

Raport de cercetare pe anul 2019

al Centrului de Cercetare SISTEME INTELIGENTE

a. Articole științifice publicate în reviste ISI:

1. Asad, Muhammad Usman; Farooq, Umar; Gu, Jason ; Balas, Valentina E. ; Abbas, Ghulam; Balas, Marius ; Muresan, Vlad - <i>An enhanced state convergence architecture incorporating disturbance observer for bilateral teleoperation systems</i>, INTERNATIONAL JOURNAL OF ADVANCED ROBOTIC SYSTEMS Volume: 16, Issue: 5 Article Number: 1729881419880052 DOI: 10.1177/1729881419880052 Published: SEP 2019 Jurnal Q4, IF = 1,223	(25+20x1,23)/7 = 7,06
2. Asad, Muhammad Usman ; Farooq, Umar ; Gu, Jason ; Abbas, Ghulam; Liu, Rong ; Balas, Valentina E. - <i>A composite state convergence scheme for bilateral teleoperation systems</i>, IEEE-CAA JOURNAL OF AUTOMATICA SINICA Volume: 6, Issue: 5, Pages: 1166-1178 DOI: 10.1109/JAS.2019.1911690 Published: SEP 2019 ESCI, IF = 0	(25+20x0)/6 = 4,16
3. Tahir, Umair ; Abbas, Ghulam; Glavan, Dan Ovidiu ; Balas, Valentina E. ; Farooq, Umar; Balas, Marius M.; Raza, Ali; Asad, Muhammad Usman ; Gu, Jason - <i>Design of Three Phase Solid State Transformer Deployed within Multi-Stage Power Switching Converters</i>, APPLIED SCIENCES-BASEL, Volume: 9, Issue: 17 Article Number: 3545 DOI: 10.3390/app9173545 Published: SEP 1 2019 Q2, IF = 2,217	(25+20x2,217)/9 = 7,7
4. Pandey, Ashish ; Rajan, Abhishek; Nandi, Arnab; Balas, Valentina E. - <i>On Lifetime Enhancement of Super Nodes based Wireless Sensor Networks by using Sine Cosine Algorithm</i>, JOURNAL OF INFORMATION SCIENCE AND ENGINEERING, Volume: 35, Issue: 5 Pages: 1147-1159, Special Issue: SI DOI: 10.6688/JISE.201909_35(5).0013 Published: SEP 2019 Q4, IF = 0,525	(25+20x0,525)/4 = 8,87
5. Abbas, Ghulam; Nazeer, Muhammad Qumar ; Balas, Valentina E. ; Lin, Tsung-Chih ; Balas, Marius M.; Asad, Muhammad Usman; Raza, Ali ; Shehzad, Muhammad Naeem ; Farooq, Umar; Gu, Jason, <i>Derivative-Free Direct Search Optimization Method for Enhancing Performance of Analytical Design Approach-Based Digital Controller for Switching Regulator</i>, ENERGIES, Volume: 12 Issue: 11 Article Number: 2183 DOI: 10.3390/en12112183 Published: JUN 1 2019	(25+20x2,707)/10 = 7,91

Q3, IF = 2,707 6. Ashraf, Naveed ; Izhar, Tahir; Abbas, Ghulam ; Balas, Valentina E.; Balas, Marius M. ; Lin, Tsung-Chih; Asad, Muhammad Usman ; Farooq, Umar; Gu, Jason, <i>A Single-Phase Buck and Boost AC-to-AC Converter with Bipolar Voltage Gain: Analysis, Design, and Implementation</i> , ENERGIES, Volume: 12, Issue: 7 Article Number: 1376 DOI: 10.3390/en12071376 Published: APR 1 2019 Q3, IF = 2,707	(25+20x2,707)/9 = 8,79
7. Dhiman, Harsh S. ; Deb, Dipankar ; Muresan, Vlad ; Balas, Valentina E., <i>Wake Management in Wind Farms: An Adaptive Control Approach</i> , ENERGIES, Volume: 12, Issue: 7 Article Number: 1247 DOI: 10.3390/en12071247 Published: APR 1 2019 Q3, IF = 2,707	(25+20x2,707)/4 = 19,79
8. Jagatheesan, K.; Anand, B.; Samanta, Sourav; Dey, Nilanjan; Ashour, Amira S.; Balas, Valentina E., <i>Design of a Proportional-Integral-Derivative Controller for an Automatic Generation Control of Multi-area Power Thermal Systems Using Firefly Algorithm</i> , IEEE-CAA JOURNAL OF AUTOMATICA SINICA, Volume: 6, Issue: 2 Pages: 503-515 DOI: 10.1109/JAS.2017.7510436 Published: MAR 2019 ESCI, IF = 0	(25+20x0)/6 = 4,16
9. Farooq, Umar; Gu, Jason; Balas, Valentina E.; Abbas