jún 2012
44.	DP	<u>Ruža Peter, Ing.</u>	Priama a inverzná kinematická úloha pre robotické rameno SCHUNK	jún 2015
45.	DP	<u>Salíni Richard, Ing.</u>	Optimalizácia výrobných liniek s využitím softvérového prostredia Siemens Plant Simulate	máj 2019
46.	DP	<u>Smolej Peter, Ing.</u>	Praktické využitie technológie bezdrôtových WiFi dátových prenosov pre aplikácie v strojárstve	jún 2010
47.	DP	<u>Strišovský Maroš, Ing.</u>	Inteligentné domácnosti na báze protokolu Z-Wave a ich praktické použitie s využitím vnorenej platformy na báze Raspberry PI	jún 2016
48.	DP	<u>Stroka Tomáš, Ing.</u>	Využitie moderných 3D grafických akcelerátorov pre potreby urýchlenia numerických výpočtov v strojárstve	jún 2009
49.	DP	<u>Struhár Marcel, Ing.</u>	Návrh robotickej linky pre drevársky priemysel vo vývojovom softvéri ABB RobotStudio	jún 2015
50.	DP	<u>Sulír Marek, Ing.</u>	Využitie počítačového videnia na robotických pracoviskách	máj 2021
51.	DP	<u>Szabó Daniel, Ing.</u>	Návrh inteligentnej domácnosti s využitím 3D senzorického systému MS Kinect v softvérovom prostredí Matlab	jún 2013
52.	DP	<u>Szarka Mátyás, Ing.</u>	Praktická aplikácia využitia 3D senzorického snímača MS Kinect pre potreby inteligentnej domácnosti	jún 2013
53.	DP	<u>Šálka Peter, Ing.</u>	Návrh a simulácia automatizovanej výrobných liniek v prostredí Siemens Process Simulate	máj 2019
54.	DP	<u>Šauša Martin, Ing.</u>	Inteligentný merací systém pozície plynového a brzdového pedálu v elektrickom monoposte Formula Student.	jún 2016
55.	DP	<u>Šíma Patrik, Ing.</u>	Návrh a tvorba komplexného robotizovaného pracoviska	jún 2020
56.	DP	<u>Šimon František, Ing.</u>	Návrh simulácie robotického pracoviska na kompletizáciu motorových blokov v prostredí ABB Robot Studio	máj 2017
57.	DP	<u>Šimovec Matej, Ing.</u>	Súbor didaktických úloh v rámci Robotiky pre on-line a off-line programovanie priemyselného robota KUKA KRL-125L90/2	máj 2017
58.	DP	<u>Šmitala Pavol, Ing.</u>	Návrh a simulácia robotizovaného pracoviska v prostredí Robot Studio	jún 2012

Por.	Typ	Meno	Názov práce	Dokedy
59.	DP	<u>Šofranko Matej, Ing.</u>	Využitie systémov strojového videnia pre potreby priemyselnej praxe a ich integrácia v rámci virtualizačných návrhov robotických pracovísk	jún 2020
60.	DP	<u>Šroba Dávid, Ing.</u>	Návrh robotizovaného pracoviska montáže primárnej optiky svetlometu	máj 2019
61.	DP	<u>Šurmánek Adrián, Ing.</u>	Koncepčný návrh robotizovaného pracoviska s využitím technologických a logistických robotov v projekčnom softvéri ABB RobotStudio	jún 2014
62.	DP	<u>Švančara Boris, Ing.</u>	Praktické využitie technológie GPGPU matematickej akcelerácie pre potreby softvérových strojárnských aplikácií	jún 2011
63.	DP	<u>Talo Daniel, Ing.</u>	Vyhodnocovanie presnosti priemyselných lokalizačných systémov na báze RTLS technológii	máj 2019
64.	DP	<u>Tatarko Matúš, Ing.</u>	Virtualizácia riadenia robotického výrobného systému s využitím modulu Virtual Commissioning v prostredí Siemens PLM Tecnomatix Process Simulate	máj 2017
65.	DP	<u>Toman Michal, Ing.</u>	Metódy priebežnej identifikácie systémov so zabúdaním a ich nasadenie v strojárstve	jún 2012
66.	DP	<u>Tóth Štefan, Ing.</u>	Moderné metódy akcelerácie numerických výpočtov s použitím GPGPU a CLUSTER technológii v strojárstve pod OS Linux v prostredí HPC Pelikan	jún 2013
67.	DP	<u>Václav Ondrej, Ing.</u>	Off-line programovanie robotického ramena ABB vykonávajúceho bodové odporové zváranie v prostredí ABB RobotStudio	máj 2018
68.	DP	<u>Valášek Daniel, Ing.</u>	Návrh robotického pracoviska na zváranie hliníkových bicyklových rámov	máj 2018
69.	DP	<u>Valent Andrej, Ing.</u>	Koncepčný návrh robotizovaného pracoviska na bodové zváranie s využitím projekčného softvéru ABB RobotStudio	jún 2014
70.	DP	<u>Vašek Pavol, Ing., PhD.</u>	Súbor didaktických úloh v rámci Robotiky pre on-line a off-line programovanie priemyselného robota KUKA KRL-125L90/2	máj 2017
71.	DP	<u>Vilášek Lukáš, Ing.</u>	Rekonštrukcia vstrekovacieho lisu na výrobu voskových modelov so zvýšením bezpečnosti s využitím prostredia TIA Portal a bezpečnostného PLC	máj 2018

Dizertačné práce ukončené za roky 2020 až 2021, výpis z AIS:

Por.	<u>Typ</u>	<u>Meno</u>	<u>Názov práce</u>	<u>Dokedy</u>
1.	DizP	<u>Vašek Pavol, Ing., PhD.</u>	Návrh metodiky a meracieho modelu pre testovanie logistického systému vo flexibilnej výrobe a návrh algoritmov pre jeho optimalizáciu	júl 2020
2.	DizP	<u>Fiťka Ivan, Ing., PhD.</u>	Návrh metodiky a funkčného konceptu automatizovaného robotického pracoviska na metrologickú kontrolu váh s neautomatickou činnosťou	august 2021
3.	DizP	<u>Slovák Juraj, Ing., PhD.</u>	Zabezpečenie a prevádzka robotických kolaboratívnych pracovísk s využitím strojového videnia a UWB lokalizačných techník	august 2021

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

II. Vedeckovýskumná alebo tvorivá umelecká aktivita

Výstupy v kategóriách A+, A, A- a B



**SLOVENSKÁ TECHNICKÁ
UNIVERZITA V BRATISLAVE**

Zoznam výstupov kategórie „A+“, „A“, „A-“ a „B“, zoznam je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 bez ohlasov, s uvedením autorského podielu a oblasti výskumu. Odkazy na výstupy evidované v CREPČ alebo inú databázu pre publikácie od roku 2007 (pred rokom 2007 sa v CREPČ nevidujú záznamy):

Požadované: 40

Plnené: 73

ACB Vysokoškolské učebnice vydané v domácich vydavateľstvách

ACB01 VACHÁLEK, Ján [50 %] - TAKÁCS, Gergely [50 %]. *Robotika*. 1. vyd. Bratislava : Nakladateľstvo STU, 2014. 166 s., 96 obr., 2 tab. ISBN 978-80-227-4163-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie. TAKÁCS, Gergely [40 %] - VACHÁLEK, Ján [40 %] - ROHAL-ILKIV, Boris [20 %]. *Identifikácia sústav*. 1. vyd. Bratislava Nakladateľstvo STU 2014. 281 s., 100 obr., 5 tab. ISBN 978-80-227-4288-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=4D971E4325F38162E7AD77C822>

ACB02 TAKÁCS, Gergely [40 %] - VACHÁLEK, Ján [40 %] - ROHAL-ILKIV, Boris [20 %]. *Identifikácia sústav*. 1. vyd. Bratislava Nakladateľstvo STU 2014. 281 s., 100 obr., 5 tab. ISBN 978-80-227-4288-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=E138F683DEDF5BB9C67C048369>

ADC Vedecké práce v zahraničných karentovaných časopisoch

ADC01 VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - RYBÁŘ, Jan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Intelligent dynamic identification technique of industrial products in a robotic workplace. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB5207E3C7A>

ADC02 VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - FIŤKA, Ivan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Design and implementation of universal cyber-physical model for testing logistic control algorithms of production line's digital twin by using color sensor. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1842. ISSN

1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628561500001 ; WOS: 000628561500001 ; SCOPUS: 2-s2.0-85101983179. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB4287E3C7A>

ADC03 SLOVÁK, Juraj [51 %] - MELICHER, Markus [5 %] - ŠIMOVEC, Matej [4 %] - VACHÁLEK, Ján [40 %]. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In *Sensors*. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=FBAB270A951BA97947282B4ECE>

ADC04 TAKÁCS, Gergely [50 %] - VACHÁLEK, Ján [25 %] - ROHAL-ILKIV, Boris [25 %]. Online structural health monitoring and parameter estimation for vibrating active cantilever beams using low-priced microcontrollers. In *Shock and vibration [elektronický zdroj]*. Vol. 2015, (2015), 14 p., online. ISSN 1070-9622 (2015: 0.880 - IF, Q3 - JCR Best Q, 0.374 - SJR, Q2 - SJR Best Q). V databáze: CC: CCC:000355117200001 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://www.webofscience.com/wos/woscc/full-record/WOS:000355117200001>

ADC05 ROVNÝ, Oliver [25 %] - BATISTA, Gabriel [25 %] - TAKÁCS, Gergely [25 %] - VACHÁLEK, Ján [24 %] - BLAŽÍČEK, Peter [1 %]. Automatic machining system for the refurbishment of degraded welds in piping systems. In *Advances in Mechanical Engineering*. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2215308&pageId=resultform&full=0

ADE Vedecké práce v ostatných zahraničných časopisoch

ADE01 FIŤKA, Ivan [40 %] - RYBÁŘ, Jan [40 %] - SLOVÁK, Juraj [5 %] - GROSINGER, Patrik [5 %] - FRIČ, Anton [2 %] - KLIMENT, Tomáš [2 %] - VACHÁLEK, Ján [2 %] - PIKNA, Samuel [2 %] - BORIOVÁ, Sára [2 %]. Metrologická kontrola váhy KERN PCB2000-1 s neautomatickou činnosťou - príspevek k vyhodnocení nejistoty méréni. In *Jemná mechanika a optika*. Roč. 66, č. 4 (2021), s. 101 - 107. ISSN 0447-6441. Oblasť výskumu: 170 - Inžinierstvo a technológia.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=960FE7B6F9510A06FD4A29FBDB>

ADE02 VACHÁLEK, Ján [75 %] - BARTKO, Michal [25 %]. Online system identification method using modified regularized exponential forgetting. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 59, č. 2 (2013), s.169-175. ISSN 1210-0471. Oblast' výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1091915&pageId=resultform&full=0

ADE03 VACHÁLEK, Ján [25 %] - TÓTH, Filip [25 %] - KRASŇANSKÝ, Pavol [25 %] - ČAPUCHA, Lubomír [25 %]. Design and construction of a robotic vehicle with omnidirectional mecanum wheels. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 60, č. 1 (2014), s. 97-103. ISSN 1210-0471. Oblast' výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1362959&pageId=resultform&full=0

ADE04 VACHÁLEK, Ján [60 %] - GÉCI, Marián [20 %] - ROVNÝ, Oliver [15 %] - VOLENSKÝ, Tomáš [5 %]. Localization of objects using the MS Windows Kinect 3D optical device with utilization of the depth image technology. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 61, č. 2 (2015), s. 63-78. ISSN 1210-0471. Oblast' výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1724097&pageId=resultform&full=0

ADE05 VACHÁLEK, Ján [80 %] - ROVNÝ, Oliver [10 %] - PALEŇČÁR, Rudolf [5 %] - ĎURIŠ, Stanislav [5 %]. Measuring distances using the 3D optical device for the needs of mobile robotics. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 62, č. 2 (2016), s. 61-74. ISSN 1210-0471. Oblast' výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1965943&pageId=resultform&full=0

ADE06 VAŠEK, Pavol [35 %] - RYBÁŘ, Jan [35 %] - VACHÁLEK, Ján [10 %] - PLUHÁČEK, František [10 %] - NAJMANOVÁ, Eliška [10 %]. Meranie farebných zložiek RGB pomocou snímača farby CSM-WP117A2P. In *Jemná mechanika a optika*. Roč. 66, č. 1 (2021), s. 8-10. ISSN 0447-6441. Oblast' výskumu: 170 - Inžinierstvo a technológia.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=2A11DD34E0337BFA1E277A172D>

ADF Vedecké práce v ostatných domácich časopisoch

ADF01 FIŤKA, Ivan [20 %] - KRÁLÍK, Marián [20 %] - VACHÁLEK, Ján [20 %] - VAŠEK, Pavol [20 %] - RYBÁŘ, Jan [20 %]. Učebná pomôcka pre obsluhu a programovanie priemyselných robotov KUKA = A teaching tool for operation and programming industrial robots KUKA. In *Slavonic Pedagogical Studies Journal*. Roč. 8, č. 2 (2019), s.

314-321. ISSN 1339-8660. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=85D30AFD358849054A9DD2583A>

ADF02 MELICHER, Markus [25 %] - ŠIŠMIŠOVÁ, Dana [25 %] - VACHÁLEK, Ján [25 %] - BELAVÝ, Cyril [25 %]. A cyber-physical systems paper survey about the concept, architecture and challenges for the deployment within the concept of Industry 4.0. In *Vedecké práce MtF STU v Bratislave so sídlom v Trnave. Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava*. Vol. 27, no. 45 (2019), s. 49-54. ISSN 1336-1589. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=3D579E6F99510E20D8BA29C6B9>

ADF03 VACHÁLEK, Ján [100 %]. Využitie Raspberry PI pri návrhu zabezpečenia inteligentnej domácnosti (5). In *iDB Journal*. Roč. 4, č. 3 (2014), s. 46-. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1363111&pageId=resultform&full=0

ADF04 VACHÁLEK, Ján [100 %]. Využitie senzorického systému Microsoft Kinect pre potreby inteligentných domov a budov (2). In *iDB Journal*. Roč. 3, č. 6 (2013), s.10-12. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1090649&pageId=resultform&full=0

ADF05 VACHÁLEK, Ján [80 %] - KRASŇANSKÝ, Pavol [10 %] - BARTKO, Michal [10 %]. Využitie senzorického systému Microsoft Kinect pre potreby inteligentných domov a budov (4). In *iDB Journal*. Roč. 4, č. 2 (2014), s. 43-45. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1363126&pageId=resultform&full=0

ADF06 VACHÁLEK, Ján [100 %]. Využitie senzorického systému Microsoft Kinect pre potreby inteligentných domov a budov (3). In *iDB Journal*. Roč. 4, č. 1 (2014), s. 18-19. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1363129&pageId=resultform&full=0

ADF07 VACHÁLEK, Ján [100 %]. Využitie Raspberry PI pri návrhu zabezpečenia inteligentnej domácnosti (3). In *iDB Journal*. Roč. 4, č. 1 (2014), s. 20-21. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1363132&pageId=resultform&full=0

ADF08 VACHÁLEK, Ján [80 %] - TÓTH, Filip [10 %] - BARTKO, Michal [10 %]. Využitie Raspberry PI pri návrhu zabezpečenia inteligentnej domácnosti (4). In *iDB Journal*. Roč. 4, č. 2 (2014), s. 46-47. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1363136&pageId=resultform&full=0

ADF09 VACHÁLEK, Ján [100 %]. Využitie Raspberry PI návrhu zabezpečenia inteligentnej domácnosti (1). In *iDB Journal*. Roč. 3, č. 5 (2013), s.42-43. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1363111&pageId=resultform&full=0

ADF10 VACHÁLEK, Ján [100 %]. Využitie Raspberry PI pri návrhu zabezpečenia inteligentnej domácnosti (2). In *iDB Journal*. Roč. 3, č. 6 (2013), s.13-16. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1090650&pageId=resultform&full=0

ADF11 VACHÁLEK, Ján [100 %]. Využitie senzorického systému Microsoft Kinect pre potreby inteligentných domov a budov (1). In *iDB Journal*. Roč. 3, č. 5 (2013), s.40-41. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1090648&pageId=resultform&full=0

ADF12 VACHÁLEK, Ján [100 %]. Využitie senzorického systému Microsoft Kinect pre potreby inteligentných domov a budov (5). In *iDB Journal*. Roč. 4, č. 3 (2014), s. 44-45. ISSN 1338-3337. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1363275&pageId=resultform&full=0

ADF13 VACHÁLEK, Ján [50 %] - KRASŇANSKÝ, Pavol [40 %] - VAJSÁBEL, Michal [10 %]. Využitie 3D optického kamerového systému MS Windows Kinect pre potreby manipulácie robotického ramena mobilného robotického systému. In *Metrológia a skúšobníctvo*. Roč. 19, č. 2 (2014), s. 7-13. ISSN 1335-2768. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1363358&pageId=resultform&full=0

ADF14 VAŠEK, Pavol [45 %] - RYBÁŘ, Jan [40 %] - VACHÁLEK, Ján [15 %]. Identifikácia farebných objektov a faktory pôsobiace na riadenie meracieho procesu na

experimentálnom pracovisku. In *Metrológia a skúšobníctvo*. Roč. 25, č. 1 (2020), s. 4-7. ISSN 1335-2768. Oblasť výskumu: 170 - Inžinierstvo a technológie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=B6F3EB032EBFCC64BA49CE01A2>

ADM Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS

ADM01 TAKÁCS, Gergely [50 %] - OTČENÁŠ, Jakub [30 %] - VACHÁLEK, Ján [10 %] - ROHAL-ILKIV, Boris [10 %]. Modal response-based technical countersurveillance measure against laser microphones. In *Journal of Vibroengineering*. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1966330&pageId=resultform&full=0

AED Vedecké práce v domácich recenzovaných vedeckých zborníkoch, monografiách

AED01 VACHÁLEK, Ján [100 %]. On-line identification of simulation examples for forgetting methods to track time varying parameters using the alternative covariance matrix in MATLAB. In *Scientific Proceedings Faculty of Mechanical Engineering STU Bratislava : Vol. 19/2011*. s.103-108. ISSN 1338-1954. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=414678&pageId=resultform&full=0

AFC Publikované príspevky na zahraničných vedeckých konferenciách

AFC01 BARBOLYAS, Boris [20 %] - ŠUTTOVÁ, Kristína [16 %] - VACHÁLEK, Ján [16 %] - BELAVÝ, Cyril [16 %] - HUČKO, Branislav [16 %] - DEDÍK, Ladislav [16 %]. Evaluation of human postural system dynamical behavior via developed statokinesigram trajectory. In *IFAC-PapersOnLine*. Vol. 50, 20th World congress on the International Federation of Automatic Control. Toulouse, France. July 9-14, 2017 (2017), s. 15627-15632, online. ISSN 2405-8963 (2017: 0.260 - SJR, Q3 - SJR Best Q). V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2216489&pageId=resultform&full=0

AFC02 SLOVÁK, Juraj [80 %] - ŠIMOVEC, Matej [5 %] - RYBÁŘ, Jan [5 %] - FIŤKA, Ivan [5 %] - VACHÁLEK, Ján [5 %]. The creation of safety zones on robotic workplace using the RTLS technology. In *MMaMS 2019 : 7th International scientific conference on modelling of mechanical and mechatronic systems*. Sromowce Niżne, Poland. September

11-13, 2019. Košice : Technical University of Košice, 2019, S. 224-231. ISBN 978-80-553-3368-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=F71371142B4D1214C7EA6E2BCA>

AFC03 VACHÁLEK, Ján [100 %]. Priebežná identifikácia laboratórneho modelu s využitím dátového úložiska pre množinu linearizovaných modelov. In *Řízení procesů 2004 : 6. mezinárodní vědecko-technická konference : Kouty nad Desnou/ČR*, 8.-11.6. 2004. Pardubice : Univerzita Pardubice, 2004, s.CD ROM.

AFC04 VACHÁLEK, Ján [50 %] - ROHAL-ILKIV, Boris [50 %]. Návrh dátového úložiska pre alternatívne kovariančné matice. In *Process control 2002 : 5th international scientific - technical conference. Kouty nad Desnou, Czech Republic, 9.-12.6.2002*. Pardubice : UP, 2002, s.RO59-1 - RO59-6.

AFC05 VACHÁLEK, Ján [100 %]. Priebežná identifikácia čističky odpadových vôd (ČOV) v obci Zohor. In *Process Control 2006 : 7th International Scientific-Technical Conference. Kouty nad Desnou, Czech Republic, 13.-16.6.2006*. Pardubice : University of Pardubice, 2006, s.R166-1 - R166-5. ISBN 80-7194-860-8.

AFC06 VACHÁLEK, Ján [100 %]. Practical experiments with data warehousing based identification of linear systems. In *Information Technologies & Control : Proceedings of the 4th International PhD Workshop*. Praha : ÚTIA AV ČR, 2003, s.nestr. ISBN 80-239-1333-6.

AFC07 VACHÁLEK, Ján [100 %]. On-line identification using alternative covariance matrix: simulation examples. In *Process Control 2010 : 9th International Conference. Kouty nad Desnou, 7.-10. 6. 2010*. Pardubice : University of Pardubice, 2010, s.C010a-1 - C010a-6. ISBN 978-80-7399-951-3. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=154150&pageId=resultform&full=0

AFC08 VACHÁLEK, Ján [50 %] - ROHAL-ILKIV, Boris [50 %]. Priebežná identifikácia s alternatívnou kovariančnou maticou. In *Process control 2000 : 4th international scientific-technical conference. Kouty nad Desnou, Czech Republic, 11-14 June 2000*. Pardubice : University of Pardubice, 2000, s.CD-ROM, [7] p.

AFC09 VACHÁLEK, Ján [85 %] - BARTKO, Michal [10 %] - BIZUB, Ján [5 %]. Long-run on-line identification with hybrid regularized exponential forgetting method. In *Proceedings of the 15th International Carpathian Control Conference [elektronický zdroj] : ICC 2014; Velké Karlovice, Czech Republic, May 28-30, 2014*. [s.l.] : IEEE- Czechoslovakia Section of IEEE, 2014, CD-ROM, p. 635-640. ISBN 978-1-4799-3527-7. V databáze: WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1364255&pageId=resultform&full=0

AFC10 VACHÁLEK, Ján [70 %] - ŠIŠMIŠOVÁ, Dana [15 %] - SLOVÁK, Juraj [5 %] - MELICHER, Markus [5 %] - FIŤKA, Ivan [5 %]. On-line identification of mechatronic system model with HREFACM algorithm. In *MMaMS 2019 : 7th International scientific conference on modelling of mechanical and mechatronic systems. Sromowce Niżne, Poland. September 11-13, 2019*. Košice : Technical University of Košice, 2019, S. 232-242. ISBN 978-80-553-3368-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=F71371142B4D1214C7ED6E2BCA>

AFC11 VACHÁLEK, Ján [74 %] - ŠIŠMIŠOVÁ, Dana [15 %] - FIŤKA, Ivan [10 %] - ŠIMOVEC, Matej [1 %]. Long-term on-line identification of time-varying systems. In *Proceedings of 22nd International Carpathian Control Conference (ICCC 2021)*. 1. vyd. Danvers : IEEE, 2021, S. 294 - 300. ISBN 978-1-7281-8610-8. V databáze: SCOPUS: 2-s2.0-85113382357. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=9AB6DF4C6BF801425A44DD71DE>

AFC12 VALOVIČ, Martin [34 %] - KARAS, Adrián [33 %] - VACHÁLEK, Ján [33 %]. Predictive control of airconditioning and heating processes with robust identification. In *Cybernetics & informatics eurodays young generation viewpoint : Mariánska, Czech Republic, September 26-30, 2000*. Praha : Academy of Sciences, 2000, s.CD-ROM, [7] p. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

AFD Publikované príspevky na domácich vedeckých konferenciách

AFD01 BARBOLYAS, Boris [20 %] - BELAVÝ, Cyril [20 %] - VACHÁLEK, Ján [20 %] - DEDÍK, Ladislav [20 %] - BZDÚŠKOVÁ, Diana [20 %]. From stochasticism to determinism in evaluation of human postural responses. In *21st International Conference on Process Control (PC) 2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso*,

Slovakia. 1. vyd. [s.l.] : IEEE, 2017, S. 234-239, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2217221&pageId=resultform&full=0

AFD02 FIŤKA, Ivan [60 %] - RYBÁŘ, Jan [10 %] - VACHÁLEK, Ján [10 %] - PALENČÁR, Jakub [10 %] - KRÁLIK, Marián [10 %]. Inovácia a aplikácia edukačných podkladov pre potreby priemyselnej robotiky. In *Transfer 2018 [elektronický zdroj] : proceedings of reviewed papers of the 19th international scientific conference. Trenčianske Teplice, 22.-23.11. 2018*. 1. vyd. Trenčín : Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2018, S. 1-13, CD ROM. ISBN 978-80-8075-827-1. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=2D6A1E8FEEEC2DC6C490E9A5>

AFD03 KUČERA, Ľuboš [1 %] - PALENČÁR, Jakub [80 %] - PALENČÁR, Rudolf [5 %] - ĎURIŠ, Stanislav [5 %] - VACHÁLEK, Ján [5 %] - RYBÁŘ, Jan [4 %]. Monitoring of the measurement process capability by using capability indices. In *Current methods of construction design : proceedings of the ICMD 2018*. 1. vyd. Cham : Springer, 2020, S. 327-332. ISSN 2195-4364. ISBN 978-3-030-33145-0. V databáze: SCOPUS: 2-s2.0-85077588621 ; WOS. Oblasť výskumu: 140 - Strojárstvo.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=65A77F4C63EFC46C64B3B2DD36>

AFD04 KUČERA, Ľuboš [1 %] - VACHÁLEK, Ján [90 %] - MELICHER, Markus [2 %] - VAŠEK, Pavol [2 %] - SLOVÁK, Juraj [5 %]. The digital twin of a measuring process within the Industry 4.0 Concept. In *Current methods of construction design : proceedings of the ICMD 2018*. 1. vyd. Cham : Springer, 2020, S. 333-341. ISSN 2195-4364. ISBN 978-3-030-33145-0. V databáze: SCOPUS: 2-s2.0-85077531263 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=65A77F4C63EFC46C65BCB2DD36>

AFD05 LOKŠÍK, Milan [25 %] - VACHÁLEK, Ján [25 %] - MORHÁČ, Martin [20 %] - JUHÁS, Martin [20 %] - BELAVÝ, Cyril [5 %] - PALENČÁR, Rudolf [5 %]. Tvorba digitálneho dvojčata priemyselnej výrobnéj linky v rámci konceptu Industry 4.0. In *ARTEP 2017. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 11. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. Stará Lesná, SR, 15. - 17. 2. 2017*. 1. vyd. Košice : Technická univerzita v Košiciach, 2017, S. 14-1 - 14-7, USB kľúč. ISBN 978-80-553-3075-4. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2217054&pageId=resultform&full=0

AFD06 MELICHER, Markus [20 %] - ŠIŠMIŠOVÁ, Dana [20 %] - VAŠEK, Pavol [20 %] - RYBÁŘ, Jan [20 %] - VACHÁLEK, Ján [20 %]. Digitálne dvojča výrobnéj linky v rámci konceptu Industry 4.0 s využitím prostredia Siemens Technomatix PLM plant simulation. In *Transfer 2017 [elektronický zdroj] : proceedings of reviewed papers of the 18th international scientific conference. Trenčianske Teplice, 23.-24.11. 2017*. 1. vyd. Trenčín : Alexander Dubcek University of Trencin, 2017, S. [7] s., CD ROM. ISBN 978-80-8075-787-8. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2217639&pageId=resultform&full=0

AFD07 VACHÁLEK, Ján [34 %] - POLÓNI, Tomáš [33 %] - VOLENSKÝ, Tomáš [33 %]. Enquiring of on-line system models for adaptive control of water treatment plant (WTP). In *Mechanical Engineering 2008 : 12th International Scientific Conference, Bratislava, Slovak Republic, 13.-14.11. 2008*. Bratislava : STU v Bratislave, 2008, s.CD-Rom. ISBN 978-80-227-2987-1. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=98791&pageId=resultform&full=0

AFD08 VACHÁLEK, Ján [100 %]. Utilization of CUDA GPU computing method for acceleration on-line identification processes in MATLAB. In *Mechanical Engineering 2008 : 12th International Scientific Conference, Bratislava, Slovak Republic, 13.-14.11. 2008*. Bratislava : STU v Bratislave, 2008, s.CD-Rom. ISBN 978-80-227-2987-1.

http://www.crepc.sk/portal?fn=*recview&uid=98796&pageId=resultform&full=0

AFD09 VACHÁLEK, Ján [100 %]. Vytvorenie bezdrôtového prenosu dát a virtuálnej privátnej siete (VPN) na čističke odpadových vôd (ČOV) Zohor = Create a wireless data connection and virtual private network (VPN) on waste water treatment plant (WTP) Zohor. In *Strojné inžinierstvo 2005 = Mechanical Engineering 2005 : Zborník abstraktov a článkov*. Bratislava : STU v Bratislave, 2005, s.170-174. ISBN 80-227-2314-2.

AFD10 VACHÁLEK, Ján [100 %]. Priebežná identifikácia s využitím dátového úložiska pre množinu linearizovaných modelov. In *Strojné inžinierstvo 2004*. Bratislava : STU v Bratislave, 2004, s.S1-189-196 CD ROM. ISBN 80-227-2105-0.

AFD11 VACHÁLEK, Ján [50 %] - ROHAĽ-ILKIV, Boris [50 %]. Design of a datawarehousing internal structure for online identification. In *Process Control 2003 : 14th International*

Conference, Štrbské Pleso, Slovak Republic, 8.-11.6.2003. Bratislava : STU v Bratislave, 2003, s.CD ROM.

- AFD12 VACHÁLEK, Ján [100 %]. Priebežná identifikácia laboratórneho modelu s využitím dátového úložiska. In *Strojné inžinierstvo 2003 = Mechanical Engineering 2003 : Proceedings 7th International scientific conference*. Bratislava : STU v Bratislave, 2003, s.nestr. ISBN 80-227-1960-9.
- AFD13 VACHÁLEK, Ján [50 %] - SMUTNÝ, Ondrej [50 %]. Software implementations of datawarehousing for on-line identification of real systems. In *Strojné inžinierstvo 2002 = Mechanical engineering 2002 : Zborník abstraktov a príspevkov 6. medzinárodnej vedeckej konferencie*. Bratislava : STU v Bratislave, 2002, s.nestr. ISBN 80-227-1783-5.
- AFD14 VACHÁLEK, Ján [100 %]. Aspekty návrhu tvorby dátového úložiska pre potreby priebežnej identifikácie. In *Strojné inžinierstvo 2002 = Mechanical engineering 2002 : Zborník abstraktov a príspevkov 6. medzinárodnej vedeckej konferencie*. Bratislava : STU v Bratislave, 2002, s.nestr. ISBN 80-227-1783-5.
- AFD15 VACHÁLEK, Ján [50 %] - VOLENSKÝ, Tomáš [50 %]. Tvorba bezdrôtového dátového prepojenia a VPN siete na čističke odpadových vôd (ČOV) Zohor. In *Kybernetika a informatika 2006 : Zborník príspevkov; Medzinárodná konferencia SSKI. Michalovce, Slovak Republic, 28.-30. 6. 2006*. Bratislava : Slovenská spoločnosť pre kybernetiku a informatiku, 2006, s.CD-Rom. ISBN 80-227-2431-9.
- AFD16 VACHÁLEK, Ján [50 %] - VOLENSKÝ, Tomáš [50 %]. Použitie WIFI bezdrôtového dátového prepojenia a využitie VPN siete na čističke odpadových vôd (ČOV) Zohor. In *Strojné inžinierstvo 2006 = Mechanical Engineering 2006 : Zborník abstraktov a príspevkov. - Bratislava, 23. 11. 2006*. 1. vyd. Bratislava : STU v Bratislave, 2006, s.121-125. ISBN 80-227-2513-7.
- AFD17 VACHÁLEK, Ján [100 %]. Dynamická vizualizácia dát pre potreby monitorovania a riadenia ČOV Zohor. In *Mechanical Engineering 2007 : the 11th International Scientific Conferenc*. Bratislava, November 29-30, 2007. Bratislava : STU v Bratislave, 2007,

s.nestr. ISBN 978-80-227-2768-6. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=67079&pageId=resultform&full=0

AFD18 VACHÁLEK, Ján [100 %]. On-line identification simulation examples for compare of forgetting methods to track time varying parameters using alternative covariance matrix. In *Mechanical Engineering 2010 : 13th international conference on the occasion of the 70th anniversary of the beginning of education of mechanical engineering students at the Slovak University of Technology in Bratislava. Bratislava, 21.10. 2010. Proceedings of the papers*. Bratislava : Slovak University of Technology in Bratislava, 2010, s.S2-87 - S2-94. ISBN 978-80-227-3304-5.

http://www.crepc.sk/portal?fn=*recview&uid=154605&pageId=resultform&full=0

AFD19 VACHÁLEK, Ján [100 %]. Open source GPGPU Matlab enhancement for on-line system identification benchmark simulation. In *Mechanical Engineering 2010 : 13th international conference on the occasion of the 70th anniversary of the beginning of education of mechanical engineering students at the Slovak University of Technology in Bratislava. Bratislava, 21.10. 2010. Proceedings of the papers*. Bratislava : Slovak University of Technology in Bratislava, 2010, s.S2-95 -S2-100. ISBN 978-80-227-3304-5. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=156067&pageId=resultform&full=0

AFD20 VACHÁLEK, Ján [100 %]. On-line identification simulation of forgetting methods to track time varying parameters using alternative covariance matrix. In *Process Control 2011 : Proceedings of the 18th International Conference. Tatranská Lomnica, Slovakia, 14.-17.6. 2011*. Bratislava : Nakladateľstvo STU, 2011, s.234-237. ISBN 978-80-227-3517-9.

http://www.crepc.sk/portal?fn=*recview&uid=416345&pageId=resultform&full=0

AFD21 VACHÁLEK, Ján [100 %]. On-line identification using hybrid method of regularized exponential forgetting. In *Proceedings of the 2013 International Conference on Process Control [elektronický zdroj] : Štrbské Pleso, Slovakia, June 18-21, 2013*. 1st. ed. Piscataway : IEEE, 2013, s.CD-ROM, p. 257-262. ISBN 978-80-227-3951-1. V databáze: WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1087909&pageId=resultform&full=0

AFD22 VACHÁLEK, Ján [50 %] - ROHAL-ILKIV, Boris [50 %]. System identification with a data warehousing method (DW). In *Process Control 2001 : 13th International*

Conference. Štrbské Pleso, Slovak Republic, 11.-14.6.2001. Bratislava : STU, 2001, s.CD-ROM,[7] s. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

- AFD23 VACHÁLEK, Ján [50 %] - ČAPUCHA, Ľubomír [15 %] - KRASŇANSKÝ, Pavol [20 %] - TÓTH, Filip [15 %]. Collision-free manipulation of a robotic arm using the MS Windows Kinect 3D optical system. In *Process control 2015 : 20th International Conference on Process Control. Štrbské Pleso, Slovak Republic. June 9-12, 2015.* 1. vyd. New York : IEEE, 2015, S. 96-106. ISBN 978-1-4673-6627-4. V databáze: WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1725974&pageId=resultform&full=0

- AFD24 VACHÁLEK, Ján [55 %] - LOKŠÍK, Milan [5 %] - MORHÁČ, Martin [5 %] - BARTALSKÝ, Lukáš [15 %] - ROVNÝ, Oliver [5 %] - ŠIŠMIŠOVÁ, Dana [15 %]. The digital twin of an industrial production line within the Industry 4.0 concept. In *21st International Conference on Process Control (PC) 2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia.* 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2217467&pageId=resultform&full=0

- AFD25 VACHÁLEK, Ján [85 %] - MELICHER, Markus [5 %] - VAŠEK, Pavol [5 %] - SLOVÁK, Juraj [5 %]. Numerical acceleration of data processing using MATLAB for the needs of expert systems. In *2018 Cybernetics & Informatics (K&I) [elektronický zdroj] : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018.* 1. vyd. Bratislava : Slovak Chemical Library, 2018, S. [5], USB kľúč. ISBN 978-1-5386-4420-1. V databáze: SCOPUS: 2-s2.0-85050880612 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=F98E3E8768B57FCA454B1E54>

- AFD26 VACHÁLEK, Ján [70 %] - MELICHER, Markus [5 %] - VAŠEK, Pavol [5 %] - ŠIŠMIŠOVÁ, Dana [10 %] - VOLENSKÝ, Tomáš [10 %]. Quality comparison between hybrid regularized exponential forgetting algorithm with alternative covariance matrix and selected standard long-run on-line identification methods of industrial systems. In *Aplimat 2018 [elektronický zdroj] : proceedings of the 17th conference on Applied mathematics. Bratislava, 6.-8.2. 2018.* 1. vyd. Bratislava : Spektrum STU, 2018, S. 1036-1046, CD ROM. ISBN 978-80-227-4765-3. V databáze: SCOPUS: 2-s2.0-85048750876. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=479C6EF24F9BE5B3C2E5B70D>

AFG Abstrakty príspevkov zo zahraničných konferencií

AFG01 ŠIŠMIŠOVÁ, Dana [50 %] - ZEMAN, Stanislav [10 %] - MIKULÁŠ, Erik [10 %] - VACHÁLEK, Ján [30 %]. Electronic and software design of the multipurpose racing car steering wheel as control system enternal part. In *ERIN 2019 : proceedings of the abstracts*. 1. vyd. Brno : VUT, 2019, S. 49. ISBN 978-80-214-5733-1. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=3D579E6F99510E20D9BC29C6B9>

AGJ Autorské osvedčenia, patenty, objavy

AGJ01 MASARYK, Michal [75 %] - VACHÁLEK, Ján [25 %]. *Ventilačný systém so zónami čistého vzduchu v interiéroch budov a vozidiel : úžitkový vzor č. 9071, dátum zverejnenia prihlášky: 3.11.2020, dátum zápisu a sprístupnenia úžitkového vzoru: 12.2.2021*. Banská Bystrica Úrad priemyselného vlastníctva Slovenskej republiky 2021. 5 s. Oblasť výskumu: 140 - Strojárstvo.

<https://wbr.indprop.gov.sk/WebRegistre/UzitkovyVzor/Detail/109-2020>

BAA Odborné monografie vydané v zahraničných vydavateľstvách

BAA01 ZADRAVEC, Tomaz - POPESCU, Daniela - PAULÍČEK, Igor - DUCHOŇ, František - VACHÁLEK, Ján [2,941 %]. *Handbook of good practices : Improving RD and business policy conditions for transnational cooperation in the manufacturing industry* [elektronický dokument /]. 1. vyd. Rumunsko Smart Factory Hub 2017. 264 s., CD ROM. ISBN 978-606-543-928-3. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=3C7E99A39F86FA084AD208F3>

BCI Skriptá a učebné texty

BCI01 VACHÁLEK, Ján [50 %] - KRASŇANSKÝ, Pavol [25 %] - TÓTH, Filip [25 %]. *Robotika : návody na cvičenia*. 1. vyd. Bratislava : Nakladateľstvo STU, 2014. 125 s., 88 obr., 4 tab. ISBN 978-80-227-4164-4. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1367063&pageId=resultform&full=0

BDF Odborné práce v ostatných domácich časopisoch

BDF01 VACHÁLEK, Ján [25 %] - JUHÁS, Martin [20 %] - BELAVÝ, Cyril [5 %] - PALENČÁR, Rudolf [5 %] - LOKŠÍK, Milan [25 %] - MORHÁČ, Martin [20 %]. Tvorba digitálneho dvojčaťa výrobnéj linky v rámci konceptu Industry 4.0. In *ATP Journal*. Roč. 24, č. 4 (2017), s. 38-40. ISSN 1335-2237. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2218724&pageId=resultform&full=0

BEE Odborné práce v zahraničných zborníkoch (konferenčných aj nekonferenčných)

BEE01 SLOVÁK, Juraj [80 %] - ŠIMOVEC, Matej [5 %] - RYBÁŘ, Jan [5 %] - FIŤKA, Ivan [5 %] - VACHÁLEK, Ján [5 %]. Robotic workplace security zone optimization using RTLS localization technology based on industry 4.0 concept. In *ERIN 2019 [elektronický zdroj] : sborník příspěvků z 13.ročníku mezinárodní putovní konference mladých výzkumných pracovníků a PhD studentů*. Brno : VUT, 2019, S. 1-6, CD ROM. ISBN 978-80-214-5747-8. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=5F1CDE603F7696E937F5F77A83>

Štatistika: kategória publikačnej činnosti

ACB	Vysokoškolské učebnice vydané v domácich vydavateľstvách	2
ADC	Vedecké práce v zahraničných karentovaných časopisoch	5
ADE	Vedecké práce v ostatných zahraničných časopisoch	6
ADF	Vedecké práce v ostatných domácich časopisoch	14
ADM	Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS	1
AED	Vedecké práce v domácich recenzovaných vedeckých zborníkoch, monografiách	1
AFC	Publikované príspevky na zahraničných vedeckých konferenciách	12
AFD	Publikované príspevky na domácich vedeckých konferenciách	26
AFG	Abstrakty príspevkov zo zahraničných konferencií	1
AGJ	Autorské osvedčenia, patenty, objavy	1
BAA	Odborné monografie vydané v zahraničných vydavateľstvách	1
BCI	Skriptá a učebné texty	1
BDF	Odborné práce v ostatných domácich časopisoch	1
BEE	Odborné práce v zahraničných zborníkoch (konferenčných aj nekonferenčných)	1
Súčet		73

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

II. Vedeckovýskumná alebo tvorivá umelecká aktivita

Výstupy v kategóriách A+, A, A- a B, za posledných 5 rokov

Zoznam výstupov kategórie „A+“, „A“, „A-“ a „B“, za posledných 5 rokov. Zoznam je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 bez ohlasov, s uvedením autorského podielu a oblastí výskumu. Odkazy na výstupy evidované v CREPČ alebo inú databázu pre publikácie od roku 2007 (pred rokom 2007 sa v CREPČ neevidujú záznamy):

Požadované: 10

Plnené: 29

ADC Vedecké práce v zahraničných karentovaných časopisoch

ADC01 VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - RYBÁŘ, Jan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Intelligent dynamic identification technique of industrial products in a robotic workplace. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB5207E3C7A>

ADC02 VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - FIŤKA, Ivan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Design and implementation of universal cyber-physical model for testing logistic control algorithms of production line's digital twin by using color sensor. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1842. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628561500001 ; WOS: 000628561500001 ; SCOPUS: 2-s2.0-85101983179. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB4287E3C7A>

ADC03 SLOVÁK, Juraj [51 %] - MELICHER, Markus [5 %] - ŠIMOVEC, Matej [4 %] - VACHÁLEK, Ján [40 %]. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In *Sensors*. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=FBAB270A951BA97947282B4ECE>

ADC04 ROVNÝ, Oliver [25 %] - BATISTA, Gabriel [25 %] - TAKÁCS, Gergely [25 %] - VACHÁLEK, Ján [24 %] - BLAŽÍČEK, Peter [1 %]. Automatic machining system for the refurbishment of degraded welds in piping systems. In *Advances in Mechanical Engineering*. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2215308&pageId=resultform&full=0

ADE Vedecké práce v ostatných zahraničných časopisoch

ADE01 FIŤKA, Ivan [40 %] - RYBÁŘ, Jan [40 %] - SLOVÁK, Juraj [5 %] - GROSINGER, Patrik [5 %] - FRIČ, Anton [2 %] - KLIMENT, Tomáš [2 %] - VACHÁLEK, Ján [2 %] - PIKNA, Samuel [2 %] - BORIOVÁ, Sára [2 %]. Metrologická kontrola váhy KERN PCB2000-1 s neautomatickou činnosťou - príspevok k vyhodnocení nejistot meraní. In *Jemná mechanika a optika*. Roč. 66, č. 4 (2021), s. 101 - 107. ISSN 0447-6441. Oblasť výskumu: 170 - Inžinierstvo a technológie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=960FE7B6F9510A06FD4A29FBDB>

ADE02 VACHÁLEK, Ján [80 %] - ROVNÝ, Oliver [10 %] - PALEŇČÁR, Rudolf [5 %] - ĎURIŠ, Stanislav [5 %]. Measuring distances using the 3D optical device for the needs of mobile robotics. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 62, č. 2 (2016), s. 61-74. ISSN 1210-0471. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1965943&pageId=resultform&full=0

ADE03 VAŠEK, Pavol [35 %] - RYBÁŘ, Jan [35 %] - VACHÁLEK, Ján [10 %] - PLUHÁČEK, František [10 %] - NAJMANOVÁ, Eliška [10 %]. Meranie farebných zložiek RGB pomocou snímača farby CSM-WP117A2P. In *Jemná mechanika a optika*. Roč. 66, č. 1 (2021), s. 8-10. ISSN 0447-6441. Oblasť výskumu: 170 - Inžinierstvo a technológie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=2A11DD34E0337BFA1E277A172D>

ADF Vedecké práce v ostatných domácich časopisoch

ADF01 FIŤKA, Ivan [20 %] - KRÁLÍK, Marián [20 %] - VACHÁLEK, Ján [20 %] - VAŠEK, Pavol [20 %] - RYBÁŘ, Jan [20 %]. Učebná pomôcka pre obsluhu a programovanie priemyselných robotov KUKA = A teaching tool for operation and programming industrial robots KUKA. In *Slavonic Pedagogical Studies Journal*. Roč. 8, č. 2 (2019), s. 314-321. ISSN 1339-8660. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=85D30AFD358849054A9DD2583A>

ADF02 MELICHER, Markus [25 %] - ŠIŠMIŠOVÁ, Dana [25 %] - VACHÁLEK, Ján [25 %] - BELAVÝ, Cyril [25 %]. A cyber-physical systems paper survey about the concept, architecture and challenges for the deployment within the concept of Industry 4.0. In *Vedecké práce MtF STU v Bratislave so sídlom v Trnave. Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava*. Vol. 27, no. 45 (2019), s. 49-54. ISSN 1336-1589. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=3D579E6F99510E20D8BA29C6B9>

ADF03 VAŠEK, Pavol [45 %] - RYBÁŘ, Jan [40 %] - VACHÁLEK, Ján [15 %]. Identifikácia farebných objektov a faktory pôsobiace na riadenie meracieho procesu na experimentálnom pracovisku. In *Metrológia a skúšobníctvo*. Roč. 25, č. 1 (2020), s. 4-7. ISSN 1335-2768. Oblasť výskumu: 170 - Inžinierstvo a technológie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=B6F3EB032EBFCC64BA49CE01A2>

ADM Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS

ADM01 TAKÁCS, Gergely [50 %] - OTČENÁŠ, Jakub [30 %] - VACHÁLEK, Ján [10 %] - ROHAL-ILKIV, Boris [10 %]. Modal response-based technical countersurveillance measure against laser microphones. In *Journal of Vibroengineering*. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1966330&pageId=resultform&full=0

AFC Publikované príspevky na zahraničných vedeckých konferenciách

AFC01 BARBOLYAS, Boris [20 %] - ŠUTTOVÁ, Kristína [16 %] - VACHÁLEK, Ján [16 %] - BELAVÝ, Cyril [16 %] - HUČKO, Branislav [16 %] - DEDÍK, Ladislav [16 %]. Evaluation of human postural system dynamical behavior via developed statokinesigram trajectory. In *IFAC-PapersOnLine*. Vol. 50, 20th World congress on the International Federation of Automatic Control. Toulouse, France. July 9-14, 2017 (2017), s. 15627-15632, online. ISSN 2405-8963 (2017: 0.260 - SJR, Q3 - SJR Best Q). V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2216489&pageId=resultform&full=0

AFC02 SLOVÁK, Juraj [80 %] - ŠIMOVEC, Matej [5 %] - RYBÁŘ, Jan [5 %] - FIŤKA, Ivan [5 %] - VACHÁLEK, Ján [5 %]. The creation of safety zones on robotic workplace using the RTLS technology. In *MMaMS 2019 : 7th International scientific conference on modelling of mechanical and mechatronic systems. Sromowce Niżne, Poland. September 11-13, 2019*. Košice : Technical University of Košice, 2019, S. 224-231. ISBN 978-80-553-3368-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=F71371142B4D1214C7EA6E2BCA>

AFC03 VACHÁLEK, Ján [70 %] - ŠIŠMIŠOVÁ, Dana [15 %] - SLOVÁK, Juraj [5 %] - MELICHER, Markus [5 %] - FIŤKA, Ivan [5 %]. On-line identification of mechatronic system model with HREFACM algorithm. In *MMaMS 2019 : 7th International scientific conference on modelling of mechanical and mechatronic systems. Sromowce Niżne, Poland. September 11-13, 2019*. Košice : Technical University of Košice, 2019, S. 232-242. ISBN 978-80-553-3368-7. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=F71371142B4D1214C7ED6E2BCA>

AFC04 VACHÁLEK, Ján [74 %] - ŠIŠMIŠOVÁ, Dana [15 %] - FIŤKA, Ivan [10 %] - ŠIMOVEC, Matej [1 %]. Long-term on-line identification of time-varying systems. In *Proceedings of 22nd International Carpathian Control Conference (ICCC 2021)*. 1. vyd. Danvers : IEEE, 2021, S. 294 - 300. ISBN 978-1-7281-8610-8. V databáze: SCOPUS: 2-s2.0-85113382357. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=9AB6DF4C6BF801425A44DD71DE>

AFD Publikované príspevky na domácich vedeckých konferenciách

AFD01 BARBOLYAS, Boris [20 %] - BELAVÝ, Cyril [20 %] - VACHÁLEK, Ján [20 %] - DEDÍK, Ladislav [20 %] - BZDÚŠKOVÁ, Diana [20 %]. From stochasticism to determinism in evaluation of human postural responses. In *21st International Conference on Process Control (PC) 2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia*. 1. vyd. [s.l.] : IEEE, 2017, S. 234-239, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2217221&pageId=resultform&full=0

AFD02 FIŤKA, Ivan [60 %] - RYBÁŘ, Jan [10 %] - VACHÁLEK, Ján [10 %] - PALENČÁR, Jakub [10 %] - KRÁLIK, Marián [10 %]. Inovácia a aplikácia edukačných podkladov pre

potreby priemyselnej robotiky. In *Transfer 2018 [elektronický zdroj] : proceedings of reviewed papers of the 19th international scientific conference. Trenčianske Teplice, 22.-23.11. 2018*. 1. vyd. Trenčín : Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2018, S. 1-13, CD ROM. ISBN 978-80-8075-827-1. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=2D6A1E8FEEEC2DC6C490E9A5>

AFD03 KUČERA, Ľuboš [1 %] - PALENČÁR, Jakub [80 %] - PALENČÁR, Rudolf [5 %] - ĎURIŠ, Stanislav [5 %] - VACHÁLEK, Ján [5 %] - RYBÁŘ, Jan [4 %]. Monitoring of the measurement process capability by using capability indices. In *Current methods of construction design : proceedings of the ICMD 2018*. 1. vyd. Cham : Springer, 2020, S. 327-332. ISSN 2195-4364. ISBN 978-3-030-33145-0. V databáze: SCOPUS: 2-s2.0-85077588621 ; WOS. Oblasť výskumu: 140 - Strojárstvo.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=65A77F4C63EFC46C64B3B2DD36>

AFD04 KUČERA, Ľuboš [1 %] - VACHÁLEK, Ján [90 %] - MELICHER, Markus [2 %] - VAŠEK, Pavol [2 %] - SLOVÁK, Juraj [5 %]. The digital twin of a measuring process within the Industry 4.0 Concept. In *Current methods of construction design : proceedings of the ICMD 2018*. 1. vyd. Cham : Springer, 2020, S. 333-341. ISSN 2195-4364. ISBN 978-3-030-33145-0. V databáze: SCOPUS: 2-s2.0-85077531263 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=65A77F4C63EFC46C65BCB2DD36>

AFD05 LOKŠÍK, Milan [25 %] - VACHÁLEK, Ján [25 %] - MORHÁČ, Martin [20 %] - JUHÁS, Martin [20 %] - BELAVÝ, Cyril [5 %] - PALENČÁR, Rudolf [5 %]. Tvorba digitálneho dvojčata priemyselnej výrobnéj linky v rámci konceptu Industry 4.0. In *ARTEP 2017. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 11. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. Stará Lesná, SR, 15. - 17. 2. 2017*. 1. vyd. Košice : Technická univerzita v Košiciach, 2017, S. 14-1 - 14-7, USB kľúč. ISBN 978-80-553-3075-4. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2217054&pageId=resultform&full=0

AFD06 MELICHER, Markus [20 %] - ŠIŠMIŠOVÁ, Dana [20 %] - VAŠEK, Pavol [20 %] - RYBÁŘ, Jan [20 %] - VACHÁLEK, Ján [20 %]. Digitálne dvojča výrobnéj linky v rámci konceptu Industry 4.0 s využitím prostredia Siemens Technomatix PLM plant simulation. In *Transfer 2017 [elektronický zdroj] : proceedings of reviewed papers of the 18th international scientific conference. Trenčianske Teplice, 23.-24.11. 2017*. 1. vyd. Trenčín

: Alexander Dubcek University of Trencin, 2017, S. [7] s., CD ROM. ISBN 978-80-8075-787-8. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2217639&pageId=resultform&full=0

AFD07 VACHÁLEK, Ján [55 %] - LOKŠÍK, Milan [5 %] - MORHÁČ, Martin [5 %] - BARTALSKÝ, Lukáš [15 %] - ROVNÝ, Oliver [5 %] - ŠIŠMIŠOVÁ, Dana [15 %]. The digital twin of an industrial production line within the Industry 4.0 concept. In *21st International Conference on Process Control (PC) 2017 [elektronický zdroj]* : June, 6-9, 2017, Štrbské Pleso, Slovakia. 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2217467&pageId=resultform&full=0

AFD08 VACHÁLEK, Ján [85 %] - MELICHER, Markus [5 %] - VAŠEK, Pavol [5 %] - SLOVÁK, Juraj [5 %]. Numerical acceleration of data processing using MATLAB for the needs of expert systems. In *2018 Cybernetics & Informatics (K&I) [elektronický zdroj]* : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018. 1. vyd. Bratislava : Slovak Chemical Library, 2018, S. [5], USB kľúč. ISBN 978-1-5386-4420-1. V databáze: SCOPUS: 2-s2.0-85050880612 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=F98E3E8768B57FCA454B1E54>

AFD09 VACHÁLEK, Ján [70 %] - MELICHER, Markus [5 %] - VAŠEK, Pavol [5 %] - ŠIŠMIŠOVÁ, Dana [10 %] - VOLENSKÝ, Tomáš [10 %]. Quality comparison between hybrid regularized exponential forgetting algorithm with alternative covariance matrix and selected standard long-run on-line identification methods of industrial systems. In *Aplimat 2018 [elektronický zdroj]* : proceedings of the 17th conference on Applied mathematics. Bratislava, 6.-8.2. 2018. 1. vyd. Bratislava : Spektrum STU, 2018, S. 1036-1046, CD ROM. ISBN 978-80-227-4765-3. V databáze: SCOPUS: 2-s2.0-85048750876. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=479C6EF24F9BE5B3C2E5B70D>

AFG Abstrakty príspevkov zo zahraničných konferencií

AFG01 ŠIŠMIŠOVÁ, Dana [50 %] - ZEMAN, Stanislav [10 %] - MIKULÁŠ, Erik [10 %] - VACHÁLEK, Ján [30 %]. Electronic and software design of the multipurpose racing car steering wheel as control system enternal part. In *ERIN 2019 : proceedings of the abstracts*. 1. vyd. Brno : VUT, 2019, S. 49. ISBN 978-80-214-5733-1. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=3D579E6F99510E20D9BC29C6B9>

AGJ Autorské osvedčenia, patenty, objavy

AGJ01 MASARYK, Michal [75 %] - VACHÁLEK, Ján [25 %]. *Ventilačný systém so zónami čistého vzduchu v interiéroch budov a vozidiel : úžitkový vzor č. 9071, dátum zverejnenia prihlášky: 3.11.2020, dátum zápisu a sprístupnenia úžitkového vzoru: 12.2.2021*. Banská Bystrica Úrad priemyselného vlastníctva Slovenskej republiky 2021. 5 s. Oblasť výskumu: 140 - Strojárstvo.

<https://wbr.indprop.gov.sk/WebRegistre/UzitkovyVzor/Detail/109-2020>

BAA Odborné monografie vydané v zahraničných vydavateľstvách

BAA01 ZADRAVEC, Tomaz - POPESCU, Daniela - PAULÍČEK, Igor - DUCHOŇ, František - VACHÁLEK, Ján [2,941 %]. *Handbook of good practices : Improving RD and business policy conditions for transnational cooperation in the manufacturing industry* [elektronický dokument /]. 1. vyd. Rumunsko Smart Factory Hub 2017. 264 s., CD ROM. ISBN 978-606-543-928-3. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=3C7E99A39F86FA084AD208F3>

BDF Odborné práce v ostatných domácich časopisoch

BDF01 VACHÁLEK, Ján [25 %] - JUHÁS, Martin [20 %] - BELAVÝ, Cyril [5 %] - PALENČÁR, Rudolf [5 %] - LOKŠÍK, Milan [25 %] - MORHÁČ, Martin [20 %]. *Tvorba digitálneho dvojčata výrobnéj linky v rámci konceptu Industry 4.0*. In *ATP Journal*. Roč. 24, č. 4 (2017), s. 38-40. ISSN 1335-2237. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2218724&pageId=resultform&full=0

BEE Odborné práce v zahraničných zborníkoch (konferenčných aj nekonferenčných)

BEE01 SLOVÁK, Juraj [80 %] - ŠIMOVEC, Matej [5 %] - RYBÁŘ, Jan [5 %] - FIŤKA, Ivan [5 %] - VACHÁLEK, Ján [5 %]. *Robotic workplace security zone optimization using RTLS localization technology based on industry 4.0 concept*. In *ERIN 2019 [elektronický zdroj] : sborník příspěvků z 13.ročníku mezinárodní putovní konference mladých výzkumných pracovníků a PhD studentů*. Brno : VUT, 2019, S. 1-6, CD ROM. ISBN 978-80-214-5747-8. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=5F1CDE603F7696E937F5F77A83>

Štatistika: kategória publikačnej činnosti

ADC	Vedecké práce v zahraničných karentovaných časopisoch	4
ADE	Vedecké práce v ostatných zahraničných časopisoch	3
ADF	Vedecké práce v ostatných domácich časopisoch	3
ADM	Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS	1
AFC	Publikované príspevky na zahraničných vedeckých konferenciách	4
AFD	Publikované príspevky na domácich vedeckých konferenciách	9
AFG	Abstrakty príspevkov zo zahraničných konferencií	1
AGJ	Autorské osvedčenia, patenty, objavy	1
BAA	Odborné monografie vydané v zahraničných vydavateľstvách	1
BDF	Odborné práce v ostatných domácich časopisoch	1
BEE	Odborné práce v zahraničných zborníkoch (konferenčných aj nekonferenčných)	1
Súčet		29

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

II. Vedeckovýskumná alebo tvorivá umelecká aktivita

Výstupy v kategóriách „A+“ a „A“



**SLOVENSKÁ TECHNICKÁ
UNIVERZITA V BRATISLAVE**

Zoznam výstupov kategórie „A+“ a „A“. Zoznam je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 bez ohlasov, s uvedením autorského podielu a oblastí výskumu. Odkazy na výstupy evidované v CREPČ alebo inej databáze. Kategorizácia výstupov na základe odboru habilitačného a inauguračného konania „Automatizácia“, schválené vo VR STU 22.02. 2021:

A+	Publikácie v časopise Q1 alebo Q2 (WoS, alebo SCOPUS), monografia alebo kapitola MRV, publikácie vo WoS alebo SCOPUS ¹⁾ , medzinárodný patent.
A	Publikácia v časopise Q3 alebo Q4 ³⁾ , ostatné publikácie vo WoS alebo SCOPUS ²⁾ , publikačný výstup zo svetového kongresu (vedecká práca v recenzovanom zborníku svetového kongresu WoS alebo Scopus, vydanom celosvetovo uznávanými inštitúciami IFAC, IFIP, IEEE, ACM, IET, SPIE, IACM, ECCOMAS), vedecká monografia alebo kapitola v monografii vo svetovom jazyku vydaná v zahraničnom vydavateľstve nezaradená v A+.
A-	Ostatné publikácie vo WoS alebo SCOPUS, vedecká monografia alebo kapitola v monografii vo svetovom jazyku vydaná v domacom vydavateľstve, národný patent.
B	Ostatné recenzované publikácie v časopisoch alebo v zborníkoch z medzinárodnej konferencie, úžitkový vzor.

Akceptuje sa zaradenie časopisu do kvartilov podľa WoS alebo SCOPUS.

MRV - medzinárodné renomované vydavateľstvo (zoznam STU).

- 1) Aspoň 10 citácií (bez autocitácií) vo WoS alebo SCOPUS.
- 2) Aspoň 5 citácií (bez autocitácií) vo WoS alebo SCOPUS.
- 3) Časopis Q4 (Wos alebo SCOPUS) s IF > 0,4.

Požadované: 6

Plnené: 8

1. VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - RYBÁŘ, Jan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Intelligent dynamic identification technique of industrial products in a robotic workplace. In Sensors. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2

- SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB5207E3C7A>.

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“.

2. VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - FIŤKA, Ivan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Design and implementation of universal cyber-physical model for testing logistic control algorithms of production line's digital twin by using color sensor. In Sensors. Vol. 21, iss. 5 (2021), s. 1842. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628561500001 ; WOS: 000628561500001 ; SCOPUS: 2-s2.0-85101983179. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB4287E3C7A>

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“.

3. SLOVÁK, Juraj [51 %] - MELICHER, Markus [5 %] - ŠIMOVEC, Matej [4 %] - VACHÁLEK, Ján [40 %]. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In Sensors. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=FBAB270A951BA97947282B4ECE>

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“.

4. VACHÁLEK, Ján [55 %] - LOKŠÍK, Milan [5 %] - MORHÁČ, Martin [5 %] - BARTALSKÝ, Lukáš [15 %] - ROVNÝ, Oliver [5 %] - ŠIŠMIŠOVÁ, Dana [15 %]. The digital twin of an industrial production line within the Industry 4.0 concept. In 21st International Conference on Process Control (PC) 2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia. 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2217467&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: AFD. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“. Viac ako 10 citácií (bez autocitácií) vo WoS alebo SCOPUS, aktuálny počet citácií 127 (viď. Príloha č. 4 žiadosti, bod „Ohlasy registrované vo WoS alebo SCOPUS“).

5. TAKÁCS, Gergely [50 %] - VACHÁLEK, Ján [25 %] - ROHAĽ-ILKIV, Boris [25 %]. Online structural health monitoring and parameter estimation for vibrating active cantilever beams using low-priced microcontrollers. In Shock and vibration [elektronický zdroj]. Vol. 2015, (2015), 14 p., online. ISSN 1070-9622 (2015: 0.880 - IF, Q3 - JCR Best Q, 0.374 - SJR, Q2 - SJR Best Q). V databáze: CC: CCC:000355117200001 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://www.webofscience.com/wos/woscc/full-record/WOS:000355117200001>

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A“.

6. ROVNÝ, Oliver [25 %] - BATISTA, Gabriel [25 %] - TAKÁCS, Gergely [25 %] - VACHÁLEK, Ján [24 %] - BLAŽÍČEK, Peter [1 %]. Automatic machining system for the refurbishment of degraded welds in piping systems. In Advances in Mechanical Engineering. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2215308&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A“.

7. TAKÁCS, Gergely [50 %] - OTČENÁŠ, Jakub [30 %] - VACHÁLEK, Ján [10 %] - ROHAĽ-ILKIV, Boris [10 %]. Modal response-based technical countersurveillance measure against laser microphones. In Journal of Vibroengineering. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=1966330&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADM.
Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A“.

8. BARBOLYAS, Boris [20 %] - ŠUTTOVÁ, Kristína [16 %] - VACHÁLEK, Ján [16 %] - BELAVÝ, Cyril [16 %] - HUČKO, Branislav [16 %] - DEDÍK, Ladislav [16 %]. Evaluation of human postural system dynamical behavior via developed statokinesigram trajectory. In IFAC-PapersOnLine. Vol. 50, 20th World congress on the International Federation of Automatic Control. Toulouse, France. July 9-14, 2017 (2017), s. 15627-15632, online. ISSN 2405-8963 (2017: 0.260 - SJR, Q3 - SJR Best Q). V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*recview&uid=2216489&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: AFC.
Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A“.

Všetky predkladané publikácie kategórie „A+“ a „A“ uchádzača sú registrované v oblasti výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

II. Vedeckovýskumná alebo tvorivá umelecká aktivita

Výstupy v kategóriách „A+“ a „A“ za posledných 5 rokov

Zoznam výstupov kategórie „A+“ a „A“, za posledných 5 rokov. Zoznam je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 bez ohlasov, s uvedením autorského podielu a oblastí výskumu. Odkaz na výstupy evidované v CREPČ alebo inej databáze. Kategorizácia výstupov na základe odboru habilitačného a inauguračného konania „Automatizácia“, schválené vo VR STU 22.02. 2021:

A+	Publikácie v časopise Q1 alebo Q2 (WoS, alebo SCOPUS), monografia alebo kapitola MRV, publikácie vo WoS alebo SCOPUS ¹⁾ , medzinárodný patent.
A	Publikácia v časopise Q3 alebo Q4 ³⁾ , ostatné publikácie vo WoS alebo SCOPUS ²⁾ , publikačný výstup zo svetového kongresu (vedecká práca v recenzovanom zborníku svetového kongresu WoS alebo Scopus, vydanom celosvetovo uznávanými inštitúciami IFAC, IFIP, IEEE, ACM, IET, SPIE, IACM, ECCOMAS), vedecká monografia alebo kapitola v monografii vo svetovom jazyku vydaná v zahraničnom vydavateľstve nezaraďená v A+.
A-	Ostatné publikácie vo WoS alebo SCOPUS, vedecká monografia alebo kapitola v monografii vo svetovom jazyku vydaná v domácom vydavateľstve, národný patent.
B	Ostatné recenzované publikácie v časopisoch alebo v zborníkoch z medzinárodnej konferencie, úžitkový vzor.

Akceptuje sa zaradenie časopisu do kvartilov podľa WoS alebo SCOPUS.

MRV - medzinárodné renomované vydavateľstvo (zoznam STU).

- 1) Aspoň 10 citácií (bez autocitácií) vo WoS alebo SCOPUS.
- 2) Aspoň 5 citácií (bez autocitácií) vo WoS alebo SCOPUS.
- 3) Časopis Q4 (Wos alebo SCOPUS) s IF > 0,4.

Požadované: 3

Plnené: 7

1. VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - RYBÁŘ, Jan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Intelligent dynamic identification technique of industrial products in a robotic workplace. In Sensors. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2

- SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB5207E3C7A>.

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“.

2. VACHÁLEK, Ján [66 %] - ŠIŠMIŠOVÁ, Dana [30 %] - VAŠEK, Pavol [1 %] - FIŤKA, Ivan [1 %] - SLOVÁK, Juraj [1 %] - ŠIMOVEC, Matej [1 %]. Design and implementation of universal cyber-physical model for testing logistic control algorithms of production line's digital twin by using color sensor. In Sensors. Vol. 21, iss. 5 (2021), s. 1842. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628561500001 ; WOS: 000628561500001 ; SCOPUS: 2-s2.0-85101983179. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=86F3815C0D92DEDAB4287E3C7A>

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“.

3. SLOVÁK, Juraj [51 %] - MELICHER, Markus [5 %] - ŠIMOVEC, Matej [4 %] - VACHÁLEK, Ján [40 %]. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In Sensors. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

<https://app.crepc.sk/?fn=detailBiblioForm&sid=FBAB270A951BA97947282B4ECE>

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“.

4. VACHÁLEK, Ján [55 %] - LOKŠÍK, Milan [5 %] - MORHÁČ, Martin [5 %] - BARTALSKÝ, Lukáš [15 %] - ROVNÝ, Oliver [5 %] - ŠIŠMIŠOVÁ, Dana [15 %]. The digital twin of an industrial production line within the Industry 4.0 concept. In 21st International Conference on Process Control (PC) 2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia. 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2217467&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: AFD. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A+“. Viac ako 10 citácií (bez autocitácií) vo WoS alebo SCOPUS, aktuálny počet citácií 127 (viď. Príloha č. 4 žiadosti, bod „Ohlasy registrované vo WoS alebo SCOPUS“).

5. ROVNÝ, Oliver [25 %] - BATISTA, Gabriel [25 %] - TAKÁCS, Gergely [25 %] - VACHÁLEK, Ján [24 %] - BLAŽÍČEK, Peter [1 %]. Automatic machining system for the refurbishment of degraded welds in piping systems. In Advances in Mechanical Engineering. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2215308&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADC. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A“.

6. TAKÁCS, Gergely [50 %] - OTČENÁŠ, Jakub [30 %] - VACHÁLEK, Ján [10 %] - ROHAĽ-ILKIV, Boris [10 %]. Modal response-based technical countersurveillance measure against laser microphones. In Journal of Vibroengineering. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=1966330&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: ADM. Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A“.

7. BARBOLYAS, Boris [20 %] - ŠUTTOVÁ, Kristína [16 %] - VACHÁLEK, Ján [16 %] - BELAVÝ, Cyril [16 %] - HUČKO, Branislav [16 %] - DEDÍK, Ladislav [16 %]. Evaluation of human postural system dynamical behavior via developed statokinesigram trajectory. In IFAC-PapersOnLine. Vol. 50, 20th World congress on the International Federation of Automatic Control. Toulouse, France. July 9-14, 2017 (2017), s. 15627-15632, online. ISSN 2405-8963 (2017: 0.260 - SJR, Q3 - SJR Best Q). V databáze: SCOPUS ; WOS. Oblasť výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

http://www.crepc.sk/portal?fn=*review&uid=2216489&pageId=resultform&full=0

Kategória publikačnej činnosti podľa Vyhlášky MŠVVaŠ SR č. 456/2012 Z. z.: AFC.
Kategória publikačnej činnosti podľa AK SR OV 16 pre informatické vedy, automatizáciu a telekomunikáciu: „A“.

Všetky predkladané publikácie kategórie „A+“, „A“ uchádzača sú registrované v oblasti výskumu: 160 - Informatické vedy, automatizácia a telekomunikácie.

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

III. Ohlasy na publikačnú alebo umeleckú aktivitu

Ohlasy spolu

Ohlasy spolu, pre všetky kategórie ohlasov 1, 2, 3 a 4. Zoznam je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 s ohlasmi:

Požadované: 40

Plnené: 186

ACB Vysokoškolské učebnice vydané v domácich vydavateľstvách

ACB01 TAKÁCS, Gergely - VACHÁLEK, Ján - ROHAL-ILKIV, Boris. *Identifikácia sústav*. 1. vyd. Bratislava Nakladateľstvo STU 2014. 281 s., 100 obr., 5 tab. ISBN 978-80-227-4288-7.

Ohlasy:

1. [1] BARTALSKY, Lukas - BELAVY, Cyril - BARTKO, Michal - HULKO, Gabriel - KUBIS, Milan. PLC control of casting die preheating process as distributed parameter system. In Proceedings of the 2017 21st International Conference on Process Control, PC 2017, 2017-07-11, pp. 263-268., Registrované v: SCOPUS
2. [4] MAKOV, Peter. Principles of mastering at KUKA robots. In Acta Mechatronica [elektronický zdroj]. Vol. 2, iss. 2 (2017), s. 7-12. ISSN 2453-7306.
3. [3] JENČÍK, Róbert. Manex Company as leader for creation of automated and robotised systems with connection to international project Erasmus plus-RUSOS. In Journal of Technology and Exploitation in Mechanical Engineering. Vol. 3, no. 2 (2017), s. 7-10. ISSN 2451-148X.
4. [1] PALENČÁR, Jakub - KUBIS, Milan. Modeling and synthesis of control the process of casting. In 17th Conference on Applied Mathematics, APLIMAT 2018 Proceedings, 2018-01-01, 2018-February, pp. 803-812., Registrované v: SCOPUS
5. [4] FIŤKA, Ivan - ŠIMOVEC, Matej - RYBÁŘ, Jan. Metóda dátového úložiska pre on-line identifikáciu. In ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. 1. vyd. Košice : Technická univerzita, 2019, S. 08-1 - 08-8. ISBN 978-80-553-3250-5.
6. [2] IVAN, Fiťka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
7. [4] KUBIŠ, Milan - ŠIŠMIŠOVÁ, Dana - PALENČÁR, Rudolf. Safety assessment of pressure pipelines with corrosion defects. In ARTEP 2017. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 11. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. Stará Lesná, SR, 15. - 17. 2. 2017. 1. vyd. Košice : Technická univerzita v Košiciach, 2017, S. 39-1 - 39-9, USB kľúč. ISBN 978-80-553-3075-4.
8. [2] SLOVAK, Juraj - VASEK, Pavol - SIMOVEC, Matej - MELICHER, Markus

- SISMISOVA, Dana. RTLS tracking of material flow in order to reveal weak spots in production process. In Proceedings of the 2019 22nd International Conference on Process Control, PC 2019, 2019-06-01, pp. 234-238., Registrované v: SCOPUS 9. [1] VAGAS, Marek - GALAJDOVA, Alena - SIMSIK, Dusan. IO-link field parameterization for data collection based on RFID technology. In Proceedings of the 30th International Conference on Cybernetics and Informatics, K and I 2020, 2020-01-01, pp., Registrované v: SCOPUS 10. [3] VAGAŠ, Marek - GALAJDOVÁ, Alena - DŽONGOVIČ, Martin. PROPOSAL OF A VISION SYSTEM FOR AUTOMATED LINE MPS 500. In *ТЕХНИЧЕСКИЕ НАУКИ И ТЕХНОЛОГИИ = TECHNICAL SCIENCES AND TECHNOLOGIES*. Roč. 18, č. 4 (2019), s. 108-113. 11. [1] DRGONA, Peter - STEFUN, Rastislav - KASCAK, Slavomir - MORGOS, Jan. DEMONSTRATION of A SYSTEM IDENTIFICATION on REAL STEP-DOWN POWER CONVERTERS. In *Communications Scientific Letters of the University of Zilina*, 2020-01-01, 22, 4, pp. 128-133. ISSN 13354205., Registrované v: SCOPUS 12. [1] DRGONA, P. - STEFUN, R. - KASCAK, S. - MORGOS, J. Methods for identification of power converters in automotive industry. In *13TH INTERNATIONAL CONFERENCE ON ELEKTRO (ELEKTRO 2020)*, 2020, vol., no., pp., Registrované v: WOS, SCOPUS

ACB02 VACHÁLEK, Ján - TAKÁCS, Gergely. *Robotika*. 1. vyd. Bratislava : Nakladateľstvo STU, 2014. 166 s., 96 obr., 2 tab. ISBN 978-80-227-4163-7.

Ohlasy:

1. [2] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Position estimation of the mobile robot using the Kalman filter. In *18th Conference on Applied Mathematics, APLIMAT 2019*, 2019-01-01, 2, pp. 1093-1104., Registrované v: SCOPUS 2. [4] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Odhad pozície mobilného robota s využitím Kalmanovho filtra. In *ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe*. 1. vyd. Košice : Technická univerzita, 2019, S. 09-1 - 09-12. ISBN 978-80-553-3250-5.

ADC Vedecké práce v zahraničných karentovaných časopisoch

ADC01 ROVNÝ, Oliver - BATISTA, Gabriel - TAKÁCS, Gergely - VACHÁLEK, Ján - BLAŽIČEK, Peter. Automatic machining system for the refurbishment of degraded welds in piping systems. In *Advances in Mechanical Engineering*. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS.

Ohlasy:

1. [1] WANG, Chia-Nan - CHANG, Kuei-Hu. Practical problem solving in manufacturing technologies. In *ADVANCES IN MECHANICAL ENGINEERING*, 2018, vol. 10, no. 10, pp. ISSN 1687-8140., Registrované v: WOS
2. [1] GUO, Wanjin - ZHU, Yaguang - HE, Xu. A Robotic Grinding Motion Planning Methodology for a Novel Automatic Seam Bead Grinding Robot Manipulator. In *IEEE ACCESS*, 2020, vol. 8, no., pp. 75288-75302. ISSN 2169-3536., Registrované v: WOS
3. [1] ZHU, Yaguang - HE, Xu - LIU, Qiong - GUO, Wanjin. Semiclosed-loop motion control with robust weld bead tracking for a spiral seam weld beads grinding robot. In *Robotics and Computer-Integrated Manufacturing*, 2022-02-01, 73, pp. ISSN 07365845., Registrované v: SCOPUS

ADC02 SLOVÁK, Juraj - MELICHER, Markus - ŠIMOVEC, Matej - VACHÁLEK, Ján. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In *Sensors*. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525.

Ohlasy:

1. [1] EYAM, Aitor Toichoa - MOHAMMED, Wael M. - MARTINEZ LASTRA, Jose L. Emotion-driven analysis and control of human-robot interactions in collaborative applications. In *Sensors*, 2021-07-02, 21, 14, pp. ISSN 14248220., Registrované v: SCOPUS

ADC03 TAKÁCS, Gergely - VACHÁLEK, Ján - ROHAL-ILKIV, Boris. Online structural health monitoring and parameter estimation for vibrating active cantilever beams using low-priced microcontrollers. In *Shock and vibration [elektronický zdroj]*. Vol. 2015, (2015), 14 p., online. ISSN 1070-9622 (2015: 0.880 - IF, Q3 - JCR Best Q, 0.374 - SJR, Q2 - SJR Best Q). V databáze: CC: CCC:000355117200001 ; WOS.

Ohlasy:

1. [1] TUMA, Jiri - SIMEK, Jiri - MAHDAL, Miroslav - PAWLENKA, Miroslav - PAVELKA, Vaclav. An actively controlled journal bearing with increased resistance to instability. In *MM Science Journal*, 2019-03-01, 2019, march, pp. 2849-2854. ISSN 18031269., Registrované v: SCOPUS
2. [1] BABIUCH, Marek - FOLTYNEK, Petr - SMUTNY, Pavel. Using the ESP32 microcontroller for data processing. In *Proceedings of the 2019 20th International Carpathian Control Conference, ICC 2019*, 2019-05-01, pp., Registrované v: SCOPUS, WOS
3. [1] FOLTYNEK, Petr - BABIUCH, Marek - ŠURÁNEK, Pavel. Measurement and data processing from Internet of Things modules by dual-core application using

ESP32 board. In *Measurement and Control* (United Kingdom), 2019-09-01, 52, 7-8, pp. 970-984. ISSN 00202940., Registrované v: SCOPUS, WOS

ADC04 VACHÁLEK, Ján - ŠIŠMIŠOVÁ, Dana - VAŠEK, Pavol - RYBÁŘ, Jan - SLOVÁK, Juraj - ŠIMOVEC, Matej. Intelligent dynamic identification technique of industrial products in a robotic workplace. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444.

Ohlasy:

1. [1] PETER, Angela Paul - CHEW, Kit Wayne - KOYANDE, Apurav Krishna - YUK-HENG, Sia - TING, Huong Yong - RAJENDRAN, Saravanan - MUNAWAROH, Heli Siti Halimatul - YOO, Chang Kyoo - SHOW, Pau Loke. Cultivation of *Chlorella vulgaris* on dairy waste using vision imaging for biomass growth monitoring. In *Bioresource Technology*, 2021-12-01, 341, pp. ISSN 09608524., Registrované v: SCOPUS

ADE Vedecké práce v ostatných zahraničných časopisoch

ADE01 VACHÁLEK, Ján - BARTKO, Michal. Online system identification method using modified regularized exponential forgetting. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 59, č. 2 (2013), s.169-175. ISSN 1210-0471.

Ohlasy:

1. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In *Proceedings of the 2021 23rd International Conference on Process Control, PC 2021*, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

ADE02 VACHÁLEK, Ján - TÓTH, Filip - KRASŇANSKÝ, Pavol - ČAPUCHA, Ľubomír. Design and construction of a robotic vehicle with omni-directional mecanum wheels. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 60, č. 1 (2014), s. 97-103. ISSN 1210-0471.

Ohlasy:

1. [1] BELDA, Kvetoslav - ROVNY, Oliver. Predictive control of 5 DOF robot arm of autonomous mobile robotic system motion control employing mathematical model of the robot arm dynamics. In *Proceedings of the 2017 21st International Conference on Process Control, PC 2017*, 2017-07-11, pp. 339-344., Registrované v: SCOPUS, WOS

2. [3] STECK, Jason - ET AL. A mobile robot gripper for cooperative 3D printing. In *Proceedings of the 28th annual international Solid freeform fabrication symposium 2017* : Austin, Texas, 2017, S. 2664-2681.

3. [2] SLOVAK, Juraj - MELICHER, Markus - VASEK, Pavol. Trajectories

optimization of mobile robotic systems using discrete Kalman filtration. In Proceedings of the 29th International Conference on Cybernetics and Informatics, K and I 2018, 2018-04-12, 2018-January, pp. 1-7., Registrované v: SCOPUS, WOS

4. [2] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Position estimation of the mobile robot using the Kalman filter. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 2, pp. 1093-1104., Registrované v: SCOPUS

5. [4] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Odhad pozície mobilného robota s využitím Kalmanovho filtra. In ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. 1. vyd. Košice : Technická univerzita, 2019, S. 09-1 - 09-12. ISBN 978-80-553-3250-5.

6. [1] STECK, Jason - MORALES-ORTEGA, Rolando - CURRENCE, Jacob - ZHOU, Wenchao. A mobile robot gripper for cooperative 3D printing. In Solid Freeform Fabrication 2017: Proceedings of the 28th Annual International Solid Freeform Fabrication Symposium An Additive Manufacturing Conference, SFF 2017, 2020-01-01, pp. 2664-2681., Registrované v: SCOPUS

ADE03 VACHÁLEK, Ján - GÉCI, Marián - ROVNÝ, Oliver - VOLENSKÝ, Tomáš. Localization of objects using the MS Windows Kinect 3D optical device with utilization of the depth image technology. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 61, č. 2 (2015), s. 63-78. ISSN 1210-0471.

Ohlasy:

1. [2] SLOVAK, Juraj - MELICHER, Markus - VASEK, Pavol. Trajectories optimization of mobile robotic systems using discrete Kalman filtration. In Proceedings of the 29th International Conference on Cybernetics and Informatics, K and I 2018, 2018-04-12, 2018-January, pp. 1-7., Registrované v: SCOPUS, WOS

ADF Vedecké práce v ostatných domácich časopisoch

ADF01 VACHÁLEK, Ján. Využitie senzorického systému Microsoft Kinect pre potreby inteligentných domov a budov (3). In *iDB Journal*. Roč. 4, č. 1 (2014), s. 18-19. ISSN 1338-3337.

Ohlasy:

1. [1] GYURIAN, Norbert - DROZD, Ivan - ROZINAJ, Gregor. Multimodal interface for smart home. In Proceedings Elmar International Symposium Electronics in Marine, 2016-11-02, 2016-November, pp. 283-286. ISSN 13342630., Registrované v: SCOPUS, WOS

ADM Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS

ADM01 TAKÁCS, Gergely - OTČENÁŠ, Jakub - VACHÁLEK, Ján - ROHAĽ-ILKIV, Boris. Modal response-based technical countersurveillance measure against laser microphones. In *Journal of Vibroengineering*. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS.

Ohlasy:

1. [1] LEE, S. Y. - ET AL. Study the Effect of Commonly Used Video Compression Techniques on Sound Recovery via Negligible Object Vibrations for Visual Surveillance System. In *Proceedings of the 2nd International Conference on Advances in Image Processing : Chengdu, China — June 16 - 18, 2018*. New York : ACM, 2018, S. 111-115. ISBN 978-1-4503-6460-7.
2. [1] LEE, S. Y. - YAP, W. S. - HUM, Y. C. - GOI, B. M. - TEE, Y. K. Investigate the Impact of Colour to Grayscale Conversion on Sound Recovery via Visual Microphone. In *2018 2nd International Conference on Imaging, Signal Processing and Communication, ICISPC 2018, 2018-07-01*, pp. 138-142., Registrované v: SCOPUS
3. [1] CHOONG, Ren Jun - YAP, Wun She - CHAI HUM, Yan - KAI TEE, Yee. Improving the quality of sound recovered using the visual microphone with frame-wise image denoising preprocessing. In *Journal of Physics: Conference Series, 2020-09-03, 1627, 1, pp.* ISSN 17426588., Registrované v: SCOPUS
4. [1] HOREV, Anatoliy - SAVIN, Andrey. Efficiency Research of Sun Protection Window Films for Speech Information Protection from LEAKAGE by Optoelectronic Channel. In *Proceedings of the 2021 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering, ElConRus 2021, 2021-01-26*, pp. 2335-2339., Registrované v: SCOPUS

AFD Publikované príspevky na domácich vedeckých konferenciách

AFD01 VACHÁLEK, Ján. On-line identification using hybrid method of regularized exponential forgetting. In *Proceedings of the 2013 International Conference on Process Control [elektronický zdroj] : Štrbské Pleso, Slovakia, June 18-21, 2013*. 1st. ed. Piscataway : IEEE, 2013, s.CD-ROM, p. 257-262. ISBN 978-80-227-3951-1. V databáze: WOS.

Ohlasy:

1. [2] BELAVÝ, Cyril - HULKÓ, Gabriel - ŠIŠMIŠOVÁ, Dana - KUBIŠ, Milan. FEM based modelling and control of temperature field in extruder barrel. In *2018 Cybernetics & Informatics (K&I) [elektronický zdroj] : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018*. 1. vyd. Bratislava : Slovak Chemical Library, 2018, USB kľúč, 6 s. ISBN 978-1-5386-4420-1. V databáze: IEEE., Registrované v: WOS
2. [4] BELAVÝ, Cyril - ŠIŠMIŠOVÁ, Dana - BARTALSKÝ, Lukáš - HULKÓ, Gabriel. Modeling and control of temperature field in continuous casting process. In *ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe*. 1. vyd. Košice : Technická

univerzita, 2019, S. 19-1 - 19-12, CD ROM. ISBN 978-80-553-3250-5.
3. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

AFD02 VACHÁLEK, Ján - ČAPUCHA, Ľubomír - KRASŇANSKÝ, Pavol - TÓTH, Filip. Collision-free manipulation of a robotic arm using the MS Windows Kinect 3D optical system. In *Process control 2015 : 20th International Conference on Process Control. Štrbské Pleso, Slovak Republic. June 9-12, 2015*. 1. vyd. New York : IEEE, 2015, S. 96-106. ISBN 978-1-4673-6627-4. V databáze: WOS.

Ohlasy:

1. [1] GALLO SANCHEZ, Luisa Fernanda - GUERRERO RAMIREZ, Monica Alejandra - VASQUEZ SALCEDO, Juan Diego - ALONSO CASTRO, Miguel Angel. Electromechanical Design of a Prototype for Emulation Movements of a Human Arm. In INGE CUC, 2016, vol. 12, no. 2, pp. 17-25. ISSN 0122-6517., Registrované v: WOS

2. [1] BELDA, Kvetoslav - ROVNY, Oliver. Predictive control of 5 DOF robot arm of autonomous mobile robotic system motion control employing mathematical model of the robot arm dynamics. In Proceedings of the 2017 21st International Conference on Process Control, PC 2017, 2017-07-11, pp. 339-344., Registrované v: SCOPUS, WOS

3. [1] HJ SHUKOR, Ahmad Zaki - KII, Ng Jack - MISKON, Muhammad Fahmi - ALIIBRAHIM, Fariz - JAMALUDDIN, Muhammad Herman. Pre-contact sensor based collision avoidance manipulator. In Journal of Telecommunication, Electronic and Computer Engineering, 2017-07-01, 9, 3, pp. 175-179. ISSN 21801843., Registrované v: SCOPUS

4. [2] SLOVAK, Juraj - MELICHER, Markus - VASEK, Pavol. Trajectories optimization of mobile robotic systems using discrete Kalman filtration. In Proceedings of the 29th International Conference on Cybernetics and Informatics, K and I 2018, 2018-04-12, 2018-January, pp. 1-7., Registrované v: SCOPUS, WOS

5. [2] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Position estimation of the mobile robot using the Kalman filter. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 2, pp. 1093-1104., Registrované v: SCOPUS

6. [2] SLOVAK, Juraj - VASEK, Pavol - SIMOVEC, Matej - MELICHER, Markus - SISMISOVA, Dana. RTLS tracking of material flow in order to reveal weak spots in production process. In Proceedings of the 2019 22nd International Conference on Process Control, PC 2019, 2019-06-01, pp. 234-238., Registrované v: SCOPUS

7. [4] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Odhad pozície mobilného robota s využitím Kalmanovho filtra. In ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie

odborníkov z univerzít, vysokých škôl a praxe. 1. vyd. Košice : Technická univerzita, 2019, S. 09-1 - 09-12. ISBN 978-80-553-3250-5.

- AFD03 VACHÁLEK, Ján - LOKŠÍK, Milan - MORHÁČ, Martin - BARTALSKÝ, Lukáš - ROVNÝ, Oliver - ŠIŠMIŠOVÁ, Dana. The digital twin of an industrial production line within the Industry 4.0 concept. In *21st International Conference on Process Control (PC) 2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia*. 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS.

Ohlasy:

1. [3] QUAN, Ying - PARK, Sangchan. Review on the application of Industry 4.0 digital twin technology to the quality management. In *Journal of the Korean Society for Quality Management*. Vol. 45, no. 4 (2017), s. 601-610. ISSN 1229-1889.
2. [1] PALENČÁR, Jakub - KUBIS, Milan. Modeling and synthesis of control the process of casting. In *17th Conference on Applied Mathematics, APLIMAT 2018 Proceedings, 2018-01-01, 2018-February*, pp. 803-812., Registrované v: SCOPUS
3. [1] LANDOLFI, Giuseppe - BARNI, Andrea - MENATO, Silvia - CAVADINI, Franco Antonio - ROVERE, Diego - DAL MASO, Giovanni. Design of a multi-sided platform supporting CPS deployment in the automation market. In *Proceedings 2018 IEEE Industrial Cyber-Physical Systems, ICPS 2018, 2018-06-15*, pp. 684-689., Registrované v: SCOPUS
4. [1] MABKHOT, Mohammed M. - AL-AHMARI, Abdulrahman M. - SALAH, Bashir - ALKHALEFAH, Hisham. Requirements of the Smart Factory System: A Survey and Perspective. In *MACHINES*, 2018, vol. 6, no. 2, pp. ISSN 2075-1702., Registrované v: WOS
5. [1] TAO, Fei - SUI, Fangyuan - LIU, Ang - QI, Qinglin - ZHANG, Meng - SONG, Boyang - GUO, Zirong - LU, Stephen C.Y. - NEE, A. Y.C. Digital twin-driven product design framework. In *International Journal of Production Research*, 2018-02-24, pp. 1-19. ISSN 00207543., Registrované v: SCOPUS, WOS
6. [1] BECUE, Adrien - FOURASTIER, Yannick - PRACA, Isabel - SAVARIT, Alexandre - BARON, Claude - GRADUSSOFS, Baptiste - POUILLE, Etienne - THOMAS, Carsten. CyberFactory#1 Securing the industry 4.0 with cyber-ranges and digital twins. In *IEEE International Workshop on Factory Communication Systems Proceedings, WFCS, 2018-07-03, 2018-June*, pp. 1-4., Registrované v: SCOPUS
7. [1] HOFMANN, Wladimir - ET AL. Simulation and Virtual Commissioning of Modules for a Plug-and-Play Conveying System. In *INCOM 2018 : 16th IFAC Symposium on Information Control Problems in Manufacturing At: Bergamo, Italy, 11.-13.6. 2018, 2018, S. 1-6.*, Registrované v: WOS
8. [1] ECKHART, Matthias - EKELHART, Andreas. Towards Security-Aware Virtual Environments for Digital Twins. In *Proceeding CPSS '18 : 4th ACM Workshop on Cyber-Physical System Security, Incheon, Republic of Korea — June 04 - 04, 2018*. New York : ACM, 2018, S. 61-72. ISBN 978-1-4503-5755-5., Registrované v: WOS

9. [1] KRITZINGER, Werner - KARNER, Matthias - TRAAR, Georg - HENJES, Jan - SIHN, Wilfried. Digital Twin in manufacturing: A categorical literature review and classification. In IFAC-PapersOnLine, 2018-01-01, 51, 11, pp. 1016-1022., Registrované v: SCOPUS
10. [1] QI, Qinglin - ZHAO, Dongming - LIAO, T. Warren - TAO, Fei. Modeling of cyber-physical systems and digital twin based on edge computing, fog computing and cloud computing towards smart manufacturing. In ASME 2018 13th International Manufacturing Science and Engineering Conference, MSEC 2018, 2018-01-01, 1, pp., Registrované v: SCOPUS, WOS
11. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In Enterprise Information Systems, 2018-01-01, pp. ISSN 17517575., Registrované v: SCOPUS
12. [1] NIKOLAKIS, Nikolaos - ALEXOPOULOS, Kosmas - XANTHAKIS, Evangelos - CHRYSSOLOURIS, George. The digital twin implementation for linking the virtual representation of human-based production tasks to their physical counterpart in the factory-floor. In International Journal of Computer Integrated Manufacturing, 2018-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
13. [1] NEJC, Ilc - LOTRIČ, Uroš. FTsim: A 3D Tool for Teaching Automation Concepts. In 13th APCA International Conference on Automatic Control and Soft Computing, CONTROLO 2018, Azores, Portugal, June 4-6, 2018. 1. vyd. IEEE : [s.l.], 2018, S. 31-36. ISBN 978-989-20-8523-4., Registrované v: WOS
14. [1] MALIK, Ali Ahmad - BILBERGB, Arne. Digital twins of human robot collaboration in a production setting. In Procedia Manufacturing. Vol. 17, (2018), s. 278-285. ISSN 2351-9789., Registrované v: WOS
15. [1] ILC, Nejc - LOTRI, Uroš. Implementation of a training-model simulator with free tools. In Elektrotehniski Vestnik/Electrotechnical Review, 2018-01-01, 85, 4, pp. 177-184. ISSN 00135852., Registrované v: SCOPUS, WOS
16. [1] LIU, Datong - GUO, Kai - WANG, Benkuan - PENG, Yu. Summary and perspective survey on digital twin technology. In Yi Qi Yi Biao Xue Bao/Chinese Journal of Scientific Instrument, 2018-11-01, 39, 11, pp. 1-10. ISSN 02543087., Registrované v: SCOPUS
17. [1] DURÃO, Luiz Fernando C.S. - HAAG, Sebastian - ANDERL, Reiner - SCHÜTZER, Klaus - ZANCUL, Eduardo. Digital twin requirements in the context of industry 4.0. In IFIP Advances in Information and Communication Technology, 2018-01-01, 540, pp. 204-214. ISSN 18684238., Registrované v: SCOPUS
18. [3] LIU, Q. - ET AL. Research on digital twin: Model, problem and progress. In Journal of Hebei University of Science and Technology. Vol. 40, iss. 1 (2019), s. ISSN 1008-1542.
19. [1] CENTOMO, S. - PANATO, M. - FUMMI, F. Cyber-physical systems integration in a production line simulator. In 26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC), 2018, S. ISBN 978-1-5386-4756-1.,

- Registrované v: WOS
20. [1] TAO, Fei - ZHANG, He - LIU, Ang - NEE, A. Y.C. Digital Twin in Industry: State-of-the-Art. In IEEE Transactions on Industrial Informatics, 2019-04-01, 15, 4, pp. 2405-2415. ISSN 15513203., Registrované v: SCOPUS
21. [1] NGO, Diane - GUERRA-ZUBIAGA, David A. - GONZÁLEZ-BADILLO, Germánico - VATANKHAH BARENJI, Reza. Towards a digital twin for cloud manufacturing-case study. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2018-01-01, 2, pp., Registrované v: SCOPUS, WOS
22. [1] HUANG, B. B. - ZHANG, Y. F. - ZHANG, G. - REN, S. A framework for digital twin driven product recycle, disassembly and reassembly. In Proceedings of International Conference on Computers and Industrial Engineering, CIE, 2018-01-01, 2018-December, pp., Registrované v: SCOPUS
23. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo - CORREIA, Luiz H.A. - SILVA, Jorge Sá. Industry 4.0 retrofitting. In Brazilian Symposium on Computing System Engineering, SBESC, 2019-04-15, 2018-November, pp. 8-15. ISSN 23247886., Registrované v: SCOPUS, WOS
24. [1] MAKAROVA, Irina - SHUBENKOVA, Ksenia - MAVRIN, Vadim - GORYAEV, Nikolay. Development of the Integrated Information Environment to Connect Manufacturer and Its Dealer and Service Network. In 2018 IEEE International Conference on Technology Management, Operations and Decisions, ICTMOD 2018, 2019-04-12, pp. 268-273., Registrované v: SCOPUS, WOS
25. [1] MONTEIRO, Paula - CARVALHO, Marcia - MORAIS, Francisco - MELO, Monica - MACHADO, Ricardo J. - PEREIRA, Fernando. Adoption of Architecture Reference Models for Industrial Information Management Systems. In 9th International Conference on Intelligent Systems 2018: Theory, Research and Innovation in Applications, IS 2018 Proceedings, 2019-05-08, pp. 763-770., Registrované v: SCOPUS, WOS
26. [1] DATTA, Soumya Kanti - BONNET, Christian. MEC and IoT Based Automatic Agent Reconfiguration in Industry 4.0. In International Symposium on Advanced Networks and Telecommunication Systems, ANTS, 2019-05-08, 2018-December, pp. ISSN 21531684., Registrované v: SCOPUS, WOS
27. [1] CENTOMO, Stefano - FRACCAROLI, Enrico - PANATO, Marco. From Multi-Level to Abstract-Based Simulation of a Production Line. In Proceedings of the 2019 Design, Automation and Test in Europe Conference and Exhibition, DATE 2019, 2019-05-14, pp. 1253-1256., Registrované v: SCOPUS, WOS
28. [1] CORDEIRO, Gabrielly Araujo - COOPER ORDONEZ, Robert Eduardo - FERRO, Rodrigo. THEORETICAL PROPOSAL OF STEPS FOR THE IMPLEMENTATION OF THE INDUSTRY 4.0 CONCEPT. In BRAZILIAN JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT, 2019, vol. 16, no. 2, pp. 166-179. ISSN 2237-8960., Registrované v: WOS, SCOPUS

29. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. A Digital Twin-Based Multi-modal UI Adaptation Framework for Assistance Systems in Industry 4.0. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2019-01-01, 11568 LNCS, pp. 398-409. ISSN 03029743., Registrované v: SCOPUS, WOS
30. [1] TAO, Fei - QI, Qinglin - WANG, Lihui - NEE, A. Y.C. Digital Twins and Cyber-Physical Systems toward Smart Manufacturing and Industry 4.0: Correlation and Comparison. In Engineering, 2019-08-01, 5, 4, pp. 653-661. ISSN 20958099., Registrované v: SCOPUS, WOS
31. [1] ROLLE, Rodrigo Pita - ET AL. Digitalization of Manufacturing Processes: Proposal and Experimental Results. IEEE 2019. Dostupné na internete: <<https://ieeexplore.ieee.org/abstract/document/8792838/references#references>>. V databáze: DOI: DOI: 10.1109/METROI4.2019.8792838., Registrované v: SCOPUS
32. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In ENTERPRISE INFORMATION SYSTEMS, 2019, vol. 13, no. 4, pp. 534-556. ISSN 1751-7575., Registrované v: WOS
33. [3] FYRAJ, Klajdo - FIRSCHING, Peter. Using Augmented Reality to Enhance the Capabilities of Human-Machine Interaction in Industry. In Symposium Elektronik und Systemintegration ESI 2018 : Von der Sensorik bis zur Aktorik in interdisziplinärer Anwendung, 2018, S. ISBN 978-3-9818439-1-0.
34. [1] WANG, Junfeng - HUANG, Yaqin - CHANG, Qing - LI, Shiqi. Event-driven online machine state decision for energy-efficient manufacturing system based on digital twin using Max-plus Algebra. In Sustainability (Switzerland), 2019-09-01, 11, 18, pp., Registrované v: SCOPUS, WOS
35. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. Reference Framework for Digital Twins within Cyber-Physical Systems. In Proceedings 2019 IEEE/ACM 5th International Workshop on Software Engineering for Smart Cyber-Physical Systems, SEsCPS 2019, 2019-05-01, pp. 25-31., Registrované v: SCOPUS
36. [3] RASHEED, Adil - SAN, Omer - KVAMSDAL, Trond. Digital Twin: Values, Challenges and Enablers. arXiv 1910.01719 2019. Dostupné na internete: <https://arxiv.org/abs/1910.01719>.
37. [1] CIMINO, Chiara - NEGRI, Elisa - FUMAGALLI, Luca. Review of digital twin applications in manufacturing. In Computers in Industry, 2019-12-01, 113, pp. ISSN 01663615., Registrované v: SCOPUS
38. [1] ASHA, K. - KARIYAPPA, B.S. - KULAKARNI, Vishal. Digital twin ranorex test automation of SIPROTEC 5 protection devices. In Proceedings of the third international conference on Electronics Communication and Aerospace Technology. ICECA 2019. 1. vyd : IEEE, 2019, S. 955-958. ISBN 978-1-7281-0167-5., Registrované v: SCOPUS

39. [1] SPELLINI, Stefano - CHIRICO, Roberta - LORA, Michele - FUMMI, Franco. Languages and formalisms to enable eda techniques in the context of industry 4.0. In Proceedings of the 2019 Forum on Specification and Design Languages, FDL 2019, 2019-09-01, pp., Registrované v: SCOPUS
40. [1] DALL'ORA, Nicola - CENTOMO, Stefano - FUMMI, Franco. Industrial-IoT Data Analysis Exploiting Electronic Design Automation Techniques. In Proceedings 2019 8th International Workshop on Advances in Sensors and Interfaces, IWASI 2019, 2019-06-01, pp. 103-109., Registrované v: SCOPUS
41. [1] BALAKRISHNAN, Ponnuraman - RAMESH BABU, Kalivaradhan - NAIJU, Chooriyaparambil Damodaran - MADIAJAGAN, Muthaiyan. Design and Implementation of Digital Twin for Predicting Failures in Automobiles Using Machine Learning Algorithms. In SAE Technical Papers, 2019-10-11, october, pp., Registrované v: SCOPUS
42. [1] PARK, Kyu Tae - LEE, Jehun - KIM, Hyun Jung - NOH, Sang Do. Digital twin-based cyber physical production system architectural framework for personalized production. In International Journal of Advanced Manufacturing Technology, 2019-01-01, pp. ISSN 02683768., Registrované v: SCOPUS, WOS
43. [1] QI, Qinglin - TAO, Fei - HU, Tianliang - ANWER, Nabil - LIU, Ang - WEI, Yongli - WANG, Lihui - NEE, A. Y.C. Enabling technologies and tools for digital twin. In Journal of Manufacturing Systems, 2019-01-01, pp. ISSN 02786125., Registrované v: SCOPUS, WOS
44. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - FOGLI, Daniela. A survey on digital twin: Definitions, characteristics, applications, and design implications. In IEEE Access, 2019-01-01, 7, pp., Registrované v: SCOPUS
45. [1] COHEN, Yuval - NASERALDIN, Hussein - CHAUDHURI, Atanu - PILATI, Francesco. Assembly systems in Industry 4.0 era: a road map to understand Assembly 4.0. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2019, vol. 105, no. 9, pp. 4037-4054. ISSN 0268-3768., Registrované v: WOS
46. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo. Cyber-physical production systems retrofitting in context of industry 4.0. In Computers and Industrial Engineering, 2020-01-01, 139, pp. ISSN 03608352., Registrované v: SCOPUS
47. [1] YANG, Lin Yao - CHEN, Si Yuan - WANG, Xiao - ZHANG, Jun - WANG, Cheng Hong. Digital Twins and Parallel Systems: State of the Art, Comparisons and Prospect. In Zidonghua Xuebao/Acta Automatica Sinica, 2019-11-01, 45, 11, pp. 2001-2031. ISSN 02544156., Registrované v: SCOPUS, WOS
48. [1] ENDERS, Martin Robert - HOBACH, Nadja. Dimensions of digital twin applications A literature review. In 25th Americas Conference on Information Systems, AMCIS 2019, 2019-01-01, pp., Registrované v: SCOPUS
49. [1] REDELINGHUYS, A. J.H. - BASSON, A. H. - KRUGER, K. A six-layer architecture for the digital twin: a manufacturing case study implementation. In Journal

- of Intelligent Manufacturing, 2019-01-01, pp. ISSN 09565515., Registrované v: SCOPUS, WOS
50. [1] VALENCIA, Estefania Tobon - LAMOURI, Samir - PELLERIN, Robert - DUBOIS, Patrice - MOEUF, Alexandre. Production Planning in the Fourth Industrial Revolution: A Literature Review. In IFAC PAPERSONLINE, 2019, vol. 52, no. 13, pp. 2158-2163. ISSN 2405-8963., Registrované v: WOS
51. [3] KOVALEVSKY, V .E. - ONUFRIEV, V.A. Multi-agent algorithms for enterprise's key performance indicators reconciliation. In SPbSPU Journal. Computer Science. Telecommunication and Control Systems. Vol. 12, iss. 3 (2019), s. 68-80.
52. [3] CAMPOS-FERREIRA, Andrés Campos - ET AL. Digital Twin Applications: A Review. In Memorias del congreso de control automático. 2019, no. 3 (2019), s. 606-611. ISSN 2594-2492.
53. [3] NO, Yu-Jeong. Introduction to design of products based on digital twin technology. In Journal of the Computational Structural Engineering Institute of Korea. Vol. 31, iss. 4 (2018), s. 4-11. ISSN 1225-1569.
54. [3] CHIRICO, Roberta - ET AL. A contract-based methodology for production lines validation. In INDIN 2019 : IEEE International Conference on Industrial Informatics : IEEE, 2019, S. 4.
55. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - GLIOZZO, Jessica - PETRINI, Alessandro - VALTOLINA, Stefano. Human Digital Twin for Fitness Management. In IEEE Access, 2020-01-01, 8, pp. 26637-26664., Registrované v: SCOPUS
56. [1] BURGHARDT, Andrzej - SZYBICKI, Dariusz - GIERLAK, Piotr - KURC, Krzysztof - PIETRUSZ, Paulina - CYGAN, Rafał. Programming of industrial robots using virtual reality and digital twins. In Applied Sciences (Switzerland), 2020-01-01, 10, 2, pp., Registrované v: SCOPUS, WOS
57. [1] LUO, Weichao - HU, Tianliang - YE, Yingxin - ZHANG, Chengrui - WEI, Yongli. A hybrid predictive maintenance approach for CNC machine tool driven by Digital Twin. In Robotics and Computer-Integrated Manufacturing, 2020-10-01, 65, pp. ISSN 07365845., Registrované v: SCOPUS
58. [1] ASSAWAARAYAKUL, Chaiwat - SRISAWAT, Wasin - AYUTHAYA, Smitti Darakorn Na - WATTANASIRICHAIGOON, Somkiat. Integrate Digital Twin to Exist Production System for Industry 4.0. In TIMES-iCON 2019 2019 4th Technology Innovation Management and Engineering Science International Conference, 2019-12-01, pp., Registrované v: SCOPUS
59. [1] ROLLE, R. - MARTUCCI, V - GODOY, E. Architecture for Digital Twin implementation focusing on Industry 4.0. In IEEE LATIN AMERICA TRANSACTIONS, 2020, vol. 18, no. 5, pp. 889-898. ISSN 1548-0992., Registrované v: WOS
60. [1] ROY, Rohan Basu - MISHRA, Debasish - PAL, Surjya K. - CHAKRAVARTY, Tapas - PANDA, Satanik - CHANDRA, M. Girish - PAL, Arpan

- MISRA, Prateep - CHAKRAVARTY, Debashish - MISRA, Sudip. Digital twin: current scenario and a case study on a manufacturing process. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2020, vol. 107, no. 9-10, pp. 3691-3714. ISSN 0268-3768., Registrované v: WOS
61. [1] HE, Bin - BAI, Kai-Jian. Digital twin-based sustainable intelligent manufacturing: a review. In ADVANCES IN MANUFACTURING, 2020, vol., no., pp. ISSN 2095-3127., Registrované v: WOS
62. [1] RASHEED, Adil - SAN, Omer - KVAMSDAL, Trond. Digital Twin: Values, Challenges and Enablers From a Modeling Perspective. In IEEE ACCESS, 2020, vol. 8, no., pp. 21980-22012. ISSN 2169-3536., Registrované v: WOS
63. [1] NEGRI, Elisa - BERARDI, Stefano - FUMAGALLI, Luca - MACCHI, Marco. MES-integrated digital twin frameworks. In Journal of Manufacturing Systems, 2020-07-01, 56, pp. 58-71. ISSN 02786125., Registrované v: SCOPUS
64. [1] RAZA, Mohsin - KUMAR, Priyan Malarvizhi - HUNG, Dang Viet - DAVIS, William - NGUYEN, Huan - TRESTIAN, Ramona. A Digital Twin Framework for Industry 4.0 Enabling Next-Gen Manufacturing. In ICITM 2020 2020 9th International Conference on Industrial Technology and Management, 2020-02-01, pp. 73-77., Registrované v: SCOPUS
65. [1] PARK, Kyu Tae - YANG, Jinho - NOH, Sang Do. VREDI: virtual representation for a digital twin application in a work-center-level asset administration shell. In Journal of Intelligent Manufacturing, 2020-01-01, pp. ISSN 09565515., Registrované v: SCOPUS
66. [1] GE, Yidi - QIU, Jiangnan - LIU, Zhiyong - GU, Wenjing - XU, Liwei. Beyond negative and positive: Exploring the effects of emotions in social media during the stock market crash. In Information Processing and Management, 2020-01-01, pp. ISSN 03064573., Registrované v: SCOPUS
67. [1] PÉREZ, Luis - RODRÍGUEZ-JIMÉNEZ, Silvia - RODRÍGUEZ, Nuria - USAMENTIAGA, Rubén - GARCÍA, Daniel F. Digital twin and virtual reality based methodology for multi-robot manufacturing cell commissioning. In Applied Sciences (Switzerland), 2020-05-01, 10, 10, pp., Registrované v: SCOPUS, WOS
68. [1] GERICKE, G. A. - KURIAKOSE, R. B. - VERMAAK, H. J. - MARDSEN, Ole. Design of Digital Twins for Optimization of a Water Bottling Plant. In 45TH ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY (IECON 2019), 2019, vol., no., pp. 5204-5210. ISSN 1553-572X., Registrované v: WOS, SCOPUS
69. [1] GUERRA-ZUBIAGA, David A. - BONDAR, Alex - ESCOBEDO, Gilberto - SCHUMACHER, Arthur. Digital twin in a manufacturing integrated system: Siemens TIA and PLM case study. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2019-01-01, 2B-2019, pp., Registrované v: SCOPUS
70. [1] SAKR, Ahmed H. - YACOUT, Soumaya - BASSETTO, Samuel. A discrete

event simulation logic for semiconductor production planning and control within industry 4.0 paradigm. In Proceedings of the International Conference on Industrial Engineering and Operations Management, 2019-01-01, pp. 172-182., Registrované v: SCOPUS

71. [1] BAZAZ, Sara Moghadaszadeh - LOHTANDER, Mika - VARIS, Juha. 5-dimensional definition for a manufacturing digital twin. In Procedia Manufacturing, 2019-01-01, 38, pp. 1705-1712., Registrované v: SCOPUS

72. [1] STARK, Rainer - ET AL. WiGeP-Positionspapier: „Digitaler Zwilling“. In ZWF Zeitschrift für wirtschaftlichen Fabrikbetrieb. Vol. 115, iss. 4, special (2020), s. 47-50. ISSN 0947-0085., Registrované v: SCOPUS

73. [1] GREIF, Toni - STEIN, Nikolai - FLATH, Christoph M. Peeking into the void: Digital twins for construction site logistics. In Computers in Industry, 2020-10-01, 121, pp. ISSN 01663615., Registrované v: SCOPUS

74. [1] SANCHEZ, Manuel - EXPOSITO, Ernesto - AGUILAR, Jose. Industry 4.0: survey from a system integration perspective. In INTERNATIONAL JOURNAL OF COMPUTER INTEGRATED MANUFACTURING, 2020, vol., no., pp. ISSN 0951-192X., Registrované v: WOS

75. [1] BÉCUE, Adrien - MAIA, Eva - FEEKEN, Linda - BORCHERS, Philipp - PRAÇA, Isabel. A new concept of digital twin supporting optimization and resilience of factories of the future. In Applied Sciences (Switzerland), 2020-07-01, 10, 13, pp., Registrované v: SCOPUS

76. [1] AL-SEHRAWY, Ramy - KUMAR, Bimal. Digital Twins in Architecture, Engineering, Construction and Operations. A Brief Review and Analysis. In Lecture Notes in Civil Engineering, 2021-01-01, 98, pp. 924-939. ISSN 23662557., Registrované v: SCOPUS

77. [1] TVENGE, Nina - OGORODNYK, Olga - ØSTBØ, Niels Peter - MARTINSEN, Kristian. Added value of a virtual approach to simulation-based learning in a manufacturing learning factory. In Procedia CIRP, 2020-01-01, 88, pp. 36-41. ISSN 22128271., Registrované v: SCOPUS

78. [1] XING, Fei - PENG, Guochao (Alex) - ZHANG, Bingqian - ZUO, Simin - TANG, Jiangfeng - LI, Shuyang. Driving Innovation with the Application of Industrial AI in the R&D Domain. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2020-01-01, 12203 LNCS, pp. 244-255. ISSN 03029743., Registrované v: SCOPUS

79. [1] ENGELS, Gregor. Der digitale Fußabdruck, Schatten oder Zwilling von Maschinen und Menschen. In Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie, 2020-01-01, pp. ISSN 23666145., Registrované v: SCOPUS, WOS

80. [1] DOS SANTOS, Carlos Henrique - DE QUEIROZ, Jose Antonio - LEAL, Fabiano - BARRA MONTEVECHI, Jose Arnaldo. Use of simulation in the industry 4.0 context: Creation of a Digital Twin to optimise decision making on non-automated

- process. In JOURNAL OF SIMULATION, 2020, vol., no., pp. ISSN 1747-7778.,
Registrované v: WOS, SCOPUS
81. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Production Recipe Validation through Formalization and Digital Twin Generation. In Proceedings of the 2020 Design, Automation and Test in Europe Conference and Exhibition, DATE 2020, 2020-03-01, pp. 1698-1703.,
Registrované v: SCOPUS
82. [1] AN-BANG, Wang - WEN-BIN, Sun - GUO-LIN, Duan. Research on intelligent method of manufacturing and processing equipment based on digital twin and deep learning technology. In Chinese Journal of Engineering Design, 2019-12-01, 26, 6, pp. 666-674. ISSN 1006754X., Registrované v: SCOPUS
83. [1] SCHUH, Günther - GÜTZLAFF, Andreas - SAUERMAN, Frederick - MAIBAUM, Judith. Digital Shadows as an Enabler for the Internet of Production. In IFIP Advances in Information and Communication Technology, 2020-01-01, 591 IFIP, pp. 179-186. ISSN 18684238., Registrované v: SCOPUS
84. [1] ERRANDONEA, Itxaro - BELTRÁN, Sergio - ARRIZABALAGA, Saioa. Digital Twin for maintenance: A literature review. In Computers in Industry, 2020-12-01, 123, pp. ISSN 01663615., Registrované v: SCOPUS
85. [1] CAESAR, Birte - HÄNEL, Albrecht - WENKLER, Eric - CORINTH, Christian - IHLENFELDT, Steffen - FAY, Alexander. Information Model of a Digital Process Twin for Machining Processes. In IEEE International Conference on Emerging Technologies and Factory Automation, ETFA, 2020-09-01, 2020-September, pp. 1765-1772. ISSN 19460740., Registrované v: SCOPUS
86. [1] RYMASZEWSKI, Szymon - WATRÓBSKI, Jaroslaw - KARCZMARCZYK, Artur. Identification of reference multi criteria domain modelProduction line optimization case study. In Procedia Computer Science, 2020-01-01, 176, pp. 3794-3801., Registrované v: SCOPUS
87. [1] SCHUH, Günther - KELZENBERG, Christoph - WIESE, Jan - KESSLER, Niklas. Creation of digital production twins for the optimization of value creation in single and small batch production. In Procedia CIRP, 2020-01-01, 93, pp. 222-227. ISSN 22128271., Registrované v: SCOPUS
88. [1] CIANO, Maria Pia - POZZI, Rossella - ROSSI, Tommaso - STROZZI, Fernanda. Digital twin-enabled smart industrial systems: a bibliometric review. In International Journal of Computer Integrated Manufacturing, 2020-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
89. [1] YILDIZ, Emre - MØLLER, Charles - BILBERG, Arne. Virtual factory: Digital twin based integrated factory simulations. In Procedia CIRP, 2020-01-01, 93, pp. 216-221. ISSN 22128271., Registrované v: SCOPUS
90. [1] BRAZINA, Jakub - VETISKA, Jan - STANEK, Vaclav - BRADAC, Frantisek - HOLUB, Michal. Virtual commissioning as part of the educational process. In Proceedings of the 2020 19th International Conference on Mechatronics

- Mechatronika, ME 2020, 2020-12-02, pp., Registrované v: SCOPUS
91. [1] LEE, Seung Jun - KIM, Woojin - LEE, Yang Koo - YOON, Dae Sub - LEE, Jun Wook. Remote Two-wheel Robot control using OPC-UA. In International Conference on ICT Convergence, 2020-10-21, 2020-October, pp. 1842-1844. ISSN 21621233., Registrované v: SCOPUS
92. [1] PAN, Yue - ZHANG, Limao. A BIM-data mining integrated digital twin framework for advanced project management. In Automation in Construction, 2021-04-01, 124, pp. ISSN 09265805., Registrované v: SCOPUS, WOS
93. [1] PANG, Toh Yen - PELAEZ RESTREPO, Juan D. - CHENG, Chi Tsun - YASIN, Alim - LIM, Hailey - MILETIC, Miro. Developing a digital twin and digital thread framework for an 'industry 4.0' shipyard. In Applied Sciences (Switzerland), 2021-02-01, 11, 3, pp. 1-23., Registrované v: SCOPUS
94. [1] LIN, W. D. - LOW, M. Y.H. Concept design of a system architecture for a manufacturing cyber-physical digital twin system. In IEEE International Conference on Industrial Engineering and Engineering Management, 2020-12-14, 2020-December, pp. 1320-1324. ISSN 21573611., Registrované v: SCOPUS
95. [1] HE, Bin - BAI, Kai Jian. Digital twin-based sustainable intelligent manufacturing: a review. In Advances in Manufacturing, 2021-03-01, 9, 1, pp. ISSN 20953127., Registrované v: SCOPUS
96. [1] CHEN, Shazhou - MENG, Wei - XU, Weiyuan - LIU, Zhuoqiang - LIU, Jiachuang - WU, Fengyan. A Warehouse Management System with UAV Based on Digital Twin and 5G Technologies. In 2020 7th International Conference on Information, Cybernetics, and Computational Social Systems, ICCSS 2020, 2020-11-13, pp. 864-869., Registrované v: SCOPUS
97. [1] BAMUNUARACHCHI, Dinithi - BANERJEE, Abhik - JAYARAMAN, Prem Prakash - GEORGAKOPOULOS, Dimitrios. Cyber twins supporting industry 4.0 application development. In ACM International Conference Proceeding Series, 2020-11-30, pp. 64-73., Registrované v: SCOPUS
98. [1] TAO, Fei - ZHANG, He - QI, Qinglin - XU, Jun - SUN, Zheng - HU, Tianliang - LIU, Xiaojun - LIU, Tingyu - GUAN, Juntao - CHEN, Changyu - MENG, Fanwei - ZHANG, Chenyuan - LI, Zhiyuan - WEI, Yongli - ZHU, Minghao - XIAO, Bin. Theory of digital twin modeling and its application. In Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS, 2021-01-01, 27, 1, pp. 1-15. ISSN 10065911., Registrované v: SCOPUS
99. [1] KANG, Ji Soo - CHUNG, Kyungyong - HONG, Ellen J. Multimedia knowledge-based bridge health monitoring using digital twin. In Multimedia Tools and Applications, 2021-01-01, pp. ISSN 13807501., Registrované v: SCOPUS
100. [1] RATHORE, M. Mazhar - SHAH, Syed Attique - SHUKLA, Dharendra - BENTAFAT, Elmahdi - BAKIRAS, Spiridon. The Role of AI, Machine Learning, and Big Data in Digital Twinning: A Systematic Literature Review, Challenges, and Opportunities. In IEEE ACCESS, 2021, vol. 9, no., pp. 32030-32052.

- ISSN 2169-3536., Registrované v: WOS
101. [1] KONG, Leo Chi Wai - HARPER, Sam - MITCHELL, Daniel -
BLANCHE, Jamie - LIM, Theodore - FLYNN, David. Interactive Digital Twins
Framework for Asset Management through Internet. In 2020 IEEE Global Conference
on Artificial Intelligence and Internet of Things, GCAIoT 2020, 2020-12-12, pp.,
Registrované v: SCOPUS
102. [1] REN, Yuzheng - XIE, Renchao - YU, F. Richard - HUANG, Tao -
LIU, Yunjie. Potential Identity Resolution Systems for the Industrial Internet of
Things: A Survey. In IEEE Communications Surveys and Tutorials, 2021-01-01, 23,
1, pp. 391-430., Registrované v: SCOPUS
103. [1] YILDIZ, Emre - MOLLER, Charles - BILBERG, Arne.
Demonstration and evaluation of a digital twin-based virtual factory. In
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING
TECHNOLOGY, 2021, vol. 114, no. 1-2, pp. 185-203. ISSN 0268-3768.,
Registrované v: WOS, SCOPUS
104. [1] ESCRICHE LNG, Sergio - ROYO, Lucía - RUPEREZ LNG, Adrián
- CUCALÓN LNG, Guillermo - MARTINEZ, Aitor - BACAICOA, Luis -
RODRIGUEZ, Francisco - LOPEZ, Blanca. A Digital Twin Based Approach for
Simulation and Emulation of an Automotive Paint Workshop. In SAE Technical
Papers, 2021-04-06, 2021, pp., Registrované v: SCOPUS
105. [1] SEPASGOZAR, Samad M.E. Differentiating digital twin from digital
shadow: Elucidating a paradigm shift to expedite a smart, sustainable built
environment. In Buildings, 2021-04-01, 11, 4, pp., Registrované v: SCOPUS
106. [1] CHOI, SangSu - WOO, Jungyub - PARK, Yangho - SONG, Inho.
User-Friendly Method of Digital Twin Application based on Cloud Platform for Smart
Manufacturing. In TRANSACTIONS OF THE KOREAN SOCIETY OF
MECHANICAL ENGINEERS A, 2021, vol. 45, no. 2, pp. 175-184. ISSN 1226-4873.,
Registrované v: WOS, SCOPUS
107. [1] KRUGER, K. - REDELINGHUYS, A. J.H. - BASSON, A. H. -
CARDIN, O. Past and Future Perspectives on Digital Twin Research at SOHOMA. In
Studies in Computational Intelligence, 2021-01-01, 952, pp. 81-98. ISSN 1860949X.,
Registrované v: SCOPUS
108. [1] SEMERARO, Concetta - LEZOCCHE, Mario - PANETTO, Hervé -
DASSISTI, Michele. Digital twin paradigm: A systematic literature review. In
Computers in Industry, 2021-09-01, 130, pp. ISSN 01663615., Registrované v:
SCOPUS
109. [1] CAÑAS, Héctor - MULA, Josefa - DÍAZ-MADROÑERO, Manuel -
CAMPUZANO-BOLARÍN, Francisco. Implementing Industry 4.0 principles. In
Computers and Industrial Engineering, 2021-08-01, 158, pp. ISSN 03608352.,
Registrované v: SCOPUS
110. [1] MARTÍNEZ-GUTIÉRREZ, Alberto - DÍEZ-GONZÁLEZ, Javier -

- FERRERO-GUILLÉN, Rubén - VERDE, Paula - ÁLVAREZ, Rubén - PEREZ, Hilde. Digital twin for automatic transportation in industry 4.0. In *Sensors*, 2021-05-02, 21, 10, pp. ISSN 14248220., Registrované v: SCOPUS
111. [1] LI, Yan Rui - YANG, Chun Jie - ZHANG, Han Wen - LI, Jun Fang. Discussion on Key Technologies of Digital Twin in Process Industry. In *Zidonghua Xuebao/Acta Automatica Sinica*, 2021-03-01, 47, 3, pp. 501-514. ISSN 02544156., Registrované v: SCOPUS
112. [1] KOVALEVSKY, Vladislav - ONUFRIEV, Vadim - DYBOV, Anton. Hierarchical Multi-agent System for Production Control Using KPI Reconciliation. In *Smart Innovation, Systems and Technologies*, 2021-01-01, 220, pp. 231-243. ISSN 21903018., Registrované v: SCOPUS
113. [1] MONDAL, Sonali - SUHAS, Suraj - TUMULURU, Vamsi Krishna. Energy efficient warehouse management A greedy optimization approach. In *2020 IEEE Computing, Communications and IoT Applications, ComComAp 2020*, 2020-12-20, pp., Registrované v: SCOPUS
114. [1] SHEVTSHENKO, Eduard - MAHMOOD, Kashif - KARAULOVA, Tatyana - RAJI, Ibrahim Oluwole. Multitier digital twin approach for agile supply chain management. In *ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE)*, 2020-01-01, 2B-2020, pp., Registrované v: SCOPUS
115. [1] JUAREZ, Maria G. - BOTTI, Vicente J. - GIRET, Adriana S. Digital Twins: Review and Challenges. In *JOURNAL OF COMPUTING AND INFORMATION SCIENCE IN ENGINEERING*, 2021, vol. 21, no. 3, pp. ISSN 1530-9827., Registrované v: WOS, SCOPUS
116. [1] SINGH, Maulshree - FUENMAYOR, Evert - HINCHY, Eoin P. - QIAO, Yuansong - MURRAY, Niall - DEVINE, Declan. Digital twin: Origin to future. In *Applied System Innovation*, 2021-01-01, 4, 2, pp., Registrované v: SCOPUS
117. [1] MA, Xin - CHENG, Jiangfeng - QI, Qinglin - TAO, Fei. Artificial intelligence enhanced interaction in digital twin shop-floor. In *Procedia CIRP*, 2021-01-01, 100, pp. 858-863. ISSN 22128271., Registrované v: SCOPUS
118. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Virtual Prototyping a Production Line Using Assume-Guarantee Contracts. In *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS*, 2021, vol. 17, no. 9, pp. 6294-6302. ISSN 1551-3203., Registrované v: WOS, SCOPUS
119. [1] BAI, Luchang - ZHANG, Youtong - WEI, Hongqian - DONG, Junbo - TIAN, Wei. Digital Twin Modeling of a Solar Car Based on the Hybrid Model Method with Data-Driven and Mechanistic. In *APPLIED SCIENCES-BASEL*, 2021, vol. 11, no. 14, pp., Registrované v: WOS, SCOPUS
120. [1] KUNTOGLU, Mustafa - SALUR, Emin - GUPTA, Munish Kumar - SARIKAYA, Murat - PIMENOV, Danil Yu. A state-of-the-art review on sensors and

- signal processing systems in mechanical machining processes. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2021, vol., no., pp. ISSN 0268-3768., Registrované v: WOS, SCOPUS
121. [1] GROSHEV, Milan - GUIMARAES, Carlos - DE LA OLIVA, Antonio - GAZDA, Robert. Dissecting the Impact of Information and Communication Technologies on Digital Twins as a Service. In IEEE ACCESS, 2021, vol. 9, no., pp. 102862-102876. ISSN 2169-3536., Registrované v: WOS, SCOPUS
122. [1] RANTALA, Tero - SAUNILA, Minna - UKKO, Juhani - MIKKOLA, Aki - KORTELAINEN, Juha - ZEB, Akhtar. Managing digital-twin lifecycle-recognition and handling of business risks. In Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value, 2021-05-31, pp. 213-223., Registrované v: SCOPUS
123. [1] UKKO, Juhani - RANTALA, Tero - NASIRI, Mina - SAUNILA, Minna. Sustainable competitive advantage through the implementation of a digital twin. In Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value, 2021-05-31, pp. 196-212., Registrované v: SCOPUS
124. [1] WACHE, Hendrik - DINTER, Barbara. The digital twin Birth of an integrated system in the digital age. In Proceedings of the Annual Hawaii International Conference on System Sciences, 2020-01-01, 2020-January, pp. 5452-5461. ISSN 15301605., Registrované v: SCOPUS
125. [1] SIVARETHINAMOHAN, R. - SUJATHA, S. Reimagining the Digital Twin: Powerful Use Cases for Industry 4.0. In Lecture Notes in Mechanical Engineering, 2021-01-01, pp. 175-182. ISSN 21954356., Registrované v: SCOPUS
126. [1] MALAGA, Miroslav - ULRYCH, Zdenek. Physical modelling of the Industry 4.0 concept. In EDUCATION EXCELLENCE AND INNOVATION MANAGEMENT: A 2025 VISION TO SUSTAIN ECONOMIC DEVELOPMENT DURING GLOBAL CHALLENGES, 2020, vol., no., pp. 17540-17549., Registrované v: WOS
127. [1] ZHANG, Chenyuan - TAO, Fei. Evaluation index system for digital twin model. In Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS, 2021-08-01, 27, 8, pp. 2171-2186. ISSN 10065911., Registrované v: SCOPUS
128. [1] FERRO, Rodrigo - CORDEIRO, Gabrielly A. - ORDÓÑEZ, Robert E.C. - BEYDOUN, Ghassan - SHUKLA, Nagesh. An optimization tool for production planning: A case study in a textile industry. In Applied Sciences (Switzerland), 2021-09-01, 11, 18, pp., Registrované v: SCOPUS
129. [1] AWAD, Mohammed A. - ABD-ELAZIZ, Hend M. A new perspective for solving manufacturing scheduling based problems respecting new data considerations. In Processes, 2021-10-01, 9, 10, pp., Registrované v: SCOPUS
130. [1] HICKIE, Desmond - HICKIE, James. The impact of Industry 4.0 on supply chains and regions: innovation in the aerospace and automotive industries. In

- EUROPEAN PLANNING STUDIES, 2021, vol. 29, no. 9, pp. 1606-1621. ISSN 0965-4313., Registrované v: WOS, SCOPUS
131. [1] ØIEN, Christian Dalheim - DAHL, Håkon - DRANSFELD, Sebastian. A Digital Twin Implementation for Manufacturing Based on Open-Source Software and Standard Control Systems. In IFIP Advances in Information and Communication Technology, 2021-01-01, 633 IFIP, pp. 284-291. ISSN 18684238., Registrované v: SCOPUS
132. [1] GREIS, Noel P. - NOGUEIRA, Monica L. - ROHDE, Wolfgang. Digital Twin Framework for Machine Learning-Enabled Integrated Production and Logistics Processes. In IFIP Advances in Information and Communication Technology, 2021-01-01, 630 IFIP, pp. 218-227. ISSN 18684238., Registrované v: SCOPUS
133. [1] DE ANDRADE, Matheus Antonio Nogueira - LEPIKSON, Herman Augusto - TOSTA MACHADO, Carlos Alberto. A new framework and methodology for digital twin development. In 2021 14th IEEE International Conference on Industry Applications, INDUSCON 2021 Proceedings, 2021-08-15, pp. 134-138., Registrované v: SCOPUS
134. [1] SERRANO-RUIZ, Julio C. - MULA, Josefa - POLER, Raúl. Smart manufacturing scheduling: A literature review. In Journal of Manufacturing Systems, 2021-10-01, 61, pp. 265-287. ISSN 02786125., Registrované v: SCOPUS
135. [1] WARKE, Vivek - KUMAR, Satish - BONGALE, Arunkumar - KOTTECHA, Ketan. Sustainable Development of Smart Manufacturing Driven by the Digital Twin Framework: A Statistical Analysis. In SUSTAINABILITY, 2021, vol. 13, no. 18, pp., Registrované v: WOS, SCOPUS
- AFD04 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - SLOVÁK, Juraj. Numerical acceleration of data processing using MATLAB for the needs of expert systems. In *2018 Cybernetics & Informatics (K&I) [elektronický zdroj] : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018*. 1. vyd. Bratislava : Slovak Chemical Library, 2018, S. [5], USB kľúč. ISBN 978-1-5386-4420-1. V databáze: SCOPUS: 2-s2.0-85050880612 ; WOS.

Ohlasy:

1. [4] FIŤKA, Ivan - ŠIMOVEC, Matej - RYBÁŘ, Jan. Metóda dátového úložiska pre on-line identifikáciu. In ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. 1. vyd. Košice : Technická univerzita, 2019, S. 08-1 - 08-8. ISBN 978-80-553-3250-5.
2. [2] IVAN, Fiťka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
3. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering

method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

- AFD05 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - ŠIŠMIŠOVÁ, Dana - VOLENSKÝ, Tomáš. Quality comparison between hybrid regularized exponential forgetting algorithm with alternative covariance matrix and selected standard long-run on-line identification methods of industrial systems. In *Aplimat 2018 [elektronický zdroj] : proceedings of the 17th conference on Applied mathematics. Bratislava, 6.-8.2. 2018.* 1. vyd. Bratislava : Spektrum STU, 2018, S. 1036-1046, CD ROM. ISBN 978-80-227-4765-3. V databáze: SCOPUS: 2-s2.0-85048750876.

Ohlasy:

1. [4] FITKA, Ivan - ŠIMOVEC, Matej - RYBÁŘ, Jan. Metóda dátového úložiska pre on-line identifikáciu. In ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. 1. vyd. Košice : Technická univerzita, 2019, S. 08-1 - 08-8. ISBN 978-80-553-3250-5.
2. [2] IVAN, Fitka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
3. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

Štatistika: kategória publikačnej činnosti

ACB	Vysokoškolské učebnice vydané v domácich vydavateľstvách	2
ADC	Vedecké práce v zahraničných karentovaných časopisoch	4
ADE	Vedecké práce v ostatných zahraničných časopisoch	3
ADF	Vedecké práce v ostatných domácich časopisoch	1
ADM	Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS	1
AFD	Publikované príspevky na domácich vedeckých konferenciách	5
Súčet		16

Štatistika: kategória ohlasov

1	Citácie v zahraničných publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	154
2	Citácie v domácich publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	12
3	Citácie v zahraničných publikáciách neregistrované v citačných indexoch	11
4	Citácie v domácich publikáciách neregistrované v citačných indexoch	9
Súčet		186

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

III. Ohlasy na publikačnú alebo umeleckú aktivitu

Ohlasy spolu za posledných 5 rokov

Ohlasy spolu, pre všetky kategórie ohlasov 1, 2, 3 a 4, za posledných 5 rokov. Zoznam je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 s ohlasmi:

Požadované: 12

Plnené: 150

ADC Vedecké práce v zahraničných karentovaných časopisoch

ADC01 ROVNÝ, Oliver - BATISTA, Gabriel - TAKÁCS, Gergely - VACHÁLEK, Ján - BLAŽIČEK, Peter. Automatic machining system for the refurbishment of degraded welds in piping systems. In *Advances in Mechanical Engineering*. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS.

Ohlasy:

1. [1] WANG, Chia-Nan - CHANG, Kuei-Hu. Practical problem solving in manufacturing technologies. In *ADVANCES IN MECHANICAL ENGINEERING*, 2018, vol. 10, no. 10, pp. ISSN 1687-8140., Registrované v: WOS
2. [1] GUO, Wanjin - ZHU, Yaguang - HE, Xu. A Robotic Grinding Motion Planning Methodology for a Novel Automatic Seam Bead Grinding Robot Manipulator. In *IEEE ACCESS*, 2020, vol. 8, no., pp. 75288-75302. ISSN 2169-3536., Registrované v: WOS
3. [1] ZHU, Yaguang - HE, Xu - LIU, Qiong - GUO, Wanjin. Semiclosed-loop motion control with robust weld bead tracking for a spiral seam weld beads grinding robot. In *Robotics and Computer-Integrated Manufacturing*, 2022-02-01, 73, pp. ISSN 07365845., Registrované v: SCOPUS

ADC02 SLOVÁK, Juraj - MELICHER, Markus - ŠIMOVEC, Matej - VACHÁLEK, Ján. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In *Sensors*. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525.

Ohlasy:

1. [1] EYAM, Aitor Toichoa - MOHAMMED, Wael M. - MARTINEZ LASTRA, Jose L. Emotion-driven analysis and control of human-robot interactions in collaborative applications. In *Sensors*, 2021-07-02, 21, 14, pp. ISSN 14248220., Registrované v: SCOPUS

ADC03 VACHÁLEK, Ján - ŠIŠMIŠOVÁ, Dana - VAŠEK, Pavol - RYBÁŘ, Jan - SLOVÁK, Juraj - ŠIMOVEC, Matej. Intelligent dynamic identification technique of industrial products in a robotic workplace. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-

8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444.

Ohlasy:

1. [1] PETER, Angela Paul - CHEW, Kit Wayne - KOYANDE, Apurav Krishna - YUK-HENG, Sia - TING, Huong Yong - RAJENDRAN, Saravanan - MUNAWAROH, Heli Siti Halimatul - YOO, Chang Kyoo - SHOW, Pau Loke. Cultivation of *Chlorella vulgaris* on dairy waste using vision imaging for biomass growth monitoring. In *Bioresource Technology*, 2021-12-01, 341, pp. ISSN 09608524., Registrované v: SCOPUS

ADM Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS

ADM01 TAKÁCS, Gergely - OTČENÁŠ, Jakub - VACHÁLEK, Ján - ROHAL'ILKIV, Boris. Modal response-based technical countersurveillance measure against laser microphones. In *Journal of Vibroengineering*. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS.

Ohlasy:

1. [1] LEE, S. Y. - ET AL. Study the Effect of Commonly Used Video Compression Techniques on Sound Recovery via Negligible Object Vibrations for Visual Surveillance System. In *Proceedings of the 2nd International Conference on Advances in Image Processing : Chengdu, China — June 16 - 18, 2018*. New York : ACM, 2018, S. 111-115. ISBN 978-1-4503-6460-7.

2. [1] LEE, S. Y. - YAP, W. S. - HUM, Y. C. - GOI, B. M. - TEE, Y. K. Investigate the Impact of Colour to Grayscale Conversion on Sound Recovery via Visual Microphone. In *2018 2nd International Conference on Imaging, Signal Processing and Communication, ICISPC 2018*, 2018-07-01, pp. 138-142., Registrované v: SCOPUS

3. [1] CHOONG, Ren Jun - YAP, Wun She - CHAI HUM, Yan - KAI TEE, Yee. Improving the quality of sound recovered using the visual microphone with frame-wise image denoising preprocessing. In *Journal of Physics: Conference Series*, 2020-09-03, 1627, 1, pp. ISSN 17426588., Registrované v: SCOPUS

4. [1] HOREV, Anatolij - SAVIN, Andrey. Efficiency Research of Sun Protection Window Films for Speech Information Protection from LEAKAGE by Optoelectronic Channel. In *Proceedings of the 2021 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering, ElConRus 2021*, 2021-01-26, pp. 2335-2339., Registrované v: SCOPUS

AFD Publikované príspevky na domácich vedeckých konferenciách

AFD01 VACHÁLEK, Ján - LOKŠÍK, Milan - MORHÁČ, Martin - BARTALSKÝ, Lukáš - ROVNÝ, Oliver - ŠIŠMIŠOVÁ, Dana. The digital twin of an industrial production line within the Industry 4.0 concept. In *21st International Conference on Process Control (PC)*

2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia. 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS.

Ohlasy:

1. [3] QUAN, Ying - PARK, Sangchan. Review on the application of Industry 4.0 digital twin technology to the quality management. In Journal of the Korean Society for Quality Management. Vol. 45, no. 4 (2017), s. 601-610. ISSN 1229-1889.
2. [1] PALENČÁR, Jakub - KUBIS, Milan. Modeling and synthesis of control the process of casting. In 17th Conference on Applied Mathematics, APLIMAT 2018 Proceedings, 2018-01-01, 2018-February, pp. 803-812., Registrované v: SCOPUS
3. [1] LANDOLFI, Giuseppe - BARNI, Andrea - MENATO, Silvia - CAVADINI, Franco Antonio - ROVERE, Diego - DAL MASO, Giovanni. Design of a multi-sided platform supporting CPS deployment in the automation market. In Proceedings 2018 IEEE Industrial Cyber-Physical Systems, ICPS 2018, 2018-06-15, pp. 684-689., Registrované v: SCOPUS
4. [1] MABKHOT, Mohammed M. - AL-AHMARI, Abdulrahman M. - SALAH, Bashir - ALKHALEFAH, Hisham. Requirements of the Smart Factory System: A Survey and Perspective. In MACHINES, 2018, vol. 6, no. 2, pp. ISSN 2075-1702., Registrované v: WOS
5. [1] TAO, Fei - SUI, Fangyuan - LIU, Ang - QI, Qinglin - ZHANG, Meng - SONG, Boyang - GUO, Zirong - LU, Stephen C.Y. - NEE, A. Y.C. Digital twin-driven product design framework. In International Journal of Production Research, 2018-02-24, pp. 1-19. ISSN 00207543., Registrované v: SCOPUS, WOS
6. [1] BECUE, Adrien - FOURASTIER, Yannick - PRACA, Isabel - SAVARIT, Alexandre - BARON, Claude - GRADUSSOFS, Baptiste - POUILLE, Etienne - THOMAS, Carsten. CyberFactory#1 Securing the industry 4.0 with cyber-ranges and digital twins. In IEEE International Workshop on Factory Communication Systems Proceedings, WFCS, 2018-07-03, 2018-June, pp. 1-4., Registrované v: SCOPUS
7. [1] HOFMANN, Wladimir - ET AL. Simulation and Virtual Commissioning of Modules for a Plug-and-Play Conveying System. In INCOM 2018 : 16th IFAC Symposium on Information Control Problems in ManufacturingAt: Bergamo, Italy, 11.-13.6. 2018, 2018, S. 1-6., Registrované v: WOS
8. [1] ECKHART, Matthias - EKELHART, Andreas. Towards Security-Aware Virtual Environments for Digital Twins. In Proceeding CPSS '18 : 4th ACM Workshop on Cyber-Physical System Security, Incheon, Republic of Korea — June 04 - 04, 2018. New York : ACM, 2018, S. 61-72. ISBN 978-1-4503-5755-5., Registrované v: WOS
9. [1] KRITZINGER, Werner - KARNER, Matthias - TRAAR, Georg - HENJES, Jan - SIHN, Wilfried. Digital Twin in manufacturing: A categorical literature review and classification. In IFAC-PapersOnLine, 2018-01-01, 51, 11, pp. 1016-1022., Registrované v: SCOPUS
10. [1] QI, Qinglin - ZHAO, Dongming - LIAO, T. Warren - TAO, Fei. Modeling of cyber-physical systems and digital twin based on edge computing, fog computing

- and cloud computing towards smart manufacturing. In ASME 2018 13th International Manufacturing Science and Engineering Conference, MSEC 2018, 2018-01-01, 1, pp., Registrované v: SCOPUS, WOS
11. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In Enterprise Information Systems, 2018-01-01, pp. ISSN 17517575., Registrované v: SCOPUS
12. [1] NIKOLAKIS, Nikolaos - ALEXOPOULOS, Kosmas - XANTHAKIS, Evangelos - CHRYSSOLOURIS, George. The digital twin implementation for linking the virtual representation of human-based production tasks to their physical counterpart in the factory-floor. In International Journal of Computer Integrated Manufacturing, 2018-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
13. [1] NEJC, Ilc - LOTRIČ, Uroš. FTsim: A 3D Tool for Teaching Automation Concepts. In 13th APCA International Conference on Automatic Control and Soft Computing, CONTROLO 2018, Azores, Portugal, June 4-6, 2018. 1. vyd. IEEE : [s.l.], 2018, S. 31-36. ISBN 978-989-20-8523-4., Registrované v: WOS
14. [1] MALIK, Ali Ahmad - BILBERGB, Arne. Digital twins of human robot collaboration in a production setting. In Procedia Manufacturing. Vol. 17, (2018), s. 278-285. ISSN 2351-9789., Registrované v: WOS
15. [1] ILC, Nejc - LOTRI, Uroš. Implementation of a training-model simulator with free tools. In Elektrotehniski Vestnik/Electrotechnical Review, 2018-01-01, 85, 4, pp. 177-184. ISSN 00135852., Registrované v: SCOPUS, WOS
16. [1] LIU, Datong - GUO, Kai - WANG, Benkuan - PENG, Yu. Summary and perspective survey on digital twin technology. In Yi Qi Yi Biao Xue Bao/Chinese Journal of Scientific Instrument, 2018-11-01, 39, 11, pp. 1-10. ISSN 02543087., Registrované v: SCOPUS
17. [1] DURÃO, Luiz Fernando C.S. - HAAG, Sebastian - ANDERL, Reiner - SCHÜTZER, Klaus - ZANCUL, Eduardo. Digital twin requirements in the context of industry 4.0. In IFIP Advances in Information and Communication Technology, 2018-01-01, 540, pp. 204-214. ISSN 18684238., Registrované v: SCOPUS
18. [3] LIU, Q. - ET AL. Research on digital twin: Model, problem and progress. In Journal of Hebei University of Science and Technology. Vol. 40, iss. 1 (2019), s. ISSN 1008-1542.
19. [1] CENTOMO, S. - PANATO, M. - FUMMI, F. Cyber-physical systems integration in a production line simulator. In 26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC), 2018, S. ISBN 978-1-5386-4756-1., Registrované v: WOS
20. [1] TAO, Fei - ZHANG, He - LIU, Ang - NEE, A. Y.C. Digital Twin in Industry: State-of-the-Art. In IEEE Transactions on Industrial Informatics, 2019-04-01, 15, 4, pp. 2405-2415. ISSN 15513203., Registrované v: SCOPUS
21. [1] NGO, Diane - GUERRA-ZUBIAGA, David A. - GONZÁLEZ-BADILLO, Germánico - VATANKHAH BARENJI, Reza. Towards a digital twin for cloud

manufacturing-case study. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2018-01-01, 2, pp., Registrované v: SCOPUS, WOS

22. [1] HUANG, B. B. - ZHANG, Y. F. - ZHANG, G. - REN, S. A framework for digital twin driven product recycle, disassembly and reassembly. In Proceedings of International Conference on Computers and Industrial Engineering, CIE, 2018-01-01, 2018-December, pp., Registrované v: SCOPUS

23. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo - CORREIA, Luiz H.A. - SILVA, Jorge Sá. Industry 4.0 retrofitting. In Brazilian Symposium on Computing System Engineering, SBESC, 2019-04-15, 2018-November, pp. 8-15. ISSN 23247886., Registrované v: SCOPUS, WOS

24. [1] MAKAROVA, Irina - SHUBENKOVA, Ksenia - MAVRIN, Vadim - GORYAEV, Nikolay. Development of the Integrated Information Environment to Connect Manufacturer and Its Dealer and Service Network. In 2018 IEEE International Conference on Technology Management, Operations and Decisions, ICTMOD 2018, 2019-04-12, pp. 268-273., Registrované v: SCOPUS, WOS

25. [1] MONTEIRO, Paula - CARVALHO, Marcia - MORAIS, Francisco - MELO, Monica - MACHADO, Ricardo J. - PEREIRA, Fernando. Adoption of Architecture Reference Models for Industrial Information Management Systems. In 9th International Conference on Intelligent Systems 2018: Theory, Research and Innovation in Applications, IS 2018 Proceedings, 2019-05-08, pp. 763-770., Registrované v: SCOPUS, WOS

26. [1] DATTA, Soumya Kanti - BONNET, Christian. MEC and IoT Based Automatic Agent Reconfiguration in Industry 4.0. In International Symposium on Advanced Networks and Telecommunication Systems, ANTS, 2019-05-08, 2018-December, pp. ISSN 21531684., Registrované v: SCOPUS, WOS

27. [1] CENTOMO, Stefano - FRACCAROLI, Enrico - PANATO, Marco. From Multi-Level to Abstract-Based Simulation of a Production Line. In Proceedings of the 2019 Design, Automation and Test in Europe Conference and Exhibition, DATE 2019, 2019-05-14, pp. 1253-1256., Registrované v: SCOPUS, WOS

28. [1] CORDEIRO, Gabrielly Araujo - COOPER ORDONEZ, Robert Eduardo - FERRO, Rodrigo. THEORETICAL PROPOSAL OF STEPS FOR THE IMPLEMENTATION OF THE INDUSTRY 4.0 CONCEPT. In BRAZILIAN JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT, 2019, vol. 16, no. 2, pp. 166-179. ISSN 2237-8960., Registrované v: WOS, SCOPUS

29. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. A Digital Twin-Based Multi-modal UI Adaptation Framework for Assistance Systems in Industry 4.0. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2019-01-01, 11568 LNCS, pp. 398-409. ISSN 03029743., Registrované v: SCOPUS, WOS

30. [1] TAO, Fei - QI, Qinglin - WANG, Lihui - NEE, A. Y.C. Digital Twins and

- Cyber-Physical Systems toward Smart Manufacturing and Industry 4.0: Correlation and Comparison. In *Engineering*, 2019-08-01, 5, 4, pp. 653-661. ISSN 20958099., Registrované v: SCOPUS, WOS
31. [1] ROLLE, Rodrigo Pita - ET AL. Digitalization of Manufacturing Processes: Proposal and Experimental Results. IEEE 2019. Dostupné na internete: <<https://ieeexplore.ieee.org/abstract/document/8792838/references#references>>. V databáze: DOI: DOI: 10.1109/METROI4.2019.8792838., Registrované v: SCOPUS
32. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In *ENTERPRISE INFORMATION SYSTEMS*, 2019, vol. 13, no. 4, pp. 534-556. ISSN 1751-7575., Registrované v: WOS
33. [3] FYRAJ, Klajdo - FIRSCHING, Peter. Using Augmented Reality to Enhance the Capabilities of Human-Machine Interaction in Industry. In *Symposium Elektronik und Systemintegration ESI 2018 : Von der Sensorik bis zur Aktorik in interdisziplinärer Anwendung*, 2018, S. ISBN 978-3-9818439-1-0.
34. [1] WANG, Junfeng - HUANG, Yaqin - CHANG, Qing - LI, Shiqi. Event-driven online machine state decision for energy-efficient manufacturing system based on digital twin using Max-plus Algebra. In *Sustainability (Switzerland)*, 2019-09-01, 11, 18, pp., Registrované v: SCOPUS, WOS
35. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. Reference Framework for Digital Twins within Cyber-Physical Systems. In *Proceedings 2019 IEEE/ACM 5th International Workshop on Software Engineering for Smart Cyber-Physical Systems, SEsCPS 2019*, 2019-05-01, pp. 25-31., Registrované v: SCOPUS
36. [3] RASHEED, Adil - SAN, Omer - KVAMSDAL, Trond. Digital Twin: Values, Challenges and Enablers. arXiv 1910.01719 2019. Dostupné na internete: <https://arxiv.org/abs/1910.01719>.
37. [1] CIMINO, Chiara - NEGRI, Elisa - FUMAGALLI, Luca. Review of digital twin applications in manufacturing. In *Computers in Industry*, 2019-12-01, 113, pp. ISSN 01663615., Registrované v: SCOPUS
38. [1] ASHA, K. - KARIYAPPA, B.S. - KULAKARNI, Vishal. Digital twin ranorex test automation of SIPROTEC 5 protection devices. In *Proceedings of the third international conference on Electronics Communication and Aerospace Technology. ICECA 2019*. 1. vyd : IEEE, 2019, S. 955-958. ISBN 978-1-7281-0167-5., Registrované v: SCOPUS
39. [1] SPELLINI, Stefano - CHIRICO, Roberta - LORA, Michele - FUMMI, Franco. Languages and formalisms to enable eda techniques in the context of industry 4.0. In *Proceedings of the 2019 Forum on Specification and Design Languages, FDL 2019*, 2019-09-01, pp., Registrované v: SCOPUS
40. [1] DALL'ORA, Nicola - CENTOMO, Stefano - FUMMI, Franco. Industrial-IoT Data Analysis Exploiting Electronic Design Automation Techniques. In

- Proceedings 2019 8th International Workshop on Advances in Sensors and Interfaces, IWASI 2019, 2019-06-01, pp. 103-109., Registrované v: SCOPUS
41. [1] BALAKRISHNAN, Ponnuraman - RAMESH BABU, Kalivaradhan - NAIJU, Chooriyaparambil Damodaran - MADIAJAGAN, Muthaiyan. Design and Implementation of Digital Twin for Predicting Failures in Automobiles Using Machine Learning Algorithms. In SAE Technical Papers, 2019-10-11, october, pp., Registrované v: SCOPUS
42. [1] PARK, Kyu Tae - LEE, Jehun - KIM, Hyun Jung - NOH, Sang Do. Digital twin-based cyber physical production system architectural framework for personalized production. In International Journal of Advanced Manufacturing Technology, 2019-01-01, pp. ISSN 02683768., Registrované v: SCOPUS, WOS
43. [1] QI, Qinglin - TAO, Fei - HU, Tianliang - ANWER, Nabil - LIU, Ang - WEI, Yongli - WANG, Lihui - NEE, A. Y.C. Enabling technologies and tools for digital twin. In Journal of Manufacturing Systems, 2019-01-01, pp. ISSN 02786125., Registrované v: SCOPUS, WOS
44. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - FOGLI, Daniela. A survey on digital twin: Definitions, characteristics, applications, and design implications. In IEEE Access, 2019-01-01, 7, pp., Registrované v: SCOPUS
45. [1] COHEN, Yuval - NASERALDIN, Hussein - CHAUDHURI, Atanu - PILATI, Francesco. Assembly systems in Industry 4.0 era: a road map to understand Assembly 4.0. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2019, vol. 105, no. 9, pp. 4037-4054. ISSN 0268-3768., Registrované v: WOS
46. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo. Cyber-physical production systems retrofitting in context of industry 4.0. In Computers and Industrial Engineering, 2020-01-01, 139, pp. ISSN 03608352., Registrované v: SCOPUS
47. [1] YANG, Lin Yao - CHEN, Si Yuan - WANG, Xiao - ZHANG, Jun - WANG, Cheng Hong. Digital Twins and Parallel Systems: State of the Art, Comparisons and Prospect. In Zidonghua Xuebao/Acta Automatica Sinica, 2019-11-01, 45, 11, pp. 2001-2031. ISSN 02544156., Registrované v: SCOPUS, WOS
48. [1] ENDERS, Martin Robert - HOBACH, Nadja. Dimensions of digital twin applications A literature review. In 25th Americas Conference on Information Systems, AMCIS 2019, 2019-01-01, pp., Registrované v: SCOPUS
49. [1] REDELINGHUYS, A. J.H. - BASSON, A. H. - KRUGER, K. A six-layer architecture for the digital twin: a manufacturing case study implementation. In Journal of Intelligent Manufacturing, 2019-01-01, pp. ISSN 09565515., Registrované v: SCOPUS, WOS
50. [1] VALENCIA, Estefania Tobon - LAMOURI, Samir - PELLERIN, Robert - DUBOIS, Patrice - MOEUF, Alexandre. Production Planning in the Fourth Industrial Revolution: A Literature Review. In IFAC PAPERSONLINE, 2019, vol. 52, no. 13, pp. 2158-2163. ISSN 2405-8963., Registrované v: WOS

51. [3] KOVALEVSKY, V .E. - ONUFRIEV, V.A. Multi-agent algorithms for enterprise's key performance indicators reconciliation. In SPbSPU Journal. Computer Science. Telecommunication and Control Systems. Vol. 12, iss. 3 (2019), s. 68-80.
52. [3] CAMPOS-FERREIRA, Andrés Campos - ET AL. Digital Twin Applications: A Review. In Memorias del congreso de control automático. 2019, no. 3 (2019), s. 606-611. ISSN 2594-2492.
53. [3] NO, Yu-Jeong. Introduction to design of products based on digital twin technology. In Journal of the Computational Structural Engineering Institute of Korea. Vol. 31, iss. 4 (2018), s. 4-11. ISSN 1225-1569.
54. [3] CHIRICO, Roberta - ET AL. A contract-based methodology for production lines validation. In INDIN 2019 : IEEE International Conference on Industrial Informatics : IEEE, 2019, S. 4.
55. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - GLIOZZO, Jessica - PETRINI, Alessandro - VALTOLINA, Stefano. Human Digital Twin for Fitness Management. In IEEE Access, 2020-01-01, 8, pp. 26637-26664., Registrované v: SCOPUS
56. [1] BURGHARDT, Andrzej - SZYBICKI, Dariusz - GIERLAK, Piotr - KURC, Krzysztof - PIETRUSÍ, Paulina - CYGAN, Rafał. Programming of industrial robots using virtual reality and digital twins. In Applied Sciences (Switzerland), 2020-01-01, 10, 2, pp., Registrované v: SCOPUS, WOS
57. [1] LUO, Weichao - HU, Tianliang - YE, Yingxin - ZHANG, Chengrui - WEI, Yongli. A hybrid predictive maintenance approach for CNC machine tool driven by Digital Twin. In Robotics and Computer-Integrated Manufacturing, 2020-10-01, 65, pp. ISSN 07365845., Registrované v: SCOPUS
58. [1] ASSAWAARAYAKUL, Chaiwat - SRISAWAT, Wasin - AYUTHAYA, Smitti Darakorn Na - WATTANASIRICHAIGOON, Somkiat. Integrate Digital Twin to Exist Production System for Industry 4.0. In TIMES-iCON 2019 2019 4th Technology Innovation Management and Engineering Science International Conference, 2019-12-01, pp., Registrované v: SCOPUS
59. [1] ROLLE, R. - MARTUCCI, V - GODOY, E. Architecture for Digital Twin implementation focusing on Industry 4.0. In IEEE LATIN AMERICA TRANSACTIONS, 2020, vol. 18, no. 5, pp. 889-898. ISSN 1548-0992., Registrované v: WOS
60. [1] ROY, Rohan Basu - MISHRA, Debasish - PAL, Surjya K. - CHAKRAVARTY, Tapas - PANDA, Satanik - CHANDRA, M. Girish - PAL, Arpan - MISRA, Prateep - CHAKRAVARTY, Debashish - MISRA, Sudip. Digital twin: current scenario and a case study on a manufacturing process. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2020, vol. 107, no. 9-10, pp. 3691-3714. ISSN 0268-3768., Registrované v: WOS
61. [1] HE, Bin - BAI, Kai-Jian. Digital twin-based sustainable intelligent manufacturing: a review. In ADVANCES IN MANUFACTURING, 2020, vol., no.,

- pp. ISSN 2095-3127., Registrované v: WOS
62. [1] RASHEED, Adil - SAN, Omer - KVAMSDAL, Trond. Digital Twin: Values, Challenges and Enablers From a Modeling Perspective. In IEEE ACCESS, 2020, vol. 8, no., pp. 21980-22012. ISSN 2169-3536., Registrované v: WOS
63. [1] NEGRI, Elisa - BERARDI, Stefano - FUMAGALLI, Luca - MACCHI, Marco. MES-integrated digital twin frameworks. In Journal of Manufacturing Systems, 2020-07-01, 56, pp. 58-71. ISSN 02786125., Registrované v: SCOPUS
64. [1] RAZA, Mohsin - KUMAR, Priyan Malarvizhi - HUNG, Dang Viet - DAVIS, William - NGUYEN, Huan - TRESTIAN, Ramona. A Digital Twin Framework for Industry 4.0 Enabling Next-Gen Manufacturing. In ICITM 2020 2020 9th International Conference on Industrial Technology and Management, 2020-02-01, pp. 73-77., Registrované v: SCOPUS
65. [1] PARK, Kyu Tae - YANG, Jinho - NOH, Sang Do. VREDI: virtual representation for a digital twin application in a work-center-level asset administration shell. In Journal of Intelligent Manufacturing, 2020-01-01, pp. ISSN 09565515., Registrované v: SCOPUS
66. [1] GE, Yidi - QIU, Jiangnan - LIU, Zhiyong - GU, Wenjing - XU, Liwei. Beyond negative and positive: Exploring the effects of emotions in social media during the stock market crash. In Information Processing and Management, 2020-01-01, pp. ISSN 03064573., Registrované v: SCOPUS
67. [1] PÉREZ, Luis - RODRÍGUEZ-JIMÉNEZ, Silvia - RODRÍGUEZ, Nuria - USAMENTIAGA, Rubén - GARCÍA, Daniel F. Digital twin and virtual reality based methodology for multi-robot manufacturing cell commissioning. In Applied Sciences (Switzerland), 2020-05-01, 10, 10, pp., Registrované v: SCOPUS, WOS
68. [1] GERICKE, G. A. - KURIAKOSE, R. B. - VERMAAK, H. J. - MARDSEN, Ole. Design of Digital Twins for Optimization of a Water Bottling Plant. In 45TH ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY (IECON 2019), 2019, vol., no., pp. 5204-5210. ISSN 1553-572X., Registrované v: WOS, SCOPUS
69. [1] GUERRA-ZUBIAGA, David A. - BONDAR, Alex - ESCOBEDO, Gilberto - SCHUMACHER, Arthur. Digital twin in a manufacturing integrated system: Siemens TIA and PLM case study. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2019-01-01, 2B-2019, pp., Registrované v: SCOPUS
70. [1] SAKR, Ahmed H. - YACOUT, Soumaya - BASSETTO, Samuel. A discrete event simulation logic for semiconductor production planning and control within industry 4.0 paradigm. In Proceedings of the International Conference on Industrial Engineering and Operations Management, 2019-01-01, pp. 172-182., Registrované v: SCOPUS
71. [1] BAZAZ, Sara Moghadaszadeh - LOHTANDER, Mika - VARIS, Juha. 5-dimensional definition for a manufacturing digital twin. In Procedia Manufacturing,

- 2019-01-01, 38, pp. 1705-1712., Registrované v: SCOPUS
72. [1] STARK, Rainer - ET AL. WiGeP-Positionspapier: „Digitaler Zwilling“. In ZWF Zeitschrift für wirtschaftlichen Fabrikbetrieb. Vol. 115, iss. 4, special (2020), s. 47-50. ISSN 0947-0085., Registrované v: SCOPUS
73. [1] GREIF, Toni - STEIN, Nikolai - FLATH, Christoph M. Peeking into the void: Digital twins for construction site logistics. In Computers in Industry, 2020-10-01, 121, pp. ISSN 01663615., Registrované v: SCOPUS
74. [1] SANCHEZ, Manuel - EXPOSITO, Ernesto - AGUILAR, Jose. Industry 4.0: survey from a system integration perspective. In INTERNATIONAL JOURNAL OF COMPUTER INTEGRATED MANUFACTURING, 2020, vol., no., pp. ISSN 0951-192X., Registrované v: WOS
75. [1] BÉCUE, Adrien - MAIA, Eva - FEEKEN, Linda - BORCHERS, Philipp - PRAÇA, Isabel. A new concept of digital twin supporting optimization and resilience of factories of the future. In Applied Sciences (Switzerland), 2020-07-01, 10, 13, pp., Registrované v: SCOPUS
76. [1] AL-SEHRAWY, Ramy - KUMAR, Bimal. Digital Twins in Architecture, Engineering, Construction and Operations. A Brief Review and Analysis. In Lecture Notes in Civil Engineering, 2021-01-01, 98, pp. 924-939. ISSN 23662557., Registrované v: SCOPUS
77. [1] TVENGE, Nina - OGORODNYK, Olga - ØSTBØ, Niels Peter - MARTINSEN, Kristian. Added value of a virtual approach to simulation-based learning in a manufacturing learning factory. In Procedia CIRP, 2020-01-01, 88, pp. 36-41. ISSN 22128271., Registrované v: SCOPUS
78. [1] XING, Fei - PENG, Guochao (Alex) - ZHANG, Bingqian - ZUO, Simin - TANG, Jiangfeng - LI, Shuyang. Driving Innovation with the Application of Industrial AI in the R&D Domain. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2020-01-01, 12203 LNCS, pp. 244-255. ISSN 03029743., Registrované v: SCOPUS
79. [1] ENGELS, Gregor. Der digitale Fußabdruck, Schatten oder Zwilling von Maschinen und Menschen. In Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie, 2020-01-01, pp. ISSN 23666145., Registrované v: SCOPUS, WOS
80. [1] DOS SANTOS, Carlos Henrique - DE QUEIROZ, Jose Antonio - LEAL, Fabiano - BARRA MONTEVECHI, Jose Arnaldo. Use of simulation in the industry 4.0 context: Creation of a Digital Twin to optimise decision making on non-automated process. In JOURNAL OF SIMULATION, 2020, vol., no., pp. ISSN 1747-7778., Registrované v: WOS, SCOPUS
81. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Production Recipe Validation through Formalization and Digital Twin Generation. In Proceedings of the 2020 Design, Automation and Test in Europe Conference and Exhibition, DATE 2020, 2020-03-01, pp. 1698-1703.,

- Registované v: SCOPUS
82. [1] AN-BANG, Wang - WEN-BIN, Sun - GUO-LIN, Duan. Research on intelligent method of manufacturing and processing equipment based on digital twin and deep learning technology. In Chinese Journal of Engineering Design, 2019-12-01, 26, 6, pp. 666-674. ISSN 1006754X., Registrované v: SCOPUS
83. [1] SCHUH, Günther - GÜTZLAFF, Andreas - SAUERMAN, Frederick - MAIBAUM, Judith. Digital Shadows as an Enabler for the Internet of Production. In IFIP Advances in Information and Communication Technology, 2020-01-01, 591 IFIP, pp. 179-186. ISSN 18684238., Registrované v: SCOPUS
84. [1] ERRANDONEA, Itxaro - BELTRÁN, Sergio - ARRIZABALAGA, Saioa. Digital Twin for maintenance: A literature review. In Computers in Industry, 2020-12-01, 123, pp. ISSN 01663615., Registrované v: SCOPUS
85. [1] CAESAR, Birte - HÄNEL, Albrecht - WENKLER, Eric - CORINTH, Christian - IHLENFELDT, Steffen - FAY, Alexander. Information Model of a Digital Process Twin for Machining Processes. In IEEE International Conference on Emerging Technologies and Factory Automation, ETFA, 2020-09-01, 2020-September, pp. 1765-1772. ISSN 19460740., Registrované v: SCOPUS
86. [1] RYMASZEWSKI, Szymon - WATRÓBSKI, Jaroslaw - KARZMARCZYK, Artur. Identification of reference multi criteria domain modelProduction line optimization case study. In Procedia Computer Science, 2020-01-01, 176, pp. 3794-3801., Registrované v: SCOPUS
87. [1] SCHUH, Günther - KELZENBERG, Christoph - WIESE, Jan - KESSLER, Niklas. Creation of digital production twins for the optimization of value creation in single and small batch production. In Procedia CIRP, 2020-01-01, 93, pp. 222-227. ISSN 22128271., Registrované v: SCOPUS
88. [1] CIANO, Maria Pia - POZZI, Rossella - ROSSI, Tommaso - STROZZI, Fernanda. Digital twin-enabled smart industrial systems: a bibliometric review. In International Journal of Computer Integrated Manufacturing, 2020-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
89. [1] YILDIZ, Emre - MØLLER, Charles - BILBERG, Arne. Virtual factory: Digital twin based integrated factory simulations. In Procedia CIRP, 2020-01-01, 93, pp. 216-221. ISSN 22128271., Registrované v: SCOPUS
90. [1] BRAZINA, Jakub - VETISKA, Jan - STANEK, Vaclav - BRADAC, Frantisek - HOLUB, Michal. Virtual commissioning as part of the educational process. In Proceedings of the 2020 19th International Conference on Mechatronics Mechatronika, ME 2020, 2020-12-02, pp., Registrované v: SCOPUS
91. [1] LEE, Seung Jun - KIM, Woojin - LEE, Yang Koo - YOON, Dae Sub - LEE, Jun Wook. Remote Two-wheel Robot control using OPC-UA. In International Conference on ICT Convergence, 2020-10-21, 2020-October, pp. 1842-1844. ISSN 21621233., Registrované v: SCOPUS
92. [1] PAN, Yue - ZHANG, Limao. A BIM-data mining integrated digital twin

framework for advanced project management. In *Automation in Construction*, 2021-04-01, 124, pp. ISSN 09265805., Registrované v: SCOPUS, WOS 93. [1] PANG, Toh Yen - PELAEZ RESTREPO, Juan D. - CHENG, Chi Tsun - YASIN, Alim - LIM, Hailey - MILETIC, Miro. Developing a digital twin and digital thread framework for an ‘industry 4.0’ shipyard. In *Applied Sciences (Switzerland)*, 2021-02-01, 11, 3, pp. 1-23., Registrované v: SCOPUS 94. [1] LIN, W. D. - LOW, M. Y.H. Concept design of a system architecture for a manufacturing cyber-physical digital twin system. In *IEEE International Conference on Industrial Engineering and Engineering Management*, 2020-12-14, 2020-December, pp. 1320-1324. ISSN 21573611., Registrované v: SCOPUS 95. [1] HE, Bin - BAI, Kai Jian. Digital twin-based sustainable intelligent manufacturing: a review. In *Advances in Manufacturing*, 2021-03-01, 9, 1, pp. ISSN 20953127., Registrované v: SCOPUS 96. [1] CHEN, Shazhou - MENG, Wei - XU, Weiyuan - LIU, Zhuoqiang - LIU, Jiachuang - WU, Fengyan. A Warehouse Management System with UAV Based on Digital Twin and 5G Technologies. In *2020 7th International Conference on Information, Cybernetics, and Computational Social Systems, ICCSS 2020*, 2020-11-13, pp. 864-869., Registrované v: SCOPUS 97. [1] BAMUNUARACHCHI, Dinithi - BANERJEE, Abhik - JAYARAMAN, Prem Prakash - GEORGAKOPOULOS, Dimitrios. Cyber twins supporting industry 4.0 application development. In *ACM International Conference Proceeding Series*, 2020-11-30, pp. 64-73., Registrované v: SCOPUS 98. [1] TAO, Fei - ZHANG, He - QI, Qinglin - XU, Jun - SUN, Zheng - HU, Tianliang - LIU, Xiaojun - LIU, Tingyu - GUAN, Juntao - CHEN, Changyu - MENG, Fanwei - ZHANG, Chenyuan - LI, Zhiyuan - WEI, Yongli - ZHU, Minghao - XIAO, Bin. Theory of digital twin modeling and its application. In *Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS*, 2021-01-01, 27, 1, pp. 1-15. ISSN 10065911., Registrované v: SCOPUS 99. [1] KANG, Ji Soo - CHUNG, Kyungyong - HONG, Ellen J. Multimedia knowledge-based bridge health monitoring using digital twin. In *Multimedia Tools and Applications*, 2021-01-01, pp. ISSN 13807501., Registrované v: SCOPUS 100. [1] RATHORE, M. Mazhar - SHAH, Syed Attique - SHUKLA, Dharendra - BENTAFAT, Elmahdi - BAKIRAS, Spiridon. The Role of AI, Machine Learning, and Big Data in Digital Twinning: A Systematic Literature Review, Challenges, and Opportunities. In *IEEE ACCESS*, 2021, vol. 9, no., pp. 32030-32052. ISSN 2169-3536., Registrované v: WOS 101. [1] KONG, Leo Chi Wai - HARPER, Sam - MITCHELL, Daniel - BLANCHE, Jamie - LIM, Theodore - FLYNN, David. Interactive Digital Twins Framework for Asset Management through Internet. In *2020 IEEE Global Conference on Artificial Intelligence and Internet of Things, GCAIoT 2020*, 2020-12-12, pp., Registrované v: SCOPUS

102. [1] REN, Yuzheng - XIE, Renchao - YU, F. Richard - HUANG, Tao - LIU, Yunjie. Potential Identity Resolution Systems for the Industrial Internet of Things: A Survey. In IEEE Communications Surveys and Tutorials, 2021-01-01, 23, 1, pp. 391-430., Registrované v: SCOPUS
103. [1] YILDIZ, Emre - MOLLER, Charles - BILBERG, Arne. Demonstration and evaluation of a digital twin-based virtual factory. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2021, vol. 114, no. 1-2, pp. 185-203. ISSN 0268-3768., Registrované v: WOS, SCOPUS
104. [1] ESCRICHE LNG, Sergio - ROYO, Lucía - RUPEREZ LNG, Adrián - CUCALÓN LNG, Guillermo - MARTINEZ, Aitor - BACAICOA, Luis - RODRIGUEZ, Francisco - LOPEZ, Blanca. A Digital Twin Based Approach for Simulation and Emulation of an Automotive Paint Workshop. In SAE Technical Papers, 2021-04-06, 2021, pp., Registrované v: SCOPUS
105. [1] SEPASGOZAR, Samad M.E. Differentiating digital twin from digital shadow: Elucidating a paradigm shift to expedite a smart, sustainable built environment. In Buildings, 2021-04-01, 11, 4, pp., Registrované v: SCOPUS
106. [1] CHOI, SangSu - WOO, Jungyub - PARK, Yangho - SONG, Inho. User-Friendly Method of Digital Twin Application based on Cloud Platform for Smart Manufacturing. In TRANSACTIONS OF THE KOREAN SOCIETY OF MECHANICAL ENGINEERS A, 2021, vol. 45, no. 2, pp. 175-184. ISSN 1226-4873., Registrované v: WOS, SCOPUS
107. [1] KRUGER, K. - REDELINGHUY, A. J.H. - BASSON, A. H. - CARDIN, O. Past and Future Perspectives on Digital Twin Research at SOHOMA. In Studies in Computational Intelligence, 2021-01-01, 952, pp. 81-98. ISSN 1860949X., Registrované v: SCOPUS
108. [1] SEMERARO, Concetta - LEZOCCHE, Mario - PANETTO, Hervé - DASSISTI, Michele. Digital twin paradigm: A systematic literature review. In Computers in Industry, 2021-09-01, 130, pp. ISSN 01663615., Registrované v: SCOPUS
109. [1] CAÑAS, Héctor - MULA, Josefa - DÍAZ-MADROÑERO, Manuel - CAMPUZANO-BOLARÍN, Francisco. Implementing Industry 4.0 principles. In Computers and Industrial Engineering, 2021-08-01, 158, pp. ISSN 03608352., Registrované v: SCOPUS
110. [1] MARTÍNEZ-GUTIÉRREZ, Alberto - DÍEZ-GONZÁLEZ, Javier - FERRERO-GUILLÉN, Rubén - VERDE, Paula - ÁLVAREZ, Rubén - PEREZ, Hilde. Digital twin for automatic transportation in industry 4.0. In Sensors, 2021-05-02, 21, 10, pp. ISSN 14248220., Registrované v: SCOPUS
111. [1] LI, Yan Rui - YANG, Chun Jie - ZHANG, Han Wen - LI, Jun Fang. Discussion on Key Technologies of Digital Twin in Process Industry. In Zidonghua Xuebao/Acta Automatica Sinica, 2021-03-01, 47, 3, pp. 501-514. ISSN 02544156.,

112. [1] Registrované v: SCOPUS
KOVALEVSKY, Vladislav - ONUFRIEV, Vadim - DYBOV, Anton. Hierarchical Multi-agent System for Production Control Using KPI Reconciliation. In Smart Innovation, Systems and Technologies, 2021-01-01, 220, pp. 231-243. ISSN 21903018., Registrované v: SCOPUS
113. [1] MONDAL, Sonali - SUHAS, Suraj - TUMULURU, Vamsi Krishna. Energy efficient warehouse management A greedy optimization approach. In 2020 IEEE Computing, Communications and IoT Applications, ComComAp 2020, 2020-12-20, pp., Registrované v: SCOPUS
114. [1] SHEVTSHENKO, Eduard - MAHMOOD, Kashif - KARAULOVA, Tatyana - RAJI, Ibrahim Oluwole. Multitier digital twin approach for agile supply chain management. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2020-01-01, 2B-2020, pp., Registrované v: SCOPUS
115. [1] JUAREZ, Maria G. - BOTTI, Vicente J. - GIRET, Adriana S. Digital Twins: Review and Challenges. In JOURNAL OF COMPUTING AND INFORMATION SCIENCE IN ENGINEERING, 2021, vol. 21, no. 3, pp. ISSN 1530-9827., Registrované v: WOS, SCOPUS
116. [1] SINGH, Maulshree - FUENMAYOR, Evert - HINCHY, Eoin P. - QIAO, Yuansong - MURRAY, Niall - DEVINE, Declan. Digital twin: Origin to future. In Applied System Innovation, 2021-01-01, 4, 2, pp., Registrované v: SCOPUS
117. [1] MA, Xin - CHENG, Jiangfeng - QI, Qinglin - TAO, Fei. Artificial intelligence enhanced interaction in digital twin shop-floor. In Procedia CIRP, 2021-01-01, 100, pp. 858-863. ISSN 22128271., Registrované v: SCOPUS
118. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Virtual Prototyping a Production Line Using Assume-Guarantee Contracts. In IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, 2021, vol. 17, no. 9, pp. 6294-6302. ISSN 1551-3203., Registrované v: WOS, SCOPUS
119. [1] BAI, Luchang - ZHANG, Youtong - WEI, Hongqian - DONG, Junbo - TIAN, Wei. Digital Twin Modeling of a Solar Car Based on the Hybrid Model Method with Data-Driven and Mechanistic. In APPLIED SCIENCES-BASEL, 2021, vol. 11, no. 14, pp., Registrované v: WOS, SCOPUS
120. [1] KUNTOGLU, Mustafa - SALUR, Emin - GUPTA, Munish Kumar - SARIKAYA, Murat - PIMENOV, Danil Yu. A state-of-the-art review on sensors and signal processing systems in mechanical machining processes. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2021, vol., no., pp. ISSN 0268-3768., Registrované v: WOS, SCOPUS
121. [1] GROSHEV, Milan - GUIMARAES, Carlos - DE LA OLIVA, Antonio - GAZDA, Robert. Dissecting the Impact of Information and Communication Technologies on Digital Twins as a Service. In IEEE ACCESS, 2021, vol. 9, no., pp.

- 102862-102876. ISSN 2169-3536., Registrované v: WOS, SCOPUS
122. [1] RANTALA, Tero - SAUNILA, Minna - UKKO, Juhani - MIKKOLA, Aki - KORTELAJINEN, Juha - ZEB, Akhtar. Managing digital-twin lifecycle-recognition and handling of business risks. In Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value, 2021-05-31, pp. 213-223., Registrované v: SCOPUS
123. [1] UKKO, Juhani - RANTALA, Tero - NASIRI, Mina - SAUNILA, Minna. Sustainable competitive advantage through the implementation of a digital twin. In Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value, 2021-05-31, pp. 196-212., Registrované v: SCOPUS
124. [1] WACHE, Hendrik - DINTER, Barbara. The digital twin Birth of an integrated system in the digital age. In Proceedings of the Annual Hawaii International Conference on System Sciences, 2020-01-01, 2020-January, pp. 5452-5461. ISSN 15301605., Registrované v: SCOPUS
125. [1] SIVARETHINAMOHAN, R. - SUJATHA, S. Reimagining the Digital Twin: Powerful Use Cases for Industry 4.0. In Lecture Notes in Mechanical Engineering, 2021-01-01, pp. 175-182. ISSN 21954356., Registrované v: SCOPUS
126. [1] MALAGA, Miroslav - ULRYCH, Zdenek. Physical modelling of the Industry 4.0 concept. In EDUCATION EXCELLENCE AND INNOVATION MANAGEMENT: A 2025 VISION TO SUSTAIN ECONOMIC DEVELOPMENT DURING GLOBAL CHALLENGES, 2020, vol., no., pp. 17540-17549., Registrované v: WOS
127. [1] ZHANG, Chenyuan - TAO, Fei. Evaluation index system for digital twin model. In Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS, 2021-08-01, 27, 8, pp. 2171-2186. ISSN 10065911., Registrované v: SCOPUS
128. [1] FERRO, Rodrigo - CORDEIRO, Gabrielly A. - ORDÓÑEZ, Robert E.C. - BEYDOUN, Ghassan - SHUKLA, Nagesh. An optimization tool for production planning: A case study in a textile industry. In Applied Sciences (Switzerland), 2021-09-01, 11, 18, pp., Registrované v: SCOPUS
129. [1] AWAD, Mohammed A. - ABD-ELAZIZ, Hend M. A new perspective for solving manufacturing scheduling based problems respecting new data considerations. In Processes, 2021-10-01, 9, 10, pp., Registrované v: SCOPUS
130. [1] HICKIE, Desmond - HICKIE, James. The impact of Industry 4.0 on supply chains and regions: innovation in the aerospace and automotive industries. In EUROPEAN PLANNING STUDIES, 2021, vol. 29, no. 9, pp. 1606-1621. ISSN 0965-4313., Registrované v: WOS, SCOPUS
131. [1] ØIEN, Christian Dalheim - DAHL, Håkon - DRANSFELD, Sebastian. A Digital Twin Implementation for Manufacturing Based on Open-Source Software and Standard Control Systems. In IFIP Advances in Information and Communication Technology, 2021-01-01, 633 IFIP, pp. 284-291. ISSN 18684238.,

- Registrované v: SCOPUS
132. [1] GREIS, Noel P. - NOGUEIRA, Monica L. - ROHDE, Wolfgang. Digital Twin Framework for Machine Learning-Enabled Integrated Production and Logistics Processes. In IFIP Advances in Information and Communication Technology, 2021-01-01, 630 IFIP, pp. 218-227. ISSN 18684238., Registrované v: SCOPUS
133. [1] DE ANDRADE, Matheus Antonio Nogueira - LEPIKSON, Herman Augusto - TOSTA MACHADO, Carlos Alberto. A new framework and methodology for digital twin development. In 2021 14th IEEE International Conference on Industry Applications, INDUSCON 2021 Proceedings, 2021-08-15, pp. 134-138., Registrované v: SCOPUS
134. [1] SERRANO-RUIZ, Julio C. - MULA, Josefa - POLER, Raúl. Smart manufacturing scheduling: A literature review. In Journal of Manufacturing Systems, 2021-10-01, 61, pp. 265-287. ISSN 02786125., Registrované v: SCOPUS
135. [1] WARKE, Vivek - KUMAR, Satish - BONGALE, Arunkumar - KOTTECHA, Ketan. Sustainable Development of Smart Manufacturing Driven by the Digital Twin Framework: A Statistical Analysis. In SUSTAINABILITY, 2021, vol. 13, no. 18, pp., Registrované v: WOS, SCOPUS
- AFD02 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - SLOVÁK, Juraj. Numerical acceleration of data processing using MATLAB for the needs of expert systems. In *2018 Cybernetics & Informatics (K&I) [elektronický zdroj] : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018*. 1. vyd. Bratislava : Slovak Chemical Library, 2018, S. [5], USB kľúč. ISBN 978-1-5386-4420-1. V databáze: SCOPUS: 2-s2.0-85050880612 ; WOS.
- Ohlasy:
1. [4] FIŤKA, Ivan - ŠIMOVEC, Matej - RYBÁŘ, Jan. Metóda dátového úložiska pre on-line identifikáciu. In ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. 1. vyd. Košice : Technická univerzita, 2019, S. 08-1 - 08-8. ISBN 978-80-553-3250-5.
2. [2] IVAN, Fiťka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
3. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS
- AFD03 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - ŠIŠMIŠOVÁ, Dana - VOLENSKÝ, Tomáš. Quality comparison between hybrid regularized exponential forgetting algorithm with alternative covariance matrix and selected standard long-run on-

line identification methods of industrial systems. In *Aplimat 2018 [elektronický zdroj] : proceedings of the 17th conference on Applied mathematics. Bratislava, 6.-8.2. 2018.* 1. vyd. Bratislava : Spektrum STU, 2018, S. 1036-1046, CD ROM. ISBN 978-80-227-4765-3. V databáze: SCOPUS: 2-s2.0-85048750876.

Ohlasy:

1. [4] FIŤKA, Ivan - ŠIMOVEC, Matej - RYBÁŘ, Jan. Metóda dátového úložiska pre on-line identifikáciu. In ARTEP 2019. Automatizácia a riadenie v teórii a praxi [elektronický zdroj] : 13. ročník konferencie odborníkov z univerzít, vysokých škôl a praxe. 1. vyd. Košice : Technická univerzita, 2019, S. 08-1 - 08-8. ISBN 978-80-553-3250-5.
2. [2] IVAN, Fiťka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
3. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

Štatistika: kategória publikačnej činnosti

ADC	Vedecké práce v zahraničných karentovaných časopisoch	3
ADM	Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS	1
AFD	Publikované príspevky na domácich vedeckých konferenciách	3
Súčet		7

Štatistika: kategória ohlasov

1	Citácie v zahraničných publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	138
2	Citácie v domácich publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	2
3	Citácie v zahraničných publikáciách neregistrované v citačných indexoch	8
4	Citácie v domácich publikáciách neregistrované v citačných indexoch	2
Súčet		150

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

III. Ohlasy na publikačnú alebo umeleckú aktivitu

Ohlasy registrované vo WoS alebo SCOPUS

Zoznam ohlasov registrovaných vo WoS alebo SCOPUS je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 s ohlasmí:

Požadované: 20

Plnené: 166

ACB Vysokoškolské učebnice vydané v domácich vydavateľstvách

ACB01 TAKÁCS, Gergely - VACHÁLEK, Ján - ROHAI-ILKIV, Boris. *Identifikácia sústav*. 1. vyd. Bratislava Nakladateľstvo STU 2014. 281 s., 100 obr., 5 tab. ISBN 978-80-227-4288-7.

Ohlasy:

1. [1] BARTALSKY, Lukas - BELAVY, Cyril - BARTKO, Michal - HULKO, Gabriel - KUBIS, Milan. PLC control of casting die preheating process as distributed parameter system. In Proceedings of the 2017 21st International Conference on Process Control, PC 2017, 2017-07-11, pp. 263-268., Registrované v: SCOPUS
2. [1] PALENČÁR, Jakub - KUBIS, Milan. Modeling and synthesis of control the process of casting. In 17th Conference on Applied Mathematics, APLIMAT 2018 Proceedings, 2018-01-01, 2018-February, pp. 803-812., Registrované v: SCOPUS
3. [2] IVAN, Fiřka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
4. [2] SLOVAK, Juraj - VASEK, Pavol - SIMOVEC, Matej - MELICHER, Markus - SISMISOVA, Dana. RTLS tracking of material flow in order to reveal weak spots in production process. In Proceedings of the 2019 22nd International Conference on Process Control, PC 2019, 2019-06-01, pp. 234-238., Registrované v: SCOPUS
5. [1] VAGAS, Marek - GALAJDOVA, Alena - SIMSIK, Dusan. IO-link field parameterization for data collection based on RFID technology. In Proceedings of the 30th International Conference on Cybernetics and Informatics, K and I 2020, 2020-01-01, pp., Registrované v: SCOPUS
6. [1] DRGONA, Peter - STEFUN, Rastislav - KASCAK, Slavomir - MORGOS, Jan. DEMONSTRATION of A SYSTEM IDENTIFICATION on REAL STEP-DOWN POWER CONVERTERS. In Communications Scientific Letters of the University of Zilina, 2020-01-01, 22, 4, pp. 128-133. ISSN 13354205., Registrované v: SCOPUS
7. [1] DRGONA, P. - STEFUN, R. - KASCAK, S. - MORGOS, J. Methods for identification of power converters in automotive industry. In 13TH INTERNATIONAL CONFERENCE ON ELEKTRO (ELEKTRO 2020), 2020, vol., no., pp., Registrované v: WOS, SCOPUS

ACB02 VACHÁLEK, Ján - TAKÁCS, Gergely. *Robotika*. 1. vyd. Bratislava : Nakladateľstvo STU, 2014. 166 s., 96 obr., 2 tab. ISBN 978-80-227-4163-7.

Ohlasy:

1. [2] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Position estimation of the mobile robot using the Kalman filter. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 2, pp. 1093-1104., Registrované v: SCOPUS

ADC Vedecké práce v zahraničných karentovaných časopisoch

ADC01 ROVNÝ, Oliver - BATISTA, Gabriel - TAKÁCS, Gergely - VACHÁLEK, Ján - BLAŽÍČEK, Peter. Automatic machining system for the refurbishment of degraded welds in piping systems. In *Advances in Mechanical Engineering*. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS.

Ohlasy:

1. [1] WANG, Chia-Nan - CHANG, Kuei-Hu. Practical problem solving in manufacturing technologies. In *ADVANCES IN MECHANICAL ENGINEERING*, 2018, vol. 10, no. 10, pp. ISSN 1687-8140., Registrované v: WOS
2. [1] GUO, Wanjin - ZHU, Yaguang - HE, Xu. A Robotic Grinding Motion Planning Methodology for a Novel Automatic Seam Bead Grinding Robot Manipulator. In *IEEE ACCESS*, 2020, vol. 8, no., pp. 75288-75302. ISSN 2169-3536., Registrované v: WOS
3. [1] ZHU, Yaguang - HE, Xu - LIU, Qiong - GUO, Wanjin. Semiclosed-loop motion control with robust weld bead tracking for a spiral seam weld beads grinding robot. In *Robotics and Computer-Integrated Manufacturing*, 2022-02-01, 73, pp. ISSN 07365845., Registrované v: SCOPUS

ADC02 SLOVÁK, Juraj - MELICHER, Markus - ŠIMOVEC, Matej - VACHÁLEK, Ján. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In *Sensors*. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525.

Ohlasy:

1. [1] EYAM, Aitor Toichoa - MOHAMMED, Wael M. - MARTINEZ LASTRA, Jose L. Emotion-driven analysis and control of human-robot interactions in collaborative applications. In *Sensors*, 2021-07-02, 21, 14, pp. ISSN 14248220., Registrované v: SCOPUS

ADC03 TAKÁCS, Gergely - VACHÁLEK, Ján - ROHAL'ILKIV, Boris. Online structural health monitoring and parameter estimation for vibrating active cantilever beams using low-priced microcontrollers. In *Shock and vibration [elektronický zdroj]*. Vol. 2015, (2015), 14 p., online. ISSN 1070-9622 (2015: 0.880 - IF, Q3 - JCR Best Q, 0.374 - SJR, Q2 - SJR Best Q). V databáze: CC: CCC:000355117200001 ; WOS.

Ohlasy:

1. [1] TUMA, Jiri - SIMEK, Jiri - MAHDAL, Miroslav - PAWLENKA, Miroslav - PAVELKA, Vaclav. An actively controlled journal bearing with increased resistance to instability. In *MM Science Journal*, 2019-03-01, 2019, march, pp. 2849-2854. ISSN 18031269., Registrované v: SCOPUS

2. [1] BABIUCH, Marek - FOLTYNEK, Petr - SMUTNY, Pavel. Using the ESP32 microcontroller for data processing. In *Proceedings of the 2019 20th International Carpathian Control Conference, ICC 2019*, 2019-05-01, pp., Registrované v: SCOPUS, WOS

3. [1] FOLTYNEK, Petr - BABIUCH, Marek - ŠURÁNEK, Pavel. Measurement and data processing from Internet of Things modules by dual-core application using ESP32 board. In *Measurement and Control (United Kingdom)*, 2019-09-01, 52, 7-8, pp. 970-984. ISSN 00202940., Registrované v: SCOPUS, WOS

ADC04 VACHÁLEK, Ján - ŠIŠMIŠOVÁ, Dana - VAŠEK, Pavol - RYBÁŘ, Jan - SLOVÁK, Juraj - ŠIMOVEC, Matej. Intelligent dynamic identification technique of industrial products in a robotic workplace. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444.

Ohlasy:

1. [1] PETER, Angela Paul - CHEW, Kit Wayne - KOYANDE, Apurav Krishna - YUK-HENG, Sia - TING, Huong Yong - RAJENDRAN, Saravanan - MUNAWAROH, Heli Siti Halimatul - YOO, Chang Kyoo - SHOW, Pau Loke. Cultivation of *Chlorella vulgaris* on dairy waste using vision imaging for biomass growth monitoring. In *Bioresource Technology*, 2021-12-01, 341, pp. ISSN 09608524., Registrované v: SCOPUS

ADE Vedecké práce v ostatných zahraničných časopisoch

ADE01 VACHÁLEK, Ján - BARTKO, Michal. Online system identification method using modified regularized exponential forgetting. In *Sborník vědeckých prací Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 59, č. 2 (2013), s.169-175. ISSN 1210-0471.

Ohlasy:

1. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In *Proceedings of the 2021*

23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277.,
Registrované v: SCOPUS

- ADE02 VACHÁLEK, Ján - TÓTH, Filip - KRASŇANSKÝ, Pavol - ČAPUCHA, Ľubomír. Design and construction of a robotic vehicle with omni-directional mecanum wheels. In *Sborník vedeckých prácí Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 60, č. 1 (2014), s. 97-103. ISSN 1210-0471.

Ohlasy:

1. [1] BELDA, Kvetoslav - ROVNY, Oliver. Predictive control of 5 DOF robot arm of autonomous mobile robotic system motion control employing mathematical model of the robot arm dynamics. In Proceedings of the 2017 21st International Conference on Process Control, PC 2017, 2017-07-11, pp. 339-344., Registrované v: SCOPUS, WOS
2. [2] SLOVAK, Juraj - MELICHER, Markus - VASEK, Pavol. Trajectories optimization of mobile robotic systems using discrete Kalman filtration. In Proceedings of the 29th International Conference on Cybernetics and Informatics, K and I 2018, 2018-04-12, 2018-January, pp. 1-7., Registrované v: SCOPUS, WOS
3. [2] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Position estimation of the mobile robot using the Kalman filter. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 2, pp. 1093-1104., Registrované v: SCOPUS
4. [1] STECK, Jason - MORALES-ORTEGA, Rolando - CURRENCE, Jacob - ZHOU, Wenchao. A mobile robot gripper for cooperative 3D printing. In Solid Freeform Fabrication 2017: Proceedings of the 28th Annual International Solid Freeform Fabrication Symposium An Additive Manufacturing Conference, SFF 2017, 2020-01-01, pp. 2664-2681., Registrované v: SCOPUS

- ADE03 VACHÁLEK, Ján - GÉCI, Marián - ROVNY, Oliver - VOLENSKÝ, Tomáš. Localization of objects using the MS Windows Kinect 3D optical device with utilization of the depth image technology. In *Sborník vedeckých prácí Vysoké školy báňské - Technické univerzity Ostrava*. Roč. 61, č. 2 (2015), s. 63-78. ISSN 1210-0471.

Ohlasy:

1. [2] SLOVAK, Juraj - MELICHER, Markus - VASEK, Pavol. Trajectories optimization of mobile robotic systems using discrete Kalman filtration. In Proceedings of the 29th International Conference on Cybernetics and Informatics, K and I 2018, 2018-04-12, 2018-January, pp. 1-7., Registrované v: SCOPUS, WOS

ADF Vedecké práce v ostatných domácich časopisoch

- ADF01 VACHÁLEK, Ján. Využitie senzorického systému Microsoft Kinect pre potreby inteligentných domov a budov (3). In *iDB Journal*. Roč. 4, č. 1 (2014), s. 18-19. ISSN 1338-3337.

Ohlasy:

- [1] GYURIAN, Norbert - DROZD, Ivan - ROZINAJ, Gregor. Multimodal interface for smart home. In Proceedings Elmar International Symposium Electronics in Marine, 2016-11-02, 2016-November, pp. 283-286. ISSN 13342630., Registrované v: SCOPUS, WOS

ADM Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS

- ADM01 TAKÁCS, Gergely - OTČENÁŠ, Jakub - VACHÁLEK, Ján - ROHAĽ-ILKIV, Boris. Modal response-based technical countersurveillance measure against laser microphones. In *Journal of Vibroengineering*. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS.

Ohlasy:

- [1] LEE, S. Y. - ET AL. Study the Effect of Commonly Used Video Compression Techniques on Sound Recovery via Negligible Object Vibrations for Visual Surveillance System. In Proceedings of the 2nd International Conference on Advances in Image Processing : Chengdu, China — June 16 - 18, 2018. New York : ACM, 2018, S. 111-115. ISBN 978-1-4503-6460-7.
- [1] LEE, S. Y. - YAP, W. S. - HUM, Y. C. - GOI, B. M. - TEE, Y. K. Investigate the Impact of Colour to Grayscale Conversion on Sound Recovery via Visual Microphone. In 2018 2nd International Conference on Imaging, Signal Processing and Communication, ICISPC 2018, 2018-07-01, pp. 138-142., Registrované v: SCOPUS
- [1] CHOONG, Ren Jun - YAP, Wun She - CHAI HUM, Yan - KAI TEE, Yee. Improving the quality of sound recovered using the visual microphone with frame-wise image denoising preprocessing. In *Journal of Physics: Conference Series*, 2020-09-03, 1627, 1, pp. ISSN 17426588., Registrované v: SCOPUS
- [1] HOREV, Anatoliy - SAVIN, Andrey. Efficiency Research of Sun Protection Window Films for Speech Information Protection from LEAKAGE by Optoelectronic Channel. In Proceedings of the 2021 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering, ElConRus 2021, 2021-01-26, pp. 2335-2339., Registrované v: SCOPUS

AFD Publikované príspevky na domácich vedeckých konferenciách

- AFD01 VACHÁLEK, Ján. On-line identification using hybrid method of regularized exponential forgetting. In *Proceedings of the 2013 International Conference on Process Control [elektronický zdroj] : Štrbské Pleso, Slovakia, June 18-21, 2013*. 1st. ed. Piscataway : IEEE, 2013, s.CD-ROM, p. 257-262. ISBN 978-80-227-3951-1. V databáze: WOS.

Ohlasy:

- [2] BELAVÝ, Cyril - HULKÓ, Gabriel - ŠIŠMIŠOVÁ, Dana - KUBIŠ, Milan. FEM based modelling and control of temperature field in extruder barrel. In 2018

Cybernetics & Informatics (K&I) [elektronický zdroj] : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018. 1. vyd. Bratislava : Slovak Chemical Library, 2018, USB kľúč, 6 s. ISBN 978-1-5386-4420-1. V databáze: IEEE., Registrované v: WOS

2. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

AFD02 VACHÁLEK, Ján - ČAPUCHA, Ľubomír - KRASŇANSKÝ, Pavol - TÓTH, Filip. Collision-free manipulation of a robotic arm using the MS Windows Kinect 3D optical system. In *Process control 2015 : 20th International Conference on Process Control. Štrbské Pleso, Slovak Republic. June 9-12, 2015*. 1. vyd. New York : IEEE, 2015, S. 96-106. ISBN 978-1-4673-6627-4. V databáze: WOS.

Ohlasy:

1. [1] GALLO SANCHEZ, Luisa Fernanda - GUERRERO RAMIREZ, Monica Alejandra - VASQUEZ SALCEDO, Juan Diego - ALONSO CASTRO, Miguel Angel. Electromechanical Design of a Prototype for Emulation Movements of a Human Arm. In INGE CUC, 2016, vol. 12, no. 2, pp. 17-25. ISSN 0122-6517., Registrované v: WOS
2. [1] BELDA, Kvetoslav - ROVNY, Oliver. Predictive control of 5 DOF robot arm of autonomous mobile robotic system motion control employing mathematical model of the robot arm dynamics. In Proceedings of the 2017 21st International Conference on Process Control, PC 2017, 2017-07-11, pp. 339-344., Registrované v: SCOPUS, WOS
3. [1] HJ SHUKOR, Ahmad Zaki - KII, Ng Jack - MISKON, Muhammad Fahmi - ALIIBRAHIM, Fariz - JAMALUDDIN, Muhammad Herman. Pre-contact sensor based collision avoidance manipulator. In Journal of Telecommunication, Electronic and Computer Engineering, 2017-07-01, 9, 3, pp. 175-179. ISSN 21801843., Registrované v: SCOPUS
4. [2] SLOVAK, Juraj - MELICHER, Markus - VASEK, Pavol. Trajectories optimization of mobile robotic systems using discrete Kalman filtration. In Proceedings of the 29th International Conference on Cybernetics and Informatics, K and I 2018, 2018-04-12, 2018-January, pp. 1-7., Registrované v: SCOPUS, WOS
5. [2] SLOVÁK, Juraj - VAŠEK, Pavol - MELICHER, Markus - MIKULÁŠ, Erik. Position estimation of the mobile robot using the Kalman filter. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 2, pp. 1093-1104., Registrované v: SCOPUS
6. [2] SLOVAK, Juraj - VASEK, Pavol - SIMOVEC, Matej - MELICHER, Markus - SISMISOVA, Dana. RTLS tracking of material flow in order to reveal weak spots in

production process. In Proceedings of the 2019 22nd International Conference on Process Control, PC 2019, 2019-06-01, pp. 234-238., Registrované v: SCOPUS

AFD03 VACHÁLEK, Ján - LOKŠÍK, Milan - MORHÁČ, Martin - BARTALSKÝ, Lukáš - ROVNÝ, Oliver - ŠIŠMIŠOVÁ, Dana. The digital twin of an industrial production line within the Industry 4.0 concept. In *21st International Conference on Process Control (PC) 2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia*. 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS.

Ohlasy:

1. [1] PALENČÁR, Jakub - KUBIS, Milan. Modeling and synthesis of control the process of casting. In 17th Conference on Applied Mathematics, APLIMAT 2018 Proceedings, 2018-01-01, 2018-February, pp. 803-812., Registrované v: SCOPUS
2. [1] LANDOLFI, Giuseppe - BARNI, Andrea - MENATO, Silvia - CAVADINI, Franco Antonio - ROVERE, Diego - DAL MASO, Giovanni. Design of a multi-sided platform supporting CPS deployment in the automation market. In Proceedings 2018 IEEE Industrial Cyber-Physical Systems, ICPS 2018, 2018-06-15, pp. 684-689., Registrované v: SCOPUS
3. [1] MABKHOT, Mohammed M. - AL-AHMARI, Abdulrahman M. - SALAH, Bashir - ALKHALEFAH, Hisham. Requirements of the Smart Factory System: A Survey and Perspective. In MACHINES, 2018, vol. 6, no. 2, pp. ISSN 2075-1702., Registrované v: WOS
4. [1] TAO, Fei - SUI, Fangyuan - LIU, Ang - QI, Qinglin - ZHANG, Meng - SONG, Boyang - GUO, Zirong - LU, Stephen C.Y. - NEE, A. Y.C. Digital twin-driven product design framework. In International Journal of Production Research, 2018-02-24, pp. 1-19. ISSN 00207543., Registrované v: SCOPUS, WOS
5. [1] BECUE, Adrien - FOURASTIER, Yannick - PRACA, Isabel - SAVARIT, Alexandre - BARON, Claude - GRADUSSOFS, Baptiste - POUILLE, Etienne - THOMAS, Carsten. CyberFactory#1 Securing the industry 4.0 with cyber-ranges and digital twins. In IEEE International Workshop on Factory Communication Systems Proceedings, WFCS, 2018-07-03, 2018-June, pp. 1-4., Registrované v: SCOPUS
6. [1] HOFMANN, Wladimir - ET AL. Simulation and Virtual Commissioning of Modules for a Plug-and-Play Conveying System. In INCOM 2018 : 16th IFAC Symposium on Information Control Problems in ManufacturingAt: Bergamo, Italy, 11.-13.6. 2018, 2018, S. 1-6., Registrované v: WOS
7. [1] ECKHART, Matthias - EKELHART, Andreas. Towards Security-Aware Virtual Environments for Digital Twins. In Proceeding CPSS '18 : 4th ACM Workshop on Cyber-Physical System Security, Incheon, Republic of Korea — June 04 - 04, 2018. New York : ACM, 2018, S. 61-72. ISBN 978-1-4503-5755-5., Registrované v: WOS
8. [1] KRITZINGER, Werner - KARNER, Matthias - TRAAR, Georg - HENJES, Jan - SIHN, Wilfried. Digital Twin in manufacturing: A categorical literature review

- and classification. In IFAC-PapersOnLine, 2018-01-01, 51, 11, pp. 1016-1022.,
Registrované v: SCOPUS
9. [1] QI, Qinglin - ZHAO, Dongming - LIAO, T. Warren - TAO, Fei. Modeling of cyber-physical systems and digital twin based on edge computing, fog computing and cloud computing towards smart manufacturing. In ASME 2018 13th International Manufacturing Science and Engineering Conference, MSEC 2018, 2018-01-01, 1, pp.,
Registrované v: SCOPUS, WOS
10. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In Enterprise Information Systems, 2018-01-01, pp. ISSN 17517575., Registrované v: SCOPUS
11. [1] NIKOLAKIS, Nikolaos - ALEXOPOULOS, Kosmas - XANTHAKIS, Evangelos - CHRYSSOLOURIS, George. The digital twin implementation for linking the virtual representation of human-based production tasks to their physical counterpart in the factory-floor. In International Journal of Computer Integrated Manufacturing, 2018-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
12. [1] NEJC, Ilc - LOTRIČ, Uroš. FTsim: A 3D Tool for Teaching Automation Concepts. In 13th APCA International Conference on Automatic Control and Soft Computing, CONTROLO 2018, Azores, Portugal, June 4-6, 2018. 1. vyd. IEEE : [s.l.], 2018, S. 31-36. ISBN 978-989-20-8523-4., Registrované v: WOS
13. [1] MALIK, Ali Ahmad - BILBERGB, Arne. Digital twins of human robot collaboration in a production setting. In Procedia Manufacturing. Vol. 17, (2018), s. 278-285. ISSN 2351-9789., Registrované v: WOS
14. [1] ILC, Nejc - LOTRI, Uroš. Implementation of a training-model simulator with free tools. In Elektrotehniski Vestnik/Electrotechnical Review, 2018-01-01, 85, 4, pp. 177-184. ISSN 00135852., Registrované v: SCOPUS, WOS
15. [1] LIU, Datong - GUO, Kai - WANG, Benkuan - PENG, Yu. Summary and perspective survey on digital twin technology. In Yi Qi Yi Biao Xue Bao/Chinese Journal of Scientific Instrument, 2018-11-01, 39, 11, pp. 1-10. ISSN 02543087., Registrované v: SCOPUS
16. [1] DURÃO, Luiz Fernando C.S. - HAAG, Sebastian - ANDERL, Reiner - SCHÜTZER, Klaus - ZANCUL, Eduardo. Digital twin requirements in the context of industry 4.0. In IFIP Advances in Information and Communication Technology, 2018-01-01, 540, pp. 204-214. ISSN 18684238., Registrované v: SCOPUS
17. [1] CENTOMO, S. - PANATO, M. - FUMMI, F. Cyber-physical systems integration in a production line simulator. In 26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC), 2018, S. ISBN 978-1-5386-4756-1., Registrované v: WOS
18. [1] TAO, Fei - ZHANG, He - LIU, Ang - NEE, A. Y.C. Digital Twin in Industry: State-of-the-Art. In IEEE Transactions on Industrial Informatics, 2019-04-01, 15, 4, pp. 2405-2415. ISSN 15513203., Registrované v: SCOPUS
19. [1] NGO, Diane - GUERRA-ZUBIAGA, David A. - GONZÁLEZ-BADILLO,

- Germánico - VATANKHAH BARENJI, Reza. Towards a digital twin for cloud manufacturing-case study. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2018-01-01, 2, pp., Registrované v: SCOPUS, WOS
20. [1] HUANG, B. B. - ZHANG, Y. F. - ZHANG, G. - REN, S. A framework for digital twin driven product recycle, disassembly and reassembly. In Proceedings of International Conference on Computers and Industrial Engineering, CIE, 2018-01-01, 2018-December, pp., Registrované v: SCOPUS
21. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo - CORREIA, Luiz H.A. - SILVA, Jorge Sá. Industry 4.0 retrofitting. In Brazilian Symposium on Computing System Engineering, SBESC, 2019-04-15, 2018-November, pp. 8-15. ISSN 23247886., Registrované v: SCOPUS, WOS
22. [1] MAKAROVA, Irina - SHUBENKOVA, Ksenia - MAVRIN, Vadim - GORYAEV, Nikolay. Development of the Integrated Information Environment to Connect Manufacturer and Its Dealer and Service Network. In 2018 IEEE International Conference on Technology Management, Operations and Decisions, ICTMOD 2018, 2019-04-12, pp. 268-273., Registrované v: SCOPUS, WOS
23. [1] MONTEIRO, Paula - CARVALHO, Marcia - MORAIS, Francisco - MELO, Monica - MACHADO, Ricardo J. - PEREIRA, Fernando. Adoption of Architecture Reference Models for Industrial Information Management Systems. In 9th International Conference on Intelligent Systems 2018: Theory, Research and Innovation in Applications, IS 2018 Proceedings, 2019-05-08, pp. 763-770., Registrované v: SCOPUS, WOS
24. [1] DATTA, Soumya Kanti - BONNET, Christian. MEC and IoT Based Automatic Agent Reconfiguration in Industry 4.0. In International Symposium on Advanced Networks and Telecommunication Systems, ANTS, 2019-05-08, 2018-December, pp. ISSN 21531684., Registrované v: SCOPUS, WOS
25. [1] CENTOMO, Stefano - FRACCAROLI, Enrico - PANATO, Marco. From Multi-Level to Abstract-Based Simulation of a Production Line. In Proceedings of the 2019 Design, Automation and Test in Europe Conference and Exhibition, DATE 2019, 2019-05-14, pp. 1253-1256., Registrované v: SCOPUS, WOS
26. [1] CORDEIRO, Gabrielly Araujo - COOPER ORDONEZ, Robert Eduardo - FERRO, Rodrigo. THEORETICAL PROPOSAL OF STEPS FOR THE IMPLEMENTATION OF THE INDUSTRY 4.0 CONCEPT. In BRAZILIAN JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT, 2019, vol. 16, no. 2, pp. 166-179. ISSN 2237-8960., Registrované v: WOS, SCOPUS
27. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. A Digital Twin-Based Multi-modal UI Adaptation Framework for Assistance Systems in Industry 4.0. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2019-01-01, 11568 LNCS, pp. 398-409. ISSN 03029743., Registrované v: SCOPUS, WOS

28. [1] TAO, Fei - QI, Qinglin - WANG, Lihui - NEE, A. Y.C. Digital Twins and Cyber-Physical Systems toward Smart Manufacturing and Industry 4.0: Correlation and Comparison. In *Engineering*, 2019-08-01, 5, 4, pp. 653-661. ISSN 20958099., Registrované v: SCOPUS, WOS
29. [1] ROLLE, Rodrigo Pita - ET AL. Digitalization of Manufacturing Processes: Proposal and Experimental Results. IEEE 2019. Dostupné na internete: <<https://ieeexplore.ieee.org/abstract/document/8792838/references#references>>. V databáze: DOI: DOI: 10.1109/METROI4.2019.8792838., Registrované v: SCOPUS
30. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In *ENTERPRISE INFORMATION SYSTEMS*, 2019, vol. 13, no. 4, pp. 534-556. ISSN 1751-7575., Registrované v: WOS
31. [1] WANG, Junfeng - HUANG, Yaqin - CHANG, Qing - LI, Shiqi. Event-driven online machine state decision for energy-efficient manufacturing system based on digital twin using Max-plus Algebra. In *Sustainability (Switzerland)*, 2019-09-01, 11, 18, pp., Registrované v: SCOPUS, WOS
32. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. Reference Framework for Digital Twins within Cyber-Physical Systems. In *Proceedings 2019 IEEE/ACM 5th International Workshop on Software Engineering for Smart Cyber-Physical Systems, SEsCPS 2019*, 2019-05-01, pp. 25-31., Registrované v: SCOPUS
33. [1] CIMINO, Chiara - NEGRI, Elisa - FUMAGALLI, Luca. Review of digital twin applications in manufacturing. In *Computers in Industry*, 2019-12-01, 113, pp. ISSN 01663615., Registrované v: SCOPUS
34. [1] ASHA, K. - KARIYAPPA, B.S. - KULAKARNI, Vishal. Digital twin ranorex test automation of SIPROTEC 5 protection devices. In *Proceedings of the third international conference on Electronics Communication and Aerospace Technology. ICECA 2019*. 1. vyd : IEEE, 2019, S. 955-958. ISBN 978-1-7281-0167-5., Registrované v: SCOPUS
35. [1] SPELLINI, Stefano - CHIRICO, Roberta - LORA, Michele - FUMMI, Franco. Languages and formalisms to enable eda techniques in the context of industry 4.0. In *Proceedings of the 2019 Forum on Specification and Design Languages, FDL 2019*, 2019-09-01, pp., Registrované v: SCOPUS
36. [1] DALL'ORA, Nicola - CENTOMO, Stefano - FUMMI, Franco. Industrial-IoT Data Analysis Exploiting Electronic Design Automation Techniques. In *Proceedings 2019 8th International Workshop on Advances in Sensors and Interfaces, IWASI 2019*, 2019-06-01, pp. 103-109., Registrované v: SCOPUS
37. [1] BALAKRISHNAN, Ponnuraman - RAMESH BABU, Kalivaradhan - NAIJU, Chooriyaparambil Damodaran - MADIAJAGAN, Muthaiyan. Design and Implementation of Digital Twin for Predicting Failures in Automobiles Using Machine Learning Algorithms. In *SAE Technical Papers*, 2019-10-11, october, pp.,

- Registrované v: SCOPUS
38. [1] PARK, Kyu Tae - LEE, Jehun - KIM, Hyun Jung - NOH, Sang Do. Digital twin-based cyber physical production system architectural framework for personalized production. In International Journal of Advanced Manufacturing Technology, 2019-01-01, pp. ISSN 02683768., Registrované v: SCOPUS, WOS
39. [1] QI, Qinglin - TAO, Fei - HU, Tianliang - ANWER, Nabil - LIU, Ang - WEI, Yongli - WANG, Lihui - NEE, A. Y.C. Enabling technologies and tools for digital twin. In Journal of Manufacturing Systems, 2019-01-01, pp. ISSN 02786125., Registrované v: SCOPUS, WOS
40. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - FOGLI, Daniela. A survey on digital twin: Definitions, characteristics, applications, and design implications. In IEEE Access, 2019-01-01, 7, pp., Registrované v: SCOPUS
41. [1] COHEN, Yuval - NASERALDIN, Hussein - CHAUDHURI, Atanu - PILATI, Francesco. Assembly systems in Industry 4.0 era: a road map to understand Assembly 4.0. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2019, vol. 105, no. 9, pp. 4037-4054. ISSN 0268-3768., Registrované v: WOS
42. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo. Cyber-physical production systems retrofitting in context of industry 4.0. In Computers and Industrial Engineering, 2020-01-01, 139, pp. ISSN 03608352., Registrované v: SCOPUS
43. [1] YANG, Lin Yao - CHEN, Si Yuan - WANG, Xiao - ZHANG, Jun - WANG, Cheng Hong. Digital Twins and Parallel Systems: State of the Art, Comparisons and Prospect. In Zidonghua Xuebao/Acta Automatica Sinica, 2019-11-01, 45, 11, pp. 2001-2031. ISSN 02544156., Registrované v: SCOPUS, WOS
44. [1] ENDERS, Martin Robert - HOBBACH, Nadja. Dimensions of digital twin applications A literature review. In 25th Americas Conference on Information Systems, AMCIS 2019, 2019-01-01, pp., Registrované v: SCOPUS
45. [1] REDELINGHUYS, A. J.H. - BASSON, A. H. - KRUGER, K. A six-layer architecture for the digital twin: a manufacturing case study implementation. In Journal of Intelligent Manufacturing, 2019-01-01, pp. ISSN 09565515., Registrované v: SCOPUS, WOS
46. [1] VALENCIA, Estefania Tobon - LAMOURI, Samir - PELLERIN, Robert - DUBOIS, Patrice - MOEUF, Alexandre. Production Planning in the Fourth Industrial Revolution: A Literature Review. In IFAC PAPERSONLINE, 2019, vol. 52, no. 13, pp. 2158-2163. ISSN 2405-8963., Registrované v: WOS
47. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - GLIOZZO, Jessica - PETRINI, Alessandro - VALTOLINA, Stefano. Human Digital Twin for Fitness Management. In IEEE Access, 2020-01-01, 8, pp. 26637-26664., Registrované v: SCOPUS
48. [1] BURGHARDT, Andrzej - SZYBICKI, Dariusz - GIERLAK, Piotr - KURC, Krzysztof - PIETRUSZ, Paulina - CYGAN, Rafał. Programming of industrial robots

- using virtual reality and digital twins. In Applied Sciences (Switzerland), 2020-01-01, 10, 2, pp., Registrované v: SCOPUS, WOS
49. [1] LUO, Weichao - HU, Tianliang - YE, Yingxin - ZHANG, Chengrui - WEI, Yongli. A hybrid predictive maintenance approach for CNC machine tool driven by Digital Twin. In Robotics and Computer-Integrated Manufacturing, 2020-10-01, 65, pp. ISSN 07365845., Registrované v: SCOPUS
50. [1] ASSAWAARAYAKUL, Chaiwat - SRISAWAT, Wasin - AYUTHAYA, Smitti Darakorn Na - WATTANASIRICHAIGOON, Somkiat. Integrate Digital Twin to Exist Production System for Industry 4.0. In TIMES-iCON 2019 2019 4th Technology Innovation Management and Engineering Science International Conference, 2019-12-01, pp., Registrované v: SCOPUS
51. [1] ROLLE, R. - MARTUCCI, V - GODOY, E. Architecture for Digital Twin implementation focusing on Industry 4.0. In IEEE LATIN AMERICA TRANSACTIONS, 2020, vol. 18, no. 5, pp. 889-898. ISSN 1548-0992., Registrované v: WOS
52. [1] ROY, Rohan Basu - MISHRA, Debasish - PAL, Surjya K. - CHAKRAVARTY, Tapas - PANDA, Satanik - CHANDRA, M. Girish - PAL, Arpan - MISRA, Prateep - CHAKRAVARTY, Debashish - MISRA, Sudip. Digital twin: current scenario and a case study on a manufacturing process. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2020, vol. 107, no. 9-10, pp. 3691-3714. ISSN 0268-3768., Registrované v: WOS
53. [1] HE, Bin - BAI, Kai-Jian. Digital twin-based sustainable intelligent manufacturing: a review. In ADVANCES IN MANUFACTURING, 2020, vol., no., pp. ISSN 2095-3127., Registrované v: WOS
54. [1] RASHEED, Adil - SAN, Omer - KVAMSDAL, Trond. Digital Twin: Values, Challenges and Enablers From a Modeling Perspective. In IEEE ACCESS, 2020, vol. 8, no., pp. 21980-22012. ISSN 2169-3536., Registrované v: WOS
55. [1] NEGRI, Elisa - BERARDI, Stefano - FUMAGALLI, Luca - MACCHI, Marco. MES-integrated digital twin frameworks. In Journal of Manufacturing Systems, 2020-07-01, 56, pp. 58-71. ISSN 02786125., Registrované v: SCOPUS
56. [1] RAZA, Mohsin - KUMAR, Priyan Malarvizhi - HUNG, Dang Viet - DAVIS, William - NGUYEN, Huan - TRESTIAN, Ramona. A Digital Twin Framework for Industry 4.0 Enabling Next-Gen Manufacturing. In ICITM 2020 2020 9th International Conference on Industrial Technology and Management, 2020-02-01, pp. 73-77., Registrované v: SCOPUS
57. [1] PARK, Kyu Tae - YANG, Jinho - NOH, Sang Do. VREDI: virtual representation for a digital twin application in a work-center-level asset administration shell. In Journal of Intelligent Manufacturing, 2020-01-01, pp. ISSN 09565515., Registrované v: SCOPUS
58. [1] GE, Yidi - QIU, Jiangnan - LIU, Zhiyong - GU, Wenjing - XU, Liwei. Beyond negative and positive: Exploring the effects of emotions in social media during

- the stock market crash. In *Information Processing and Management*, 2020-01-01, pp. ISSN 03064573., Registrované v: SCOPUS
59. [1] PÉREZ, Luis - RODRÍGUEZ-JIMÉNEZ, Silvia - RODRÍGUEZ, Nuria - USAMENTIAGA, Rubén - GARCÍA, Daniel F. Digital twin and virtual reality based methodology for multi-robot manufacturing cell commissioning. In *Applied Sciences (Switzerland)*, 2020-05-01, 10, 10, pp., Registrované v: SCOPUS, WOS
60. [1] GERICKE, G. A. - KURIAKOSE, R. B. - VERMAAK, H. J. - MARDSEN, Ole. Design of Digital Twins for Optimization of a Water Bottling Plant. In *45TH ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY (IECON 2019)*, 2019, vol., no., pp. 5204-5210. ISSN 1553-572X., Registrované v: WOS, SCOPUS
61. [1] GUERRA-ZUBIAGA, David A. - BONDAR, Alex - ESCOBEDO, Gilberto - SCHUMACHER, Arthur. Digital twin in a manufacturing integrated system: Siemens TIA and PLM case study. In *ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE)*, 2019-01-01, 2B-2019, pp., Registrované v: SCOPUS
62. [1] SAKR, Ahmed H. - YACOUT, Soumaya - BASSETTO, Samuel. A discrete event simulation logic for semiconductor production planning and control within industry 4.0 paradigm. In *Proceedings of the International Conference on Industrial Engineering and Operations Management*, 2019-01-01, pp. 172-182., Registrované v: SCOPUS
63. [1] BAZAZ, Sara Moghadaszadeh - LOHTANDER, Mika - VARIS, Juha. 5-dimensional definition for a manufacturing digital twin. In *Procedia Manufacturing*, 2019-01-01, 38, pp. 1705-1712., Registrované v: SCOPUS
64. [1] STARK, Rainer - ET AL. WiGeP-Positionspapier: „Digitaler Zwilling“. In *ZWF Zeitschrift für wirtschaftlichen Fabrikbetrieb*. Vol. 115, iss. 4, special (2020), s. 47-50. ISSN 0947-0085., Registrované v: SCOPUS
65. [1] GREIF, Toni - STEIN, Nikolai - FLATH, Christoph M. Peeking into the void: Digital twins for construction site logistics. In *Computers in Industry*, 2020-10-01, 121, pp. ISSN 01663615., Registrované v: SCOPUS
66. [1] SANCHEZ, Manuel - EXPOSITO, Ernesto - AGUILAR, Jose. Industry 4.0: survey from a system integration perspective. In *INTERNATIONAL JOURNAL OF COMPUTER INTEGRATED MANUFACTURING*, 2020, vol., no., pp. ISSN 0951-192X., Registrované v: WOS
67. [1] BÉCUE, Adrien - MAIA, Eva - FEEKEN, Linda - BORCHERS, Philipp - PRAÇA, Isabel. A new concept of digital twin supporting optimization and resilience of factories of the future. In *Applied Sciences (Switzerland)*, 2020-07-01, 10, 13, pp., Registrované v: SCOPUS
68. [1] AL-SEHRAWY, Ramy - KUMAR, Bimal. Digital Twins in Architecture, Engineering, Construction and Operations. A Brief Review and Analysis. In *Lecture Notes in Civil Engineering*, 2021-01-01, 98, pp. 924-939. ISSN 23662557.,

- Registrované v: SCOPUS
 69. [1] TVENGE, Nina - OGORODNYK, Olga - ØSTBØ, Niels Peter - MARTINSEN, Kristian. Added value of a virtual approach to simulation-based learning in a manufacturing learning factory. In *Procedia CIRP*, 2020-01-01, 88, pp. 36-41. ISSN 22128271., Registrované v: SCOPUS
70. [1] XING, Fei - PENG, Guochao (Alex) - ZHANG, Bingqian - ZUO, Simin - TANG, Jiangfeng - LI, Shuyang. Driving Innovation with the Application of Industrial AI in the R&D Domain. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 2020-01-01, 12203 LNCS, pp. 244-255. ISSN 03029743., Registrované v: SCOPUS
71. [1] ENGELS, Gregor. Der digitale Fußabdruck, Schatten oder Zwilling von Maschinen und Menschen. In *Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie*, 2020-01-01, pp. ISSN 23666145., Registrované v: SCOPUS, WOS
72. [1] DOS SANTOS, Carlos Henrique - DE QUEIROZ, Jose Antonio - LEAL, Fabiano - BARRA MONTEVECHI, Jose Arnaldo. Use of simulation in the industry 4.0 context: Creation of a Digital Twin to optimise decision making on non-automated process. In *JOURNAL OF SIMULATION*, 2020, vol., no., pp. ISSN 1747-7778., Registrované v: WOS, SCOPUS
73. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Production Recipe Validation through Formalization and Digital Twin Generation. In *Proceedings of the 2020 Design, Automation and Test in Europe Conference and Exhibition, DATE 2020*, 2020-03-01, pp. 1698-1703., Registrované v: SCOPUS
74. [1] AN-BANG, Wang - WEN-BIN, Sun - GUO-LIN, Duan. Research on intelligent method of manufacturing and processing equipment based on digital twin and deep learning technology. In *Chinese Journal of Engineering Design*, 2019-12-01, 26, 6, pp. 666-674. ISSN 1006754X., Registrované v: SCOPUS
75. [1] SCHUH, Günther - GÜTZLAFF, Andreas - SAUERMAN, Frederick - MAIBAUM, Judith. Digital Shadows as an Enabler for the Internet of Production. In *IFIP Advances in Information and Communication Technology*, 2020-01-01, 591 IFIP, pp. 179-186. ISSN 18684238., Registrované v: SCOPUS
76. [1] ERRANDONEA, Itxaro - BELTRÁN, Sergio - ARRIZABALAGA, Saioa. Digital Twin for maintenance: A literature review. In *Computers in Industry*, 2020-12-01, 123, pp. ISSN 01663615., Registrované v: SCOPUS
77. [1] CAESAR, Birte - HÄNEL, Albrecht - WENKLER, Eric - CORINTH, Christian - IHLENFELDT, Steffen - FAY, Alexander. Information Model of a Digital Process Twin for Machining Processes. In *IEEE International Conference on Emerging Technologies and Factory Automation, ETFA*, 2020-09-01, 2020-September, pp. 1765-1772. ISSN 19460740., Registrované v: SCOPUS
78. [1] RYMASZEWSKI, Szymon - WATRÓBSKI, Jaroslaw -

- KARCZMARCZYK, Artur. Identification of reference multi criteria domain modelProduction line optimization case study. In *Procedia Computer Science*, 2020-01-01, 176, pp. 3794-3801., Registrované v: SCOPUS
79. [1] SCHUH, Günther - KELZENBERG, Christoph - WIESE, Jan - KESSLER, Niklas. Creation of digital production twins for the optimization of value creation in single and small batch production. In *Procedia CIRP*, 2020-01-01, 93, pp. 222-227. ISSN 22128271., Registrované v: SCOPUS
80. [1] CIANO, Maria Pia - POZZI, Rossella - ROSSI, Tommaso - STROZZI, Fernanda. Digital twin-enabled smart industrial systems: a bibliometric review. In *International Journal of Computer Integrated Manufacturing*, 2020-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
81. [1] YILDIZ, Emre - MØLLER, Charles - BILBERG, Arne. Virtual factory: Digital twin based integrated factory simulations. In *Procedia CIRP*, 2020-01-01, 93, pp. 216-221. ISSN 22128271., Registrované v: SCOPUS
82. [1] BRAZINA, Jakub - VETISKA, Jan - STANEK, Vaclav - BRADAC, Frantisek - HOLUB, Michal. Virtual commissioning as part of the educational process. In *Proceedings of the 2020 19th International Conference on Mechatronics Mechatronika, ME 2020*, 2020-12-02, pp., Registrované v: SCOPUS
83. [1] LEE, Seung Jun - KIM, Woojin - LEE, Yang Koo - YOON, Dae Sub - LEE, Jun Wook. Remote Two-wheel Robot control using OPC-UA. In *International Conference on ICT Convergence*, 2020-10-21, 2020-October, pp. 1842-1844. ISSN 21621233., Registrované v: SCOPUS
84. [1] PAN, Yue - ZHANG, Limao. A BIM-data mining integrated digital twin framework for advanced project management. In *Automation in Construction*, 2021-04-01, 124, pp. ISSN 09265805., Registrované v: SCOPUS, WOS
85. [1] PANG, Toh Yen - PELAEZ RESTREPO, Juan D. - CHENG, Chi Tsun - YASIN, Alim - LIM, Hailey - MILETIC, Miro. Developing a digital twin and digital thread framework for an ‘industry 4.0’ shipyard. In *Applied Sciences (Switzerland)*, 2021-02-01, 11, 3, pp. 1-23., Registrované v: SCOPUS
86. [1] LIN, W. D. - LOW, M. Y.H. Concept design of a system architecture for a manufacturing cyber-physical digital twin system. In *IEEE International Conference on Industrial Engineering and Engineering Management*, 2020-12-14, 2020-December, pp. 1320-1324. ISSN 21573611., Registrované v: SCOPUS
87. [1] HE, Bin - BAI, Kai Jian. Digital twin-based sustainable intelligent manufacturing: a review. In *Advances in Manufacturing*, 2021-03-01, 9, 1, pp. ISSN 20953127., Registrované v: SCOPUS
88. [1] CHEN, Shazhou - MENG, Wei - XU, Weiyuan - LIU, Zhuoqiang - LIU, Jiachuang - WU, Fengyan. A Warehouse Management System with UAV Based on Digital Twin and 5G Technologies. In *2020 7th International Conference on Information, Cybernetics, and Computational Social Systems, ICCSS 2020*, 2020-11-13, pp. 864-869., Registrované v: SCOPUS

89. [1] BAMUNUARACHCHI, Dinithi - BANERJEE, Abhik - JAYARAMAN, Prem Prakash - GEORGAKOPOULOS, Dimitrios. Cyber twins supporting industry 4.0 application development. In ACM International Conference Proceeding Series, 2020-11-30, pp. 64-73., Registrované v: SCOPUS
90. [1] TAO, Fei - ZHANG, He - QI, Qinglin - XU, Jun - SUN, Zheng - HU, Tianliang - LIU, Xiaojun - LIU, Tingyu - GUAN, Juntao - CHEN, Changyu - MENG, Fanwei - ZHANG, Chenyuan - LI, Zhiyuan - WEI, Yongli - ZHU, Minghao - XIAO, Bin. Theory of digital twin modeling and its application. In Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS, 2021-01-01, 27, 1, pp. 1-15. ISSN 10065911., Registrované v: SCOPUS
91. [1] KANG, Ji Soo - CHUNG, Kyungyong - HONG, Ellen J. Multimedia knowledge-based bridge health monitoring using digital twin. In Multimedia Tools and Applications, 2021-01-01, pp. ISSN 13807501., Registrované v: SCOPUS
92. [1] RATHORE, M. Mazhar - SHAH, Syed Attique - SHUKLA, Dharendra - BENTAFAT, Elmahdi - BAKIRAS, Spiridon. The Role of AI, Machine Learning, and Big Data in Digital Twinning: A Systematic Literature Review, Challenges, and Opportunities. In IEEE ACCESS, 2021, vol. 9, no., pp. 32030-32052. ISSN 2169-3536., Registrované v: WOS
93. [1] KONG, Leo Chi Wai - HARPER, Sam - MITCHELL, Daniel - BLANCHE, Jamie - LIM, Theodore - FLYNN, David. Interactive Digital Twins Framework for Asset Management through Internet. In 2020 IEEE Global Conference on Artificial Intelligence and Internet of Things, GCAIoT 2020, 2020-12-12, pp., Registrované v: SCOPUS
94. [1] REN, Yuzheng - XIE, Renchao - YU, F. Richard - HUANG, Tao - LIU, Yunjie. Potential Identity Resolution Systems for the Industrial Internet of Things: A Survey. In IEEE Communications Surveys and Tutorials, 2021-01-01, 23, 1, pp. 391-430., Registrované v: SCOPUS
95. [1] YILDIZ, Emre - MOLLER, Charles - BILBERG, Arne. Demonstration and evaluation of a digital twin-based virtual factory. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2021, vol. 114, no. 1-2, pp. 185-203. ISSN 0268-3768., Registrované v: WOS, SCOPUS
96. [1] ESCRICHE LNG, Sergio - ROYO, Lucía - RUPEREZ LNG, Adrián - CUCALÓN LNG, Guillermo - MARTINEZ, Aitor - BACAICOA, Luis - RODRIGUEZ, Francisco - LOPEZ, Blanca. A Digital Twin Based Approach for Simulation and Emulation of an Automotive Paint Workshop. In SAE Technical Papers, 2021-04-06, 2021, pp., Registrované v: SCOPUS
97. [1] SEPASGOZAR, Samad M.E. Differentiating digital twin from digital shadow: Elucidating a paradigm shift to expedite a smart, sustainable built environment. In Buildings, 2021-04-01, 11, 4, pp., Registrované v: SCOPUS
98. [1] CHOI, SangSu - WOO, Jungyub - PARK, Yangho - SONG, Inho. User-Friendly Method of Digital Twin Application based on Cloud Platform for Smart

- Manufacturing. In TRANSACTIONS OF THE KOREAN SOCIETY OF MECHANICAL ENGINEERS A, 2021, vol. 45, no. 2, pp. 175-184. ISSN 1226-4873., Registrované v: WOS, SCOPUS
99. [1] KRUGER, K. - REDELINGHUY, A. J.H. - BASSON, A. H. - CARDIN, O. Past and Future Perspectives on Digital Twin Research at SOHOMA. In Studies in Computational Intelligence, 2021-01-01, 952, pp. 81-98. ISSN 1860949X., Registrované v: SCOPUS
100. [1] SEMERARO, Concetta - LEZOCHÉ, Mario - PANETTO, Hervé - DASSISTI, Michele. Digital twin paradigm: A systematic literature review. In Computers in Industry, 2021-09-01, 130, pp. ISSN 01663615., Registrované v: SCOPUS
101. [1] CAÑAS, Héctor - MULA, Josefa - DÍAZ-MADROÑERO, Manuel - CAMPUZANO-BOLARÍN, Francisco. Implementing Industry 4.0 principles. In Computers and Industrial Engineering, 2021-08-01, 158, pp. ISSN 03608352., Registrované v: SCOPUS
102. [1] MARTÍNEZ-GUTIÉRREZ, Alberto - DÍEZ-GONZÁLEZ, Javier - FERRERO-GUILLÉN, Rubén - VERDE, Paula - ÁLVAREZ, Rubén - PEREZ, Hilde. Digital twin for automatic transportation in industry 4.0. In Sensors, 2021-05-02, 21, 10, pp. ISSN 14248220., Registrované v: SCOPUS
103. [1] LI, Yan Rui - YANG, Chun Jie - ZHANG, Han Wen - LI, Jun Fang. Discussion on Key Technologies of Digital Twin in Process Industry. In Zidonghua Xuebao/Acta Automatica Sinica, 2021-03-01, 47, 3, pp. 501-514. ISSN 02544156., Registrované v: SCOPUS
104. [1] KOVALEVSKY, Vladislav - ONUFRIEV, Vadim - DYBOV, Anton. Hierarchical Multi-agent System for Production Control Using KPI Reconciliation. In Smart Innovation, Systems and Technologies, 2021-01-01, 220, pp. 231-243. ISSN 21903018., Registrované v: SCOPUS
105. [1] MONDAL, Sonali - SUHAS, Suraj - TUMULURU, Vamsi Krishna. Energy efficient warehouse management A greedy optimization approach. In 2020 IEEE Computing, Communications and IoT Applications, ComComAp 2020, 2020-12-20, pp., Registrované v: SCOPUS
106. [1] SHEVTSHENKO, Eduard - MAHMOOD, Kashif - KARAULOVA, Tatyana - RAJI, Ibrahim Oluwole. Multitier digital twin approach for agile supply chain management. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2020-01-01, 2B-2020, pp., Registrované v: SCOPUS
107. [1] JUAREZ, Maria G. - BOTTI, Vicente J. - GIRET, Adriana S. Digital Twins: Review and Challenges. In JOURNAL OF COMPUTING AND INFORMATION SCIENCE IN ENGINEERING, 2021, vol. 21, no. 3, pp. ISSN 1530-9827., Registrované v: WOS, SCOPUS
108. [1] SINGH, Maulshree - FUENMAYOR, Evert - HINCHY, Eoin P. -

- QIAO, Yuansong - MURRAY, Niall - DEVINE, Declan. Digital twin: Origin to future. In *Applied System Innovation*, 2021-01-01, 4, 2, pp., Registrované v: SCOPUS 109. [1] MA, Xin - CHENG, Jiangfeng - QI, Qinglin - TAO, Fei. Artificial intelligence enhanced interaction in digital twin shop-floor. In *Procedia CIRP*, 2021-01-01, 100, pp. 858-863. ISSN 22128271., Registrované v: SCOPUS 110. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Virtual Prototyping a Production Line Using Assume-Guarantee Contracts. In *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS*, 2021, vol. 17, no. 9, pp. 6294-6302. ISSN 1551-3203., Registrované v: WOS, SCOPUS 111. [1] BAI, Luchang - ZHANG, Youtong - WEI, Hongqian - DONG, Junbo - TIAN, Wei. Digital Twin Modeling of a Solar Car Based on the Hybrid Model Method with Data-Driven and Mechanistic. In *APPLIED SCIENCES-BASEL*, 2021, vol. 11, no. 14, pp., Registrované v: WOS, SCOPUS 112. [1] KUNTOGLU, Mustafa - SALUR, Emin - GUPTA, Munish Kumar - SARIKAYA, Murat - PIMENOV, Danil Yu. A state-of-the-art review on sensors and signal processing systems in mechanical machining processes. In *INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY*, 2021, vol., no., pp. ISSN 0268-3768., Registrované v: WOS, SCOPUS 113. [1] GROSHEV, Milan - GUIMARAES, Carlos - DE LA OLIVA, Antonio - GAZDA, Robert. Dissecting the Impact of Information and Communication Technologies on Digital Twins as a Service. In *IEEE ACCESS*, 2021, vol. 9, no., pp. 102862-102876. ISSN 2169-3536., Registrované v: WOS, SCOPUS 114. [1] RANTALA, Tero - SAUNILA, Minna - UKKO, Juhani - MIKKOLA, Aki - KORTELAINEN, Juha - ZEB, Akhtar. Managing digital-twin lifecycle-recognition and handling of business risks. In *Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value*, 2021-05-31, pp. 213-223., Registrované v: SCOPUS 115. [1] UKKO, Juhani - RANTALA, Tero - NASIRI, Mina - SAUNILA, Minna. Sustainable competitive advantage through the implementation of a digital twin. In *Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value*, 2021-05-31, pp. 196-212., Registrované v: SCOPUS 116. [1] WACHE, Hendrik - DINTER, Barbara. The digital twin Birth of an integrated system in the digital age. In *Proceedings of the Annual Hawaii International Conference on System Sciences*, 2020-01-01, 2020-January, pp. 5452-5461. ISSN 15301605., Registrované v: SCOPUS 117. [1] SIVARETHINAMOHAN, R. - SUJATHA, S. Reimagining the Digital Twin: Powerful Use Cases for Industry 4.0. In *Lecture Notes in Mechanical Engineering*, 2021-01-01, pp. 175-182. ISSN 21954356., Registrované v: SCOPUS 118. [1] MALAGA, Miroslav - ULRYCH, Zdenek. Physical modelling of the Industry 4.0 concept. In *EDUCATION EXCELLENCE AND INNOVATION*

- MANAGEMENT: A 2025 VISION TO SUSTAIN ECONOMIC DEVELOPMENT DURING GLOBAL CHALLENGES, 2020, vol., no., pp. 17540-17549., Registrované v: WOS
119. [1] ZHANG, Chenyuan - TAO, Fei. Evaluation index system for digital twin model. In *Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS*, 2021-08-01, 27, 8, pp. 2171-2186. ISSN 10065911., Registrované v: SCOPUS
120. [1] FERRO, Rodrigo - CORDEIRO, Gabrielly A. - ORDÓÑEZ, Robert E.C. - BEYDOUN, Ghassan - SHUKLA, Nagesh. An optimization tool for production planning: A case study in a textile industry. In *Applied Sciences (Switzerland)*, 2021-09-01, 11, 18, pp., Registrované v: SCOPUS
121. [1] AWAD, Mohammed A. - ABD-ELAZIZ, Hend M. A new perspective for solving manufacturing scheduling based problems respecting new data considerations. In *Processes*, 2021-10-01, 9, 10, pp., Registrované v: SCOPUS
122. [1] HICKIE, Desmond - HICKIE, James. The impact of Industry 4.0 on supply chains and regions: innovation in the aerospace and automotive industries. In *EUROPEAN PLANNING STUDIES*, 2021, vol. 29, no. 9, pp. 1606-1621. ISSN 0965-4313., Registrované v: WOS, SCOPUS
123. [1] ØIEN, Christian Dalheim - DAHL, Håkon - DRANSFELD, Sebastian. A Digital Twin Implementation for Manufacturing Based on Open-Source Software and Standard Control Systems. In *IFIP Advances in Information and Communication Technology*, 2021-01-01, 633 IFIP, pp. 284-291. ISSN 18684238., Registrované v: SCOPUS
124. [1] GREIS, Noel P. - NOGUEIRA, Monica L. - ROHDE, Wolfgang. Digital Twin Framework for Machine Learning-Enabled Integrated Production and Logistics Processes. In *IFIP Advances in Information and Communication Technology*, 2021-01-01, 630 IFIP, pp. 218-227. ISSN 18684238., Registrované v: SCOPUS
125. [1] DE ANDRADE, Matheus Antonio Nogueira - LEPIKSON, Herman Augusto - TOSTA MACHADO, Carlos Alberto. A new framework and methodology for digital twin development. In *2021 14th IEEE International Conference on Industry Applications, INDUSCON 2021 Proceedings*, 2021-08-15, pp. 134-138., Registrované v: SCOPUS
126. [1] SERRANO-RUIZ, Julio C. - MULA, Josefa - POLER, Raúl. Smart manufacturing scheduling: A literature review. In *Journal of Manufacturing Systems*, 2021-10-01, 61, pp. 265-287. ISSN 02786125., Registrované v: SCOPUS
127. [1] WARKE, Vivek - KUMAR, Satish - BONGALE, Arunkumar - KOTECHA, Ketan. Sustainable Development of Smart Manufacturing Driven by the Digital Twin Framework: A Statistical Analysis. In *SUSTAINABILITY*, 2021, vol. 13, no. 18, pp., Registrované v: WOS, SCOPUS

- AFD04 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - SLOVÁK, Juraj. Numerical acceleration of data processing using MATLAB for the needs of expert systems. In *2018 Cybernetics & Informatics (K&I) [elektronický zdroj] : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018*. 1. vyd. Bratislava : Slovak Chemical Library, 2018, S. [5], USB kľúč. ISBN 978-1-5386-4420-1. V databáze: SCOPUS: 2-s2.0-85050880612 ; WOS. Ohlasy:
- [2] IVAN, Fit'ka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
 - [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS
- AFD05 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - ŠIŠMIŠOVÁ, Dana - VOLENSKÝ, Tomáš. Quality comparison between hybrid regularized exponential forgetting algorithm with alternative covariance matrix and selected standard long-run on-line identification methods of industrial systems. In *Aplimat 2018 [elektronický zdroj] : proceedings of the 17th conference on Applied mathematics. Bratislava, 6.-8.2. 2018*. 1. vyd. Bratislava : Spektrum STU, 2018, S. 1036-1046, CD ROM. ISBN 978-80-227-4765-3. V databáze: SCOPUS: 2-s2.0-85048750876.
- Ohlasy:
- [2] IVAN, Fit'ka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
 - [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

ACB	Vysokoškolské učebnice vydané v domácich vydavateľstvách	2
ADC	Vedecké práce v zahraničných karentovaných časopisoch	4
ADE	Vedecké práce v ostatných zahraničných časopisoch	3
ADF	Vedecké práce v ostatných domácich časopisoch	1
ADM	Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS	1
AFD	Publikované príspevky na domácich vedeckých konferenciách	5
Súčet		16

Štatistika: kategória ohlasov

1	Citácie v zahraničných publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	154
2	Citácie v domácich publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	12
Súčet		166

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

III. Ohlasy na publikačnú alebo umeleckú aktivitu

Ohlasy registrované vo WoS alebo SCOPUS za posledných 5 rokov



**SLOVENSKÁ TECHNICKÁ
UNIVERZITA V BRATISLAVE**

Zoznam ohlasov registrovaných vo WoS alebo SCOPUS za posledných 5 rokov. Zoznam je vyhotovený na základe výpisu z univerzitného knižničného systému ARL, EPCA. Výstupy sú podľa ISO 690 s ohlasmi:

Požadované: 10

Plnené: 140

ADC Vedecké práce v zahraničných karentovaných časopisoch

ADC01 ROVNÝ, Oliver - BATISTA, Gabriel - TAKÁCS, Gergely - VACHÁLEK, Ján - BLAŽÍČEK, Peter. Automatic machining system for the refurbishment of degraded welds in piping systems. In *Advances in Mechanical Engineering*. Vol. 9, iss. 11 (2017), s.37989-37989. ISSN 1687-8140 (2017: 0.848 - IF, Q4 - JCR Best Q, 0.272 - SJR, Q3 - SJR Best Q). V databáze: CC: 000415937700001 ; WOS.

Ohlasy:

1. [1] WANG, Chia-Nan - CHANG, Kuei-Hu. Practical problem solving in manufacturing technologies. In *ADVANCES IN MECHANICAL ENGINEERING*, 2018, vol. 10, no. 10, pp. ISSN 1687-8140., Registrované v: WOS
2. [1] GUO, Wanjin - ZHU, Yaguang - HE, Xu. A Robotic Grinding Motion Planning Methodology for a Novel Automatic Seam Bead Grinding Robot Manipulator. In *IEEE ACCESS*, 2020, vol. 8, no., pp. 75288-75302. ISSN 2169-3536., Registrované v: WOS
3. [1] ZHU, Yaguang - HE, Xu - LIU, Qiong - GUO, Wanjin. Semiclosed-loop motion control with robust weld bead tracking for a spiral seam weld beads grinding robot. In *Robotics and Computer-Integrated Manufacturing*, 2022-02-01, 73, pp. ISSN 07365845., Registrované v: SCOPUS

ADC02 SLOVÁK, Juraj - MELICHER, Markus - ŠIMOVEC, Matej - VACHÁLEK, Ján. Vision and RTLS safety implementation in an experimental human-robot collaboration scenario. In *Sensors*. Vol. 21, iss. 7 (2021), s. 2419. ISSN 1424-8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000638856200001 ; WOS: 000638856200001 ; SCOPUS: 2-s2.0-85103327525.

Ohlasy:

1. [1] EYAM, Aitor Toichoa - MOHAMMED, Wael M. - MARTINEZ LASTRA, Jose L. Emotion-driven analysis and control of human-robot interactions in collaborative applications. In *Sensors*, 2021-07-02, 21, 14, pp. ISSN 14248220., Registrované v: SCOPUS

ADC03 VACHÁLEK, Ján - ŠIŠMIŠOVÁ, Dana - VAŠEK, Pavol - RYBÁŘ, Jan - SLOVÁK, Juraj - ŠIMOVEC, Matej. Intelligent dynamic identification technique of industrial products in a robotic workplace. In *Sensors*. Vol. 21, iss. 5 (2021), s. 1797. ISSN 1424-

8220 (2020: 3.576 - IF, Q1 - JCR Best Q, 0.636 - SJR, Q2 - SJR Best Q). V databáze: CC: 000628542400001 ; WOS: 000628542400001 ; SCOPUS: 2-s2.0-85101964444.

Ohlasy:

1. [1] PETER, Angela Paul - CHEW, Kit Wayne - KOYANDE, Apurav Krishna - YUK-HENG, Sia - TING, Huong Yong - RAJENDRAN, Saravanan - MUNAWAROH, Heli Siti Halimatul - YOO, Chang Kyoo - SHOW, Pau Loke. Cultivation of *Chlorella vulgaris* on dairy waste using vision imaging for biomass growth monitoring. In *Bioresource Technology*, 2021-12-01, 341, pp. ISSN 09608524., Registrované v: SCOPUS

ADM Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS

ADM01 TAKÁCS, Gergely - OTČENÁŠ, Jakub - VACHÁLEK, Ján - ROHAL'ILKIV, Boris. Modal response-based technical countersurveillance measure against laser microphones. In *Journal of Vibroengineering*. Vol. 18, iss. 5 (2016), s. 3369-3382. ISSN 1392-8716 (2016: 0.398 - IF, Q4 - JCR Best Q, 0.227 - SJR, Q3 - SJR Best Q). V databáze: WOS.

Ohlasy:

1. [1] LEE, S. Y. - ET AL. Study the Effect of Commonly Used Video Compression Techniques on Sound Recovery via Negligible Object Vibrations for Visual Surveillance System. In *Proceedings of the 2nd International Conference on Advances in Image Processing : Chengdu, China — June 16 - 18, 2018*. New York : ACM, 2018, S. 111-115. ISBN 978-1-4503-6460-7.

2. [1] LEE, S. Y. - YAP, W. S. - HUM, Y. C. - GOI, B. M. - TEE, Y. K. Investigate the Impact of Colour to Grayscale Conversion on Sound Recovery via Visual Microphone. In *2018 2nd International Conference on Imaging, Signal Processing and Communication, ICISPC 2018*, 2018-07-01, pp. 138-142., Registrované v: SCOPUS

3. [1] CHOONG, Ren Jun - YAP, Wun She - CHAI HUM, Yan - KAI TEE, Yee. Improving the quality of sound recovered using the visual microphone with frame-wise image denoising preprocessing. In *Journal of Physics: Conference Series*, 2020-09-03, 1627, 1, pp. ISSN 17426588., Registrované v: SCOPUS

4. [1] HOREV, Anatolij - SAVIN, Andrey. Efficiency Research of Sun Protection Window Films for Speech Information Protection from LEAKAGE by Optoelectronic Channel. In *Proceedings of the 2021 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering, ElConRus 2021*, 2021-01-26, pp. 2335-2339., Registrované v: SCOPUS

AFD Publikované príspevky na domácich vedeckých konferenciách

AFD01 VACHÁLEK, Ján - LOKŠÍK, Milan - MORHÁČ, Martin - BARTALSKÝ, Lukáš - ROVNÝ, Oliver - ŠIŠMIŠOVÁ, Dana. The digital twin of an industrial production line within the Industry 4.0 concept. In *21st International Conference on Process Control (PC)*

2017 [elektronický zdroj] : June, 6-9, 2017, Štrbské Pleso, Slovakia. 1. vyd. [s.l.] : IEEE, 2017, S. 258-262, USB kľúč. ISBN 978-1-5386-4010-4. V databáze: SCOPUS ; WOS.

Ohlasy:

1. [1] PALENČÁR, Jakub - KUBIS, Milan. Modeling and synthesis of control the process of casting. In 17th Conference on Applied Mathematics, APLIMAT 2018 Proceedings, 2018-01-01, 2018-February, pp. 803-812., Registrované v: SCOPUS
2. [1] LANDOLFI, Giuseppe - BARNI, Andrea - MENATO, Silvia - CAVADINI, Franco Antonio - ROVERE, Diego - DAL MASO, Giovanni. Design of a multi-sided platform supporting CPS deployment in the automation market. In Proceedings 2018 IEEE Industrial Cyber-Physical Systems, ICPS 2018, 2018-06-15, pp. 684-689., Registrované v: SCOPUS
3. [1] MABKHOT, Mohammed M. - AL-AHMARI, Abdulrahman M. - SALAH, Bashir - ALKHALEFAH, Hisham. Requirements of the Smart Factory System: A Survey and Perspective. In MACHINES, 2018, vol. 6, no. 2, pp. ISSN 2075-1702., Registrované v: WOS
4. [1] TAO, Fei - SUI, Fangyuan - LIU, Ang - QI, Qinglin - ZHANG, Meng - SONG, Boyang - GUO, Zirong - LU, Stephen C.Y. - NEE, A. Y.C. Digital twin-driven product design framework. In International Journal of Production Research, 2018-02-24, pp. 1-19. ISSN 00207543., Registrované v: SCOPUS, WOS
5. [1] BECUE, Adrien - FOURASTIER, Yannick - PRACA, Isabel - SAVARIT, Alexandre - BARON, Claude - GRADUSSOFS, Baptiste - POUILLE, Etienne - THOMAS, Carsten. CyberFactory#1 Securing the industry 4.0 with cyber-ranges and digital twins. In IEEE International Workshop on Factory Communication Systems Proceedings, WFCS, 2018-07-03, 2018-June, pp. 1-4., Registrované v: SCOPUS
6. [1] HOFMANN, Wladimir - ET AL. Simulation and Virtual Commissioning of Modules for a Plug-and-Play Conveying System. In INCOM 2018 : 16th IFAC Symposium on Information Control Problems in ManufacturingAt: Bergamo, Italy, 11.-13.6. 2018, 2018, S. 1-6., Registrované v: WOS
7. [1] ECKHART, Matthias - EKELHART, Andreas. Towards Security-Aware Virtual Environments for Digital Twins. In Proceeding CPSS '18 : 4th ACM Workshop on Cyber-Physical System Security, Incheon, Republic of Korea — June 04 - 04, 2018. New York : ACM, 2018, S. 61-72. ISBN 978-1-4503-5755-5., Registrované v: WOS
8. [1] KRITZINGER, Werner - KARNER, Matthias - TRAAR, Georg - HENJES, Jan - SIHN, Wilfried. Digital Twin in manufacturing: A categorical literature review and classification. In IFAC-PapersOnLine, 2018-01-01, 51, 11, pp. 1016-1022., Registrované v: SCOPUS
9. [1] QI, Qinglin - ZHAO, Dongming - LIAO, T. Warren - TAO, Fei. Modeling of cyber-physical systems and digital twin based on edge computing, fog computing and cloud computing towards smart manufacturing. In ASME 2018 13th International Manufacturing Science and Engineering Conference, MSEC 2018, 2018-01-01, 1, pp., Registrované v: SCOPUS, WOS

10. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In *Enterprise Information Systems*, 2018-01-01, pp. ISSN 17517575., Registrované v: SCOPUS
11. [1] NIKOLAKIS, Nikolaos - ALEXOPOULOS, Kosmas - XANTHAKIS, Evangelos - CHRYSSOLOURIS, George. The digital twin implementation for linking the virtual representation of human-based production tasks to their physical counterpart in the factory-floor. In *International Journal of Computer Integrated Manufacturing*, 2018-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
12. [1] NEJC, Ilc - LOTRIČ, Uroš. FTsim: A 3D Tool for Teaching Automation Concepts. In *13th APCA International Conference on Automatic Control and Soft Computing, CONTROLO 2018, Azores, Portugal, June 4-6, 2018*. 1. vyd. IEEE : [s.l.], 2018, S. 31-36. ISBN 978-989-20-8523-4., Registrované v: WOS
13. [1] MALIK, Ali Ahmad - BILBERGB, Arne. Digital twins of human robot collaboration in a production setting. In *Procedia Manufacturing*. Vol. 17, (2018), s. 278-285. ISSN 2351-9789., Registrované v: WOS
14. [1] ILC, Nejc - LOTRI, Uroš. Implementation of a training-model simulator with free tools. In *Elektrotehniski Vestnik/Electrotechnical Review*, 2018-01-01, 85, 4, pp. 177-184. ISSN 00135852., Registrované v: SCOPUS, WOS
15. [1] LIU, Datong - GUO, Kai - WANG, Benkuan - PENG, Yu. Summary and perspective survey on digital twin technology. In *Yi Qi Yi Biao Xue Bao/Chinese Journal of Scientific Instrument*, 2018-11-01, 39, 11, pp. 1-10. ISSN 02543087., Registrované v: SCOPUS
16. [1] DURÃO, Luiz Fernando C.S. - HAAG, Sebastian - ANDERL, Reiner - SCHÜTZER, Klaus - ZANCUL, Eduardo. Digital twin requirements in the context of industry 4.0. In *IFIP Advances in Information and Communication Technology*, 2018-01-01, 540, pp. 204-214. ISSN 18684238., Registrované v: SCOPUS
17. [1] CENTOMO, S. - PANATO, M. - FUMMI, F. Cyber-physical systems integration in a production line simulator. In *26th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC), 2018*, S. ISBN 978-1-5386-4756-1., Registrované v: WOS
18. [1] TAO, Fei - ZHANG, He - LIU, Ang - NEE, A. Y.C. Digital Twin in Industry: State-of-the-Art. In *IEEE Transactions on Industrial Informatics*, 2019-04-01, 15, 4, pp. 2405-2415. ISSN 15513203., Registrované v: SCOPUS
19. [1] NGO, Diane - GUERRA-ZUBIAGA, David A. - GONZÁLEZ-BADILLO, Germánico - VATANKHAH BARENJI, Reza. Towards a digital twin for cloud manufacturing-case study. In *ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2018-01-01*, 2, pp., Registrované v: SCOPUS, WOS
20. [1] HUANG, B. B. - ZHANG, Y. F. - ZHANG, G. - REN, S. A framework for digital twin driven product recycle, disassembly and reassembly. In *Proceedings of International Conference on Computers and Industrial Engineering, CIE, 2018-01-01*,

- 2018-December, pp., Registrované v: SCOPUS
21. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo - CORREIA, Luiz H.A. - SILVA, Jorge Sá. Industry 4.0 retrofitting. In Brazilian Symposium on Computing System Engineering, SBESC, 2019-04-15, 2018-November, pp. 8-15. ISSN 23247886., Registrované v: SCOPUS, WOS
22. [1] MAKAROVA, Irina - SHUBENKOVA, Ksenia - MAVRIN, Vadim - GORYAEV, Nikolay. Development of the Integrated Information Environment to Connect Manufacturer and Its Dealer and Service Network. In 2018 IEEE International Conference on Technology Management, Operations and Decisions, ICTMOD 2018, 2019-04-12, pp. 268-273., Registrované v: SCOPUS, WOS
23. [1] MONTEIRO, Paula - CARVALHO, Marcia - MORAIS, Francisco - MELO, Monica - MACHADO, Ricardo J. - PEREIRA, Fernando. Adoption of Architecture Reference Models for Industrial Information Management Systems. In 9th International Conference on Intelligent Systems 2018: Theory, Research and Innovation in Applications, IS 2018 Proceedings, 2019-05-08, pp. 763-770., Registrované v: SCOPUS, WOS
24. [1] DATTA, Soumya Kanti - BONNET, Christian. MEC and IoT Based Automatic Agent Reconfiguration in Industry 4.0. In International Symposium on Advanced Networks and Telecommunication Systems, ANTS, 2019-05-08, 2018-December, pp. ISSN 21531684., Registrované v: SCOPUS, WOS
25. [1] CENTOMO, Stefano - FRACCAROLI, Enrico - PANATO, Marco. From Multi-Level to Abstract-Based Simulation of a Production Line. In Proceedings of the 2019 Design, Automation and Test in Europe Conference and Exhibition, DATE 2019, 2019-05-14, pp. 1253-1256., Registrované v: SCOPUS, WOS
26. [1] CORDEIRO, Gabrielly Araujo - COOPER ORDONEZ, Robert Eduardo - FERRO, Rodrigo. THEORETICAL PROPOSAL OF STEPS FOR THE IMPLEMENTATION OF THE INDUSTRY 4.0 CONCEPT. In BRAZILIAN JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT, 2019, vol. 16, no. 2, pp. 166-179. ISSN 2237-8960., Registrované v: WOS, SCOPUS
27. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. A Digital Twin-Based Multi-modal UI Adaptation Framework for Assistance Systems in Industry 4.0. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2019-01-01, 11568 LNCS, pp. 398-409. ISSN 03029743., Registrované v: SCOPUS, WOS
28. [1] TAO, Fei - QI, Qinglin - WANG, Lihui - NEE, A. Y.C. Digital Twins and Cyber-Physical Systems toward Smart Manufacturing and Industry 4.0: Correlation and Comparison. In Engineering, 2019-08-01, 5, 4, pp. 653-661. ISSN 20958099., Registrované v: SCOPUS, WOS
29. [1] ROLLE, Rodrigo Pita - ET AL. Digitalization of Manufacturing Processes: Proposal and Experimental Results. IEEE 2019. Dostupné na internete: <<https://ieeexplore.ieee.org/abstract/document/8792838/references#references>>. V

- databáze: DOI: DOI: 10.1109/METROI4.2019.8792838., Registrované v: SCOPUS
30. [1] BAO, Jinsong - GUO, Dongsheng - LI, Jie - ZHANG, Jie. The modelling and operations for the digital twin in the context of manufacturing. In ENTERPRISE INFORMATION SYSTEMS, 2019, vol. 13, no. 4, pp. 534-556. ISSN 1751-7575., Registrované v: WOS
31. [1] WANG, Junfeng - HUANG, Yaqin - CHANG, Qing - LI, Shiqi. Event-driven online machine state decision for energy-efficient manufacturing system based on digital twin using Max-plus Algebra. In Sustainability (Switzerland), 2019-09-01, 11, 18, pp., Registrované v: SCOPUS, WOS
32. [1] JOSIFOVSKA, Klementina - YIGITBAS, Enes - ENGELS, Gregor. Reference Framework for Digital Twins within Cyber-Physical Systems. In Proceedings 2019 IEEE/ACM 5th International Workshop on Software Engineering for Smart Cyber-Physical Systems, SEsCPS 2019, 2019-05-01, pp. 25-31., Registrované v: SCOPUS
33. [1] CIMINO, Chiara - NEGRI, Elisa - FUMAGALLI, Luca. Review of digital twin applications in manufacturing. In Computers in Industry, 2019-12-01, 113, pp. ISSN 01663615., Registrované v: SCOPUS
34. [1] ASHA, K. - KARIYAPPA, B.S. - KULAKARNI, Vishal. Digital twin ranorex test automation of SIPROTEC 5 protection devices. In Proceedings of the third international conference on Electronics Communication and Aerospace Technology. ICECA 2019. 1. vyd : IEEE, 2019, S. 955-958. ISBN 978-1-7281-0167-5., Registrované v: SCOPUS
35. [1] SPELLINI, Stefano - CHIRICO, Roberta - LORA, Michele - FUMMI, Franco. Languages and formalisms to enable eda techniques in the context of industry 4.0. In Proceedings of the 2019 Forum on Specification and Design Languages, FDL 2019, 2019-09-01, pp., Registrované v: SCOPUS
36. [1] DALL'ORA, Nicola - CENTOMO, Stefano - FUMMI, Franco. Industrial-IoT Data Analysis Exploiting Electronic Design Automation Techniques. In Proceedings 2019 8th International Workshop on Advances in Sensors and Interfaces, IWASI 2019, 2019-06-01, pp. 103-109., Registrované v: SCOPUS
37. [1] BALAKRISHNAN, Ponnuraman - RAMESH BABU, Kalivaradhan - NAIJU, Chooriyaparambil Damodaran - MADIAJAGAN, Muthaiyan. Design and Implementation of Digital Twin for Predicting Failures in Automobiles Using Machine Learning Algorithms. In SAE Technical Papers, 2019-10-11, october, pp., Registrované v: SCOPUS
38. [1] PARK, Kyu Tae - LEE, Jehun - KIM, Hyun Jung - NOH, Sang Do. Digital twin-based cyber physical production system architectural framework for personalized production. In International Journal of Advanced Manufacturing Technology, 2019-01-01, pp. ISSN 02683768., Registrované v: SCOPUS, WOS
39. [1] QI, Qinglin - TAO, Fei - HU, Tianliang - ANWER, Nabil - LIU, Ang - WEI, Yongli - WANG, Lihui - NEE, A. Y.C. Enabling technologies and tools for digital

- twin. In *Journal of Manufacturing Systems*, 2019-01-01, pp. ISSN 02786125., Registrované v: SCOPUS, WOS
40. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - FOGLI, Daniela. A survey on digital twin: Definitions, characteristics, applications, and design implications. In *IEEE Access*, 2019-01-01, 7, pp., Registrované v: SCOPUS
41. [1] COHEN, Yuval - NASERALDIN, Hussein - CHAUDHURI, Atanu - PILATI, Francesco. Assembly systems in Industry 4.0 era: a road map to understand Assembly 4.0. In *INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY*, 2019, vol. 105, no. 9, pp. 4037-4054. ISSN 0268-3768., Registrované v: WOS
42. [1] LINS, Theo - OLIVEIRA, Ricardo Augusto Rabelo. Cyber-physical production systems retrofitting in context of industry 4.0. In *Computers and Industrial Engineering*, 2020-01-01, 139, pp. ISSN 03608352., Registrované v: SCOPUS
43. [1] YANG, Lin Yao - CHEN, Si Yuan - WANG, Xiao - ZHANG, Jun - WANG, Cheng Hong. Digital Twins and Parallel Systems: State of the Art, Comparisons and Prospect. In *Zidonghua Xuebao/Acta Automatica Sinica*, 2019-11-01, 45, 11, pp. 2001-2031. ISSN 02544156., Registrované v: SCOPUS, WOS
44. [1] ENDERS, Martin Robert - HOßBACH, Nadja. Dimensions of digital twin applications A literature review. In *25th Americas Conference on Information Systems, AMCIS 2019*, 2019-01-01, pp., Registrované v: SCOPUS
45. [1] REDELINGHUYIS, A. J.H. - BASSON, A. H. - KRUGER, K. A six-layer architecture for the digital twin: a manufacturing case study implementation. In *Journal of Intelligent Manufacturing*, 2019-01-01, pp. ISSN 09565515., Registrované v: SCOPUS, WOS
46. [1] VALENCIA, Estefania Tobon - LAMOURI, Samir - PELLERIN, Robert - DUBOIS, Patrice - MOEUF, Alexandre. Production Planning in the Fourth Industrial Revolution: A Literature Review. In *IFAC PAPERSONLINE*, 2019, vol. 52, no. 13, pp. 2158-2163. ISSN 2405-8963., Registrované v: WOS
47. [1] BARRICELLI, Barbara Rita - CASIRAGHI, Elena - GLIOZZO, Jessica - PETRINI, Alessandro - VALTOLINA, Stefano. Human Digital Twin for Fitness Management. In *IEEE Access*, 2020-01-01, 8, pp. 26637-26664., Registrované v: SCOPUS
48. [1] BURGHARDT, Andrzej - SZYBICKI, Dariusz - GIERLAK, Piotr - KURC, Krzysztof - PIETRUSÍ, Paulina - CYGAN, Rafał. Programming of industrial robots using virtual reality and digital twins. In *Applied Sciences (Switzerland)*, 2020-01-01, 10, 2, pp., Registrované v: SCOPUS, WOS
49. [1] LUO, Weichao - HU, Tianliang - YE, Yingxin - ZHANG, Chengrui - WEI, Yongli. A hybrid predictive maintenance approach for CNC machine tool driven by Digital Twin. In *Robotics and Computer-Integrated Manufacturing*, 2020-10-01, 65, pp. ISSN 07365845., Registrované v: SCOPUS
50. [1] ASSAWAARAYAKUL, Chaiwat - SRISAWAT, Wasin - AYUTHAYA,

- Smitti Darakorn Na - WATTANASIRICHAIGOON, Somkiat. Integrate Digital Twin to Exist Production System for Industry 4.0. In TIMES-iCON 2019 2019 4th Technology Innovation Management and Engineering Science International Conference, 2019-12-01, pp., Registrované v: SCOPUS
51. [1] ROLLE, R. - MARTUCCI, V - GODOY, E. Architecture for Digital Twin implementation focusing on Industry 4.0. In IEEE LATIN AMERICA TRANSACTIONS, 2020, vol. 18, no. 5, pp. 889-898. ISSN 1548-0992., Registrované v: WOS
52. [1] ROY, Rohan Basu - MISHRA, Debasish - PAL, Surjya K. - CHAKRAVARTY, Tapas - PANDA, Satanik - CHANDRA, M. Girish - PAL, Arpan - MISRA, Prateep - CHAKRAVARTY, Debashish - MISRA, Sudip. Digital twin: current scenario and a case study on a manufacturing process. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2020, vol. 107, no. 9-10, pp. 3691-3714. ISSN 0268-3768., Registrované v: WOS
53. [1] HE, Bin - BAI, Kai-Jian. Digital twin-based sustainable intelligent manufacturing: a review. In ADVANCES IN MANUFACTURING, 2020, vol., no., pp. ISSN 2095-3127., Registrované v: WOS
54. [1] RASHEED, Adil - SAN, Omer - KVAMSDAL, Trond. Digital Twin: Values, Challenges and Enablers From a Modeling Perspective. In IEEE ACCESS, 2020, vol. 8, no., pp. 21980-22012. ISSN 2169-3536., Registrované v: WOS
55. [1] NEGRI, Elisa - BERARDI, Stefano - FUMAGALLI, Luca - MACCHI, Marco. MES-integrated digital twin frameworks. In Journal of Manufacturing Systems, 2020-07-01, 56, pp. 58-71. ISSN 02786125., Registrované v: SCOPUS
56. [1] RAZA, Mohsin - KUMAR, Priyan Malarvizhi - HUNG, Dang Viet - DAVIS, William - NGUYEN, Huan - TRESTIAN, Ramona. A Digital Twin Framework for Industry 4.0 Enabling Next-Gen Manufacturing. In ICITM 2020 2020 9th International Conference on Industrial Technology and Management, 2020-02-01, pp. 73-77., Registrované v: SCOPUS
57. [1] PARK, Kyu Tae - YANG, Jinho - NOH, Sang Do. VREDI: virtual representation for a digital twin application in a work-center-level asset administration shell. In Journal of Intelligent Manufacturing, 2020-01-01, pp. ISSN 09565515., Registrované v: SCOPUS
58. [1] GE, Yidi - QIU, Jiangnan - LIU, Zhiyong - GU, Wenjing - XU, Liwei. Beyond negative and positive: Exploring the effects of emotions in social media during the stock market crash. In Information Processing and Management, 2020-01-01, pp. ISSN 03064573., Registrované v: SCOPUS
59. [1] PÉREZ, Luis - RODRÍGUEZ-JIMÉNEZ, Silvia - RODRÍGUEZ, Nuria - USAMENTIAGA, Rubén - GARCÍA, Daniel F. Digital twin and virtual reality based methodology for multi-robot manufacturing cell commissioning. In Applied Sciences (Switzerland), 2020-05-01, 10, 10, pp., Registrované v: SCOPUS, WOS
60. [1] GERICKE, G. A. - KURIAKOSE, R. B. - VERMAAK, H. J. - MARDSEN,

- Ole. Design of Digital Twins for Optimization of a Water Bottling Plant. In 45TH ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY (IECON 2019), 2019, vol., no., pp. 5204-5210. ISSN 1553-572X., Registrované v: WOS, SCOPUS
61. [1] GUERRA-ZUBIAGA, David A. - BONDAR, Alex - ESCOBEDO, Gilberto - SCHUMACHER, Arthur. Digital twin in a manufacturing integrated system: Siemens TIA and PLM case study. In ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE), 2019-01-01, 2B-2019, pp., Registrované v: SCOPUS
62. [1] SAKR, Ahmed H. - YACOUT, Soumaya - BASSETTO, Samuel. A discrete event simulation logic for semiconductor production planning and control within industry 4.0 paradigm. In Proceedings of the International Conference on Industrial Engineering and Operations Management, 2019-01-01, pp. 172-182., Registrované v: SCOPUS
63. [1] BAZAZ, Sara Moghadaszadeh - LOHTANDER, Mika - VARIS, Juha. 5-dimensional definition for a manufacturing digital twin. In Procedia Manufacturing, 2019-01-01, 38, pp. 1705-1712., Registrované v: SCOPUS
64. [1] STARK, Rainer - ET AL. WiGeP-Positionspapier: „Digitaler Zwilling“. In ZWF Zeitschrift für wirtschaftlichen Fabrikbetrieb. Vol. 115, iss. 4, special (2020), s. 47-50. ISSN 0947-0085., Registrované v: SCOPUS
65. [1] GREIF, Toni - STEIN, Nikolai - FLATH, Christoph M. Peeking into the void: Digital twins for construction site logistics. In Computers in Industry, 2020-10-01, 121, pp. ISSN 01663615., Registrované v: SCOPUS
66. [1] SANCHEZ, Manuel - EXPOSITO, Ernesto - AGUILAR, Jose. Industry 4.0: survey from a system integration perspective. In INTERNATIONAL JOURNAL OF COMPUTER INTEGRATED MANUFACTURING, 2020, vol., no., pp. ISSN 0951-192X., Registrované v: WOS
67. [1] BÉCUE, Adrien - MAIA, Eva - FEEKEN, Linda - BORCHERS, Philipp - PRAÇA, Isabel. A new concept of digital twin supporting optimization and resilience of factories of the future. In Applied Sciences (Switzerland), 2020-07-01, 10, 13, pp., Registrované v: SCOPUS
68. [1] AL-SEHRAWY, Ramy - KUMAR, Bimal. Digital Twins in Architecture, Engineering, Construction and Operations. A Brief Review and Analysis. In Lecture Notes in Civil Engineering, 2021-01-01, 98, pp. 924-939. ISSN 23662557., Registrované v: SCOPUS
69. [1] TVENGE, Nina - OGORODNYK, Olga - ØSTBØ, Niels Peter - MARTINSEN, Kristian. Added value of a virtual approach to simulation-based learning in a manufacturing learning factory. In Procedia CIRP, 2020-01-01, 88, pp. 36-41. ISSN 22128271., Registrované v: SCOPUS
70. [1] XING, Fei - PENG, Guochao (Alex) - ZHANG, Bingqian - ZUO, Simin - TANG, Jiangfeng - LI, Shuyang. Driving Innovation with the Application of Industrial

- AI in the R&D Domain. In Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2020-01-01, 12203 LNCS, pp. 244-255. ISSN 03029743., Registrované v: SCOPUS
71. [1] ENGELS, Gregor. Der digitale Fußabdruck, Schatten oder Zwilling von Maschinen und Menschen. In Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie, 2020-01-01, pp. ISSN 23666145., Registrované v: SCOPUS, WOS
72. [1] DOS SANTOS, Carlos Henrique - DE QUEIROZ, Jose Antonio - LEAL, Fabiano - BARRA MONTEVECHI, Jose Arnaldo. Use of simulation in the industry 4.0 context: Creation of a Digital Twin to optimise decision making on non-automated process. In JOURNAL OF SIMULATION, 2020, vol., no., pp. ISSN 1747-7778., Registrované v: WOS, SCOPUS
73. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Production Recipe Validation through Formalization and Digital Twin Generation. In Proceedings of the 2020 Design, Automation and Test in Europe Conference and Exhibition, DATE 2020, 2020-03-01, pp. 1698-1703., Registrované v: SCOPUS
74. [1] AN-BANG, Wang - WEN-BIN, Sun - GUO-LIN, Duan. Research on intelligent method of manufacturing and processing equipment based on digital twin and deep learning technology. In Chinese Journal of Engineering Design, 2019-12-01, 26, 6, pp. 666-674. ISSN 1006754X., Registrované v: SCOPUS
75. [1] SCHUH, Günther - GÜTZLAFF, Andreas - SAUERMAN, Frederick - MAIBAUM, Judith. Digital Shadows as an Enabler for the Internet of Production. In IFIP Advances in Information and Communication Technology, 2020-01-01, 591 IFIP, pp. 179-186. ISSN 18684238., Registrované v: SCOPUS
76. [1] ERRANDONEA, Itxaro - BELTRÁN, Sergio - ARRIZABALAGA, Saioa. Digital Twin for maintenance: A literature review. In Computers in Industry, 2020-12-01, 123, pp. ISSN 01663615., Registrované v: SCOPUS
77. [1] CAESAR, Birte - HÄNEL, Albrecht - WENKLER, Eric - CORINTH, Christian - IHLENFELDT, Steffen - FAY, Alexander. Information Model of a Digital Process Twin for Machining Processes. In IEEE International Conference on Emerging Technologies and Factory Automation, ETFA, 2020-09-01, 2020-September, pp. 1765-1772. ISSN 19460740., Registrované v: SCOPUS
78. [1] RYMASZEWSKI, Szymon - WATRÓBSKI, Jaroslaw - KARZMARCZYK, Artur. Identification of reference multi criteria domain model Production line optimization case study. In Procedia Computer Science, 2020-01-01, 176, pp. 3794-3801., Registrované v: SCOPUS
79. [1] SCHUH, Günther - KELZENBERG, Christoph - WIESE, Jan - KESSLER, Niklas. Creation of digital production twins for the optimization of value creation in single and small batch production. In Procedia CIRP, 2020-01-01, 93, pp. 222-227. ISSN 22128271., Registrované v: SCOPUS

80. [1] CIANO, Maria Pia - POZZI, Rossella - ROSSI, Tommaso - STROZZI, Fernanda. Digital twin-enabled smart industrial systems: a bibliometric review. In *International Journal of Computer Integrated Manufacturing*, 2020-01-01, pp. ISSN 0951192X., Registrované v: SCOPUS, WOS
81. [1] YILDIZ, Emre - MØLLER, Charles - BILBERG, Arne. Virtual factory: Digital twin based integrated factory simulations. In *Procedia CIRP*, 2020-01-01, 93, pp. 216-221. ISSN 22128271., Registrované v: SCOPUS
82. [1] BRAZINA, Jakub - VETISKA, Jan - STANEK, Vaclav - BRADAC, Frantisek - HOLUB, Michal. Virtual commissioning as part of the educational process. In *Proceedings of the 2020 19th International Conference on Mechatronics Mechatronika, ME 2020*, 2020-12-02, pp., Registrované v: SCOPUS
83. [1] LEE, Seung Jun - KIM, Woojin - LEE, Yang Koo - YOON, Dae Sub - LEE, Jun Wook. Remote Two-wheel Robot control using OPC-UA. In *International Conference on ICT Convergence*, 2020-10-21, 2020-October, pp. 1842-1844. ISSN 21621233., Registrované v: SCOPUS
84. [1] PAN, Yue - ZHANG, Limao. A BIM-data mining integrated digital twin framework for advanced project management. In *Automation in Construction*, 2021-04-01, 124, pp. ISSN 09265805., Registrované v: SCOPUS, WOS
85. [1] PANG, Toh Yen - PELAEZ RESTREPO, Juan D. - CHENG, Chi Tsun - YASIN, Alim - LIM, Hailey - MILETIC, Miro. Developing a digital twin and digital thread framework for an 'industry 4.0' shipyard. In *Applied Sciences (Switzerland)*, 2021-02-01, 11, 3, pp. 1-23., Registrované v: SCOPUS
86. [1] LIN, W. D. - LOW, M. Y.H. Concept design of a system architecture for a manufacturing cyber-physical digital twin system. In *IEEE International Conference on Industrial Engineering and Engineering Management*, 2020-12-14, 2020-December, pp. 1320-1324. ISSN 21573611., Registrované v: SCOPUS
87. [1] HE, Bin - BAI, Kai Jian. Digital twin-based sustainable intelligent manufacturing: a review. In *Advances in Manufacturing*, 2021-03-01, 9, 1, pp. ISSN 20953127., Registrované v: SCOPUS
88. [1] CHEN, Shazhou - MENG, Wei - XU, Weiyuan - LIU, Zhuoqiang - LIU, Jiachuang - WU, Fengyan. A Warehouse Management System with UAV Based on Digital Twin and 5G Technologies. In *2020 7th International Conference on Information, Cybernetics, and Computational Social Systems, ICCSS 2020*, 2020-11-13, pp. 864-869., Registrované v: SCOPUS
89. [1] BAMUNUARACHCHI, Dinithi - BANERJEE, Abhik - JAYARAMAN, Prem Prakash - GEORGAKOPOULOS, Dimitrios. Cyber twins supporting industry 4.0 application development. In *ACM International Conference Proceeding Series*, 2020-11-30, pp. 64-73., Registrované v: SCOPUS
90. [1] TAO, Fei - ZHANG, He - QI, Qinglin - XU, Jun - SUN, Zheng - HU, Tianliang - LIU, Xiaojun - LIU, Tingyu - GUAN, Juntao - CHEN, Changyu - MENG, Fanwei - ZHANG, Chenyuan - LI, Zhiyuan - WEI, Yongli - ZHU, Minghao - XIAO,

- Bin. Theory of digital twin modeling and its application. In Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS, 2021-01-01, 27, 1, pp. 1-15. ISSN 10065911., Registrované v: SCOPUS
91. [1] KANG, Ji Soo - CHUNG, Kyungyong - HONG, Ellen J. Multimedia knowledge-based bridge health monitoring using digital twin. In Multimedia Tools and Applications, 2021-01-01, pp. ISSN 13807501., Registrované v: SCOPUS
92. [1] RATHORE, M. Mazhar - SHAH, Syed Attique - SHUKLA, Dharendra - BENTAFAT, Elmahdi - BAKIRAS, Spiridon. The Role of AI, Machine Learning, and Big Data in Digital Twinning: A Systematic Literature Review, Challenges, and Opportunities. In IEEE ACCESS, 2021, vol. 9, no., pp. 32030-32052. ISSN 2169-3536., Registrované v: WOS
93. [1] KONG, Leo Chi Wai - HARPER, Sam - MITCHELL, Daniel - BLANCHE, Jamie - LIM, Theodore - FLYNN, David. Interactive Digital Twins Framework for Asset Management through Internet. In 2020 IEEE Global Conference on Artificial Intelligence and Internet of Things, GCAIoT 2020, 2020-12-12, pp., Registrované v: SCOPUS
94. [1] REN, Yuzheng - XIE, Renchao - YU, F. Richard - HUANG, Tao - LIU, Yunjie. Potential Identity Resolution Systems for the Industrial Internet of Things: A Survey. In IEEE Communications Surveys and Tutorials, 2021-01-01, 23, 1, pp. 391-430., Registrované v: SCOPUS
95. [1] YILDIZ, Emre - MOLLER, Charles - BILBERG, Arne. Demonstration and evaluation of a digital twin-based virtual factory. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2021, vol. 114, no. 1-2, pp. 185-203. ISSN 0268-3768., Registrované v: WOS, SCOPUS
96. [1] ESCRICHE LNG, Sergio - ROYO, Lucía - RUPEREZ LNG, Adrián - CUCALÓN LNG, Guillermo - MARTINEZ, Aitor - BACAICOA, Luis - RODRIGUEZ, Francisco - LOPEZ, Blanca. A Digital Twin Based Approach for Simulation and Emulation of an Automotive Paint Workshop. In SAE Technical Papers, 2021-04-06, 2021, pp., Registrované v: SCOPUS
97. [1] SEPASGOZAR, Samad M.E. Differentiating digital twin from digital shadow: Elucidating a paradigm shift to expedite a smart, sustainable built environment. In Buildings, 2021-04-01, 11, 4, pp., Registrované v: SCOPUS
98. [1] CHOI, SangSu - WOO, Jungyub - PARK, Yangho - SONG, Inho. User-Friendly Method of Digital Twin Application based on Cloud Platform for Smart Manufacturing. In TRANSACTIONS OF THE KOREAN SOCIETY OF MECHANICAL ENGINEERS A, 2021, vol. 45, no. 2, pp. 175-184. ISSN 1226-4873., Registrované v: WOS, SCOPUS
99. [1] KRUGER, K. - REDELINGHUYTS, A. J.H. - BASSON, A. H. - CARDIN, O. Past and Future Perspectives on Digital Twin Research at SOHOMA. In Studies in Computational Intelligence, 2021-01-01, 952, pp. 81-98. ISSN 1860949X., Registrované v: SCOPUS

100. [1] SEMERARO, Concetta - LEZOCHÉ, Mario - PANETTO, Hervé - DASSISTI, Michele. Digital twin paradigm: A systematic literature review. In *Computers in Industry*, 2021-09-01, 130, pp. ISSN 01663615., Registrované v: SCOPUS
101. [1] CAÑAS, Héctor - MULA, Josefa - DÍAZ-MADROÑERO, Manuel - CAMPUZANO-BOLARÍN, Francisco. Implementing Industry 4.0 principles. In *Computers and Industrial Engineering*, 2021-08-01, 158, pp. ISSN 03608352., Registrované v: SCOPUS
102. [1] MARTÍNEZ-GUTIÉRREZ, Alberto - DÍEZ-GONZÁLEZ, Javier - FERRERO-GUILLÉN, Rubén - VERDE, Paula - ÁLVAREZ, Rubén - PEREZ, Hilde. Digital twin for automatic transportation in industry 4.0. In *Sensors*, 2021-05-02, 21, 10, pp. ISSN 14248220., Registrované v: SCOPUS
103. [1] LI, Yan Rui - YANG, Chun Jie - ZHANG, Han Wen - LI, Jun Fang. Discussion on Key Technologies of Digital Twin in Process Industry. In *Zidonghua Xuebao/Acta Automatica Sinica*, 2021-03-01, 47, 3, pp. 501-514. ISSN 02544156., Registrované v: SCOPUS
104. [1] KOVALEVSKY, Vladislav - ONUFRIEV, Vadim - DYBOV, Anton. Hierarchical Multi-agent System for Production Control Using KPI Reconciliation. In *Smart Innovation, Systems and Technologies*, 2021-01-01, 220, pp. 231-243. ISSN 21903018., Registrované v: SCOPUS
105. [1] MONDAL, Sonali - SUHAS, Suraj - TUMULURU, Vamsi Krishna. Energy efficient warehouse management A greedy optimization approach. In *2020 IEEE Computing, Communications and IoT Applications, ComComAp 2020*, 2020-12-20, pp., Registrované v: SCOPUS
106. [1] SHEVTSHENKO, Eduard - MAHMOOD, Kashif - KARAULOVA, Tatyana - RAJI, Ibrahim Oluwole. Multitier digital twin approach for agile supply chain management. In *ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE)*, 2020-01-01, 2B-2020, pp., Registrované v: SCOPUS
107. [1] JUAREZ, Maria G. - BOTTI, Vicente J. - GIRET, Adriana S. Digital Twins: Review and Challenges. In *JOURNAL OF COMPUTING AND INFORMATION SCIENCE IN ENGINEERING*, 2021, vol. 21, no. 3, pp. ISSN 1530-9827., Registrované v: WOS, SCOPUS
108. [1] SINGH, Maulshree - FUENMAYOR, Evert - HINCHY, Eoin P. - QIAO, Yuansong - MURRAY, Niall - DEVINE, Declan. Digital twin: Origin to future. In *Applied System Innovation*, 2021-01-01, 4, 2, pp., Registrované v: SCOPUS
109. [1] MA, Xin - CHENG, Jiangfeng - QI, Qinglin - TAO, Fei. Artificial intelligence enhanced interaction in digital twin shop-floor. In *Procedia CIRP*, 2021-01-01, 100, pp. 858-863. ISSN 22128271., Registrované v: SCOPUS
110. [1] SPELLINI, Stefano - CHIRICO, Roberta - PANATO, Marco - LORA, Michele - FUMMI, Franco. Virtual Prototyping a Production Line Using

- Assume-Guarantee Contracts. In IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, 2021, vol. 17, no. 9, pp. 6294-6302. ISSN 1551-3203., Registrované v: WOS, SCOPUS
111. [1] BAI, Luchang - ZHANG, Youtong - WEI, Hongqian - DONG, Junbo - TIAN, Wei. Digital Twin Modeling of a Solar Car Based on the Hybrid Model Method with Data-Driven and Mechanistic. In APPLIED SCIENCES-BASEL, 2021, vol. 11, no. 14, pp., Registrované v: WOS, SCOPUS
112. [1] KUNTOGLU, Mustafa - SALUR, Emin - GUPTA, Munish Kumar - SARIKAYA, Murat - PIMENOV, Danil Yu. A state-of-the-art review on sensors and signal processing systems in mechanical machining processes. In INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 2021, vol., no., pp. ISSN 0268-3768., Registrované v: WOS, SCOPUS
113. [1] GROSHEV, Milan - GUIMARAES, Carlos - DE LA OLIVA, Antonio - GAZDA, Robert. Dissecting the Impact of Information and Communication Technologies on Digital Twins as a Service. In IEEE ACCESS, 2021, vol. 9, no., pp. 102862-102876. ISSN 2169-3536., Registrované v: WOS, SCOPUS
114. [1] RANTALA, Tero - SAUNILA, Minna - UKKO, Juhani - MIKKOLA, Aki - KORTELAJINEN, Juha - ZEB, Akhtar. Managing digital-twin lifecycle-recognition and handling of business risks. In Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value, 2021-05-31, pp. 213-223., Registrované v: SCOPUS
115. [1] UKKO, Juhani - RANTALA, Tero - NASIRI, Mina - SAUNILA, Minna. Sustainable competitive advantage through the implementation of a digital twin. In Real-time Simulation for Sustainable Production: Enhancing User Experience and Creating Business Value, 2021-05-31, pp. 196-212., Registrované v: SCOPUS
116. [1] WACHE, Hendrik - DINTER, Barbara. The digital twin Birth of an integrated system in the digital age. In Proceedings of the Annual Hawaii International Conference on System Sciences, 2020-01-01, 2020-January, pp. 5452-5461. ISSN 15301605., Registrované v: SCOPUS
117. [1] SIVARETHINAMOHAN, R. - SUJATHA, S. Reimagining the Digital Twin: Powerful Use Cases for Industry 4.0. In Lecture Notes in Mechanical Engineering, 2021-01-01, pp. 175-182. ISSN 21954356., Registrované v: SCOPUS
118. [1] MALAGA, Miroslav - ULRYCH, Zdenek. Physical modelling of the Industry 4.0 concept. In EDUCATION EXCELLENCE AND INNOVATION MANAGEMENT: A 2025 VISION TO SUSTAIN ECONOMIC DEVELOPMENT DURING GLOBAL CHALLENGES, 2020, vol., no., pp. 17540-17549., Registrované v: WOS
119. [1] ZHANG, Chenyuan - TAO, Fei. Evaluation index system for digital twin model. In Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS, 2021-08-01, 27, 8, pp. 2171-2186. ISSN 10065911., Registrované v: SCOPUS

120. [1] FERRO, Rodrigo - CORDEIRO, Gabrielly A. - ORDÓÑEZ, Robert E.C. - BEYDOUN, Ghassan - SHUKLA, Nagesh. An optimization tool for production planning: A case study in a textile industry. In *Applied Sciences (Switzerland)*, 2021-09-01, 11, 18, pp., Registrované v: SCOPUS
121. [1] AWAD, Mohammed A. - ABD-ELAZIZ, Hend M. A new perspective for solving manufacturing scheduling based problems respecting new data considerations. In *Processes*, 2021-10-01, 9, 10, pp., Registrované v: SCOPUS
122. [1] HICKIE, Desmond - HICKIE, James. The impact of Industry 4.0 on supply chains and regions: innovation in the aerospace and automotive industries. In *EUROPEAN PLANNING STUDIES*, 2021, vol. 29, no. 9, pp. 1606-1621. ISSN 0965-4313., Registrované v: WOS, SCOPUS
123. [1] ØIEN, Christian Dalheim - DAHL, Håkon - DRANSFELD, Sebastian. A Digital Twin Implementation for Manufacturing Based on Open-Source Software and Standard Control Systems. In *IFIP Advances in Information and Communication Technology*, 2021-01-01, 633 IFIP, pp. 284-291. ISSN 18684238., Registrované v: SCOPUS
124. [1] GREIS, Noel P. - NOGUEIRA, Monica L. - ROHDE, Wolfgang. Digital Twin Framework for Machine Learning-Enabled Integrated Production and Logistics Processes. In *IFIP Advances in Information and Communication Technology*, 2021-01-01, 630 IFIP, pp. 218-227. ISSN 18684238., Registrované v: SCOPUS
125. [1] DE ANDRADE, Matheus Antonio Nogueira - LEPIKSON, Herman Augusto - TOSTA MACHADO, Carlos Alberto. A new framework and methodology for digital twin development. In *2021 14th IEEE International Conference on Industry Applications, INDUSCON 2021 Proceedings*, 2021-08-15, pp. 134-138., Registrované v: SCOPUS
126. [1] SERRANO-RUIZ, Julio C. - MULA, Josefa - POLER, Raúl. Smart manufacturing scheduling: A literature review. In *Journal of Manufacturing Systems*, 2021-10-01, 61, pp. 265-287. ISSN 02786125., Registrované v: SCOPUS
127. [1] WARKE, Vivek - KUMAR, Satish - BONGALE, Arunkumar - KOTECHA, Ketan. Sustainable Development of Smart Manufacturing Driven by the Digital Twin Framework: A Statistical Analysis. In *SUSTAINABILITY*, 2021, vol. 13, no. 18, pp., Registrované v: WOS, SCOPUS
- AFD02 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - SLOVÁK, Juraj. Numerical acceleration of data processing using MATLAB for the needs of expert systems. In *2018 Cybernetics & Informatics (K&I) [elektronický zdroj] : 29th International Conference. Lazy pod Makytou, Slovakia. January 31-February 3, 2018*. 1. vyd. Bratislava : Slovak Chemical Library, 2018, S. [5], USB kľúč. ISBN 978-1-5386-4420-1. V databáze: SCOPUS: 2-s2.0-85050880612 ; WOS.

Ohlasy:

1. [2] IVAN, Fiťka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
2. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

- AFD03 VACHÁLEK, Ján - MELICHER, Markus - VAŠEK, Pavol - ŠIŠMIŠOVÁ, Dana - VOLENSKÝ, Tomáš. Quality comparison between hybrid regularized exponential forgetting algorithm with alternative covariance matrix and selected standard long-run on-line identification methods of industrial systems. In *Aplimat 2018 [elektronický zdroj] : proceedings of the 17th conference on Applied mathematics. Bratislava, 6.-8.2. 2018*. 1. vyd. Bratislava : Spektrum STU, 2018, S. 1036-1046, CD ROM. ISBN 978-80-227-4765-3. V databáze: SCOPUS: 2-s2.0-85048750876.

Ohlasy:

1. [2] IVAN, Fiťka - MATEJ, Šimovec - JAN, Rybář - PAVOL, Šrenkel. Data warehousing for on-line identification. In 18th Conference on Applied Mathematics, APLIMAT 2019, 2019-01-01, 1, pp. 353-362., Registrované v: SCOPUS
2. [1] SLOVAK, Juraj - FITKA, Ivan - SIMOVEC, Matej. Square-root filtering method for continuous identification of industrial systems. In Proceedings of the 2021 23rd International Conference on Process Control, PC 2021, 2021-06-01, pp. 272-277., Registrované v: SCOPUS

Štatistika: kategória publikačnej činnosti

ADC	Vedecké práce v zahraničných karentovaných časopisoch	3
ADM	Vedecké práce v zahraničných časopisoch registrovaných v databázach Web of Science alebo SCOPUS	1
AFD	Publikované príspevky na domácich vedeckých konferenciách	3
Súčet		7

Štatistika: kategória ohlasov

1	Citácie v zahraničných publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	138
2	Citácie v domácich publikáciách, registrované v citačných indexoch Web of Science a databáze SCOPUS	2
Súčet		140

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

IV. Vedecká škola

Výchova doktorandov, skončený alebo po dizertačnej skúške

Výchova doktorandov, skončený alebo po dizertačnej skúške**Výchova doktorandov, skončený alebo po dizertačnej skúške – Tabuľka:**

Počet	Meno	Ukončený	Po diz. skúške	Pred diz. skúškou
1.	Pavol Vašek, Ing., PhD.	X		
2.	Ivan Fiťka, Ing., PhD.	X		
3.	Juraj Slovák, Ing., PhD.	X		
4.	Oliver Rovný, Ing.		X	
5.	Matej Šimovec, Ing.		X	
6.	Andrej Majstrík, Ing.			X

Skončených: 3, Po dizertačnej skúške: 2, Pred dizertačnou skúškou: 1

Výchova doktorandov:

Požadované: 2

Plnené: 6

Skončených / po dizertačnej skúške:

Požadované: 1/1

Plnené: 3/2

Dizertačné práce 2018 až 2021, výpis z AIS: Ukončené

Por.	Typ	Meno	Názov práce	Dokedy
1.	DizP	<u>Vašek Pavol, Ing., PhD.</u>	Návrh metodiky a meracieho modelu pre testovanie logistického systému vo flexibilnej výrobe a návrh algoritmov pre jeho optimalizáciu	júl 2020
2.	DizP	<u>Fiťka Ivan, Ing., PhD.</u>	Návrh metodiky a funkčného konceptu automatizovaného robotického pracoviska na metrologickú kontrolu váh s neautomatickou činnosťou	august 2021
3.	DizP	<u>Slovák Juraj, Ing., PhD.</u>	Zabezpečenie a prevádzka robotických kolaboratívnych pracovísk s využitím strojového videnia a UWB lokalizačných techník	august 2021

Dizertačné práce 2018 až 2021, výpis z AIS: Po Dizertačnej skúške

Por.	<u>Typ</u>	<u>Meno</u>	<u>Názov práce</u>	<u>Dokedy</u>
1.	DizP	<u>Rovný Oliver, Ing.</u>	Návrh posuvovej sústavy prenosného programovateľného frézovacieho robota určeného na obrábanie zvarových plôch potrubí	august 2021
2.	DizP	<u>Šimovec Matej, Ing.</u>	Návrh a implementácia metodík monitorovania a riadenia inteligentných akvaponických systémov	máj 2022

Dizertačné práce 2018 až 2021, výpis z AIS: Pred Dizertačnou skúškou

Por.	<u>Typ</u>	<u>Meno</u>	<u>Názov práce</u>	<u>Dokedy</u>
1.	DizP	<u>Majstrík Andrej, Ing.</u>	Implementácia exponenciálnych technológií inteligentného priemyslu v meraní	máj 2023

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

IV. Vedecká škola

Účastník alebo vedúci výskumného projektu

Účastník alebo vedúci výskumného projektu**Požadované: 3/1****Plnené: 24/8****Účastník / riešiteľ projektu: 24****Vedúci projektu: 8****Prehľad riešených výskumných úloh****Zodpovedný riešiteľ výskumného projektu**

1.	<i>Projekt OP VaI-313022U737 „Priemyselný výskum a experimentálny vývoj zariadenia na adaptívne orbitálne obrábanie zvracích hrán osovo symetrických telies“, 2020-2023, - vedúci projektu</i>
2.	<i>Projekt APVT-20-035204 „Identifikácia, optimalizácia, riadenie a monitoring ČOV“, 2005-2009, vedúci projektu</i>
3.	<i>Projekt VEGA 1/0317/17 „Pokročilá lokalizácia a navigácia mobilných robotických systémov na báze nelineárneho numerického pozorovateľa“, 2017-2020 – vedúci projektu</i>
4.	<i>Projekt KEGA 027STU-4/2017 „Tvorba tematicky zameraných laboratórnych pracovísk pre implementáciu rôznych typov vnorených platforiem do výučby,“, 2017-2020 – vedúci projektu</i>
5.	<i>Projekt KEGA 024STU-4/2020 „Budovanie progresívneho laboratória metrológie v rámci konceptu Priemysel 4.0,“, 2020-2023 – vedúci projektu</i>
6.	<i>Nadácia VW Grant 070/14 RT VW Grantový program „Rozvíjať technik(o)u“ - Inovatívne technické vzdelávanie Robotiky praktickou formou, so zapojením študentov na projekte autonómny mobilný robotický systém – 2014- 2015 - vedúci projektu</i>
7.	<i>Nadácia VW Grant 183/16 RT VW Grantový program „Rozvíjať technik(o)u“ - Priemyselná automatizácia automobilového priemyslu na báze konceptu Industry 4.0 – 2016 vedúci projektu</i>
8.	<i>Projekt Centra pre filantropiu SIEMENS grant 6168/2018 „Podpora vedy a výuky pokročilej priemyselnej automatizácie a robotiky“ – 2018 - vedúci projektu</i>

Riešiteľ výskumného projektu

9.	<i>Projekt APVV-17-0214 „Kolaboratívny robot pre použitie v laboratóriu“, 2018-2021 – vedúci projektu za SjF (riešiteľ FEI)</i>
10.	<i>Projekt OP VaI- 313011ATR9 „Výskum a vývoj využiteľnosti autonómnych lietajúcich prostriedkov v boji proti pandémie spôsobenej COVID-19“, 2020-2023, - vedúci projektu za SjF, (riešiteľ FEI)</i>
11.	<i>Projekt APVV-18-0066 „Vývoj inovatívnych metód pre primárnu metrologiu momentu sily aplikáciou silových účinkov“, 2018 – 2022, riešiteľ</i>
12.	<i>Projekt VEGA 1/01447/15, „Aktívne tlmenie vibrácií mechanických konštrukcií pomocou numericky akcelerovaného prediktívneho riadenia“, 2015-2017 – riešiteľ</i>
13.	<i>Projekt VEGA 1/0098/18, „Metódy vyhodnotenia kalibrácie meradiel a prevodníkov“, 2018-2020 – riešiteľ</i>
14.	<i>Projekt KEGA 005STU-4/2018 „Založenie pilotného laboratória pre výučbu technológie programovateľných hradlových polí,“, 2018-2020 – riešiteľ</i>
15.	<i>Projekt APVV-0131-10 „High-tech riešenia pre technologické procesy a mechatronické komponenty ako riadené systémy s rozloženými parametrami“, 2010 – 2012, riešiteľ</i>
16.	<i>Projekt APVV-0090-10 „Metódy prediktívneho riadenia s modelom a spoločný odhad stavu a parametrov pre rýchle nelineárne mechatronické systémy“, 2010 – 2012, riešiteľ</i>
17.	<i>Projekt APVV-0280-06 „Prediktívne riadenie mechatronických systémov s rýchlou dynamikou a obmedzeniami“, 2006-2008, riešiteľ</i>
18.	<i>Projekt APVV-0160-07 „Pokročilé metódy modelovania, riadenia a návrhu mechatronických systémov ako sústav so sústredeným vstupom a rozloženým výstupom“, 2007-2009, riešiteľ</i>
19.	<i>Projekt VEGA 1/0138/11: „Riadenie dynamických systémov reprezentovaných numerickými štruktúrami ako sústav s rozloženými parametrami“, 2011 – 2013, riešiteľ</i>
20.	<i>Projekt VEGA 1/9278/02: "Riadenie systémov zadaných numerickými štruktúrami na zložitých oboroch definície s demonštráciami cez Internet ", 2002 – 2004, riešiteľ</i>
21.	<i>Projekt VEGA 1/6185/99:" Modelovania a riadenie strojárskych a hutníckych technologických procesov a mechatronických, smart materiálových štruktúr ako SRP", 1999-2002, - riešiteľ</i>

22.	<i>Projekt VEGA 1/6018/99: "Metódy modelovania a riadenia systémov s rozloženými parametrami". 1999-2002, - riešiteľ</i>
23.	<i>Projekt Britsko-slovenský projekt č. 7995, Slov/Breit5: "Stable Model Based Predictive Control for Constrained Systems and Processes". British-Slovak joint research collaboration programme between STU and Oxford University supported by British Council. , 1999 – 2002, - riešiteľ</i>
24.	<i>Projekt NIL-I-007-d "Podpora NO-SK spolupráce v automatickom riadení (ECAC)", 2009 – 2011 - riešiteľ</i>

doc. Ing. Ján Vachálek, PhD.

Zoznam výstupov tvorivej činnosti podľa Smernice rektora č. 06/2021 - SR čl. 4 ods. 1 e), pre odbor inauguračného konania Automatizácia, podľa § 76 ods. 8 zákona a podľa § 5 ods. 1 vyhlášky MŠVVaŠ SR č. 246/2019 Z.z.

Príloha č. 4

Referencie zahraničných odborníkov

Referencie zahraničných odborníkov v zmysle smernice rektora č. 06/2021 – SR a podľa čl. 4 smernice rektora č. 01/2021 ods. 2 f).

Požadované: 3

Plnené: 3

Písomne referencie od popredných zahraničných odborníkov aspoň z 3 krajín mimo SR, preukazujúce, že uchádzač splna požiadavky na pôsobenie vo funkcii profesora v medzinárodnom kontexte:

- Ukrajinská Národná technická univerzita, Kyjevský polytechnický inštitút – Igora Sikorského, Dekan chemickej fakulty Dr.Sc. Prof. Eugen Panov
- Vysoké učení technické v Brne, Fakulta elektrotechniky a komunikačných technológií, Ústav automatizace a měřicí techniky, a Středoevropský technologický institut VUT prof. Ing. Ludek Žalud, Ph.D.
- Wroclaw University of Science and Technology, Departmen of Fundamentals of Machine Design and Mechatronic Systems, Laboratory of Mechatronic and Robotics, head of Laboratory Ing. Jaroslaw Szrek, PhD.



УКРАЇНА
МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ УКРАЇНИ
«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ
імені ІГОРЯ СІКОРСЬКОГО»

assoc. prof. Ján Vachálek
Americká ul. č. 2
Bratislava
831 02

Kyiv, September, 27, 2021

Letter of Recommendation

It is my pleasure to strongly recommend A/Prof. Ján Vachálek for obtaining the academic degree of professor necessary for his further work in the international academic field.

I have had the pleasure of working closely with A/Prof. Vachálek and his team composed of PhD students while cooperating closely in projects and consultations in the Slovak National Robotics Center.

During the years of our mutual collaboration, I became more familiar with the scientific research of A/Prof Vachálek, focused on collaborative robotics and its integration into industry. His research was also aimed at security increase and integration of optical camera systems and the application of intelligent industry in the form of digital twins and industry 4.0.

His professional direction can also be seen in his publications oriented to the above-mentioned areas and therefore represent a valuable asset for the research fields concerned.

In terms of the SCOPUS database, I would like to highlight, among other publications, his outstanding publication "The digital twin of an industrial production line within the Industry 4.0 concept", having a citation record of a total of 111 citations. In total, A/Prof Vachálek has 17 publications in this database with a record of 130 citations. He has 15 publications in the WOS database, among others, the ones released in the MDPI journal, "Intelligent Dynamic Identification Technique of Industrial Products in a Robotic Workplace", "Design and Implementation of Universal Cyber-Physical Model for Testing Logistic Control Algorithms of Production Line's Digital Twin by Using Color Sensor "and" Vision and RTLS Safety Implementation in an Experimental Human — Robot Collaboration Scenario ", which are of great

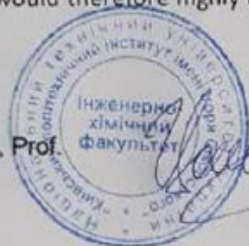
benefit for the given subject area. His articles were cited in the WOS database for 74 times altogether.

Based on the above mentioned accomplishments and professional impact of A/Prof. Vachálek on this research field, I would therefore highly recommend him for obtaining the academic degree of professor.

Sincerely,

Faculty Dean, Dr.Sc., Prof.

Eugen PANOV





Assoc. prof. Ján Vachálek
Americká ul. č. 2
Bratislava
831 02

Letter of Recommendation

During the cooperation with the Slovak National Robotics Center, I got acquainted with Slovak colleagues while participating in various projects. One of them was the Assoc. prof. Ján Vachálek, upon the request of whom I am writing this reference, in support of his application to pursue a professor degree, based on his work in the international academic field.

I became familiar with my colleague's work in the field of robotics also on the basis of internationally available information. I have selected the following important publications and evaluations for supporting my recommendation.

Assoc. prof. Vachálek has been internationally active, as it is apparent from his membership in various global scientific professional organizations such as Web of Science, SCOPUS, ORCID, Research Gate, Google Scholar, Sciprofiles, and others. To date, he has 15 publications in the WOS database, including those released in the MDPI journal, "Intelligent Dynamic Identification Technique of Industrial Products in a Robotic Workplace", "Design and Implementation of Universal Cyber-Physical Model for Testing Logistic Control Algorithms of Production Line's Digital Twin by Using Color Sensor" and "Vision and RTLS Safety Implementation in an Experimental Human — Robot Collaboration Scenario. Similarly, his conference publication "The digital twin of an industrial production line within the Industry 4.0 concept" is internationally accepted and cited. He has a total of 74 citations within the WOS database. In the SCOPUS database, which has a broader scope, there are 17 publications and the above-mentioned publication. "The digital twin of an industrial production line within the Industry 4.0 concept", with a record of 111 citations. Assoc. prof. Vachálek has a total of 130 citations in this database.

Besides the publications, the Google Scholar database also lists 2 textbooks on Robotics and System Identification, intended for training of students, therefore it is evident that my colleague has also been active



in this field. Based on our mutual cooperation and his aforementioned achievements, I highly recommend A/Prof Vachálek for obtaining a professor degree, as his outputs are internationally recognized and very beneficial in this field.

Brno, Czech Republic, 6. 10. 2021

Sincerely,

A blue ink signature is written over a blue circular stamp. The stamp contains the text 'FAKULTA ELEKTROTECHNIKY A KOMUNIKAČNÍCH TECHNOLOGIÍ V BRNĚ' around the perimeter and 'ústav automatizace a měřicí techniky' in the center.

Prof. Ing. Luďek Žalud, Ph.D.
Brno University of Technology



Wroclaw University of Science and Technology

Department of Fundamentals of Machine Design and Mechatronics Systems
Laboratory of Mechatronics and Robotics

Wrocław, 25.09.2021 r.

Letter of Recommendation

It is my pleasure to strongly recommend A/Prof. Ján Vachálek for obtaining the academic degree of professor necessary for his further work in the international academic field.

His professional direction can be seen, among others, in his publications oriented to the collaborative robotics and its integration into industry. His research was also aimed at security increase and integration of optical camera systems and the application of intelligent industry in the form of digital twins and industry 4.0, and therefore represent a valuable asset for the research fields concerned.

In terms of the SCOPUS database, I would like to highlight, among other publications, his outstanding publication "The digital twin of an industrial production line within the Industry 4.0 concept", having a citation record of a total of 111 citations. In total, A/Prof Vachálek has 17 publications in this database with a record of 130 citations. He has 15 publications in the WOS database, among others, the ones released in the MDPI journal, "Intelligent Dynamic Identification Technique of Industrial Products in a Robotic Workplace", "Design and Implementation of Universal Cyber-Physical Model for Testing Logistic Control Algorithms of Production Line's Digital Twin by Using Color Sensor "and" Vision and RTLS Safety Implementation in an Experimental Human – Robot Collaboration Scenario ", which are of great benefit for the given subject area. His articles were cited in the WOS database for 74 times altogether.

Based on the above mentioned accomplishments and professional impact of A/Prof. Vachálek on this research field, I would therefore highly recommend him for obtaining the academic degree of professor.

Sincerely,

Jarosław Szrek, PhD Eng.
Head of Laboratory of Mechatronics and Robotics

Laboratorium
Mechatroniki i Robotyki

Politechnika Wroclawska
Wydział Mechaniczny
Katedra Podstaw Konstrukcji Maszyn
i Układów Mechatronicznych
ul. Łukasiewicza 7/9
50-371 Wrocław, Polska

Tel. +48 71 320 27 10
Email: jaroslaw.szrek@pwr.edu.pl
tmm.pwr.wroc.pl

NIP: 869-000-58-51

Konto bankowe:
37 1090 2402 0000 0006 1000 0434
Bank Zachodni WBK S.A.
2 Oddział we Wrocławiu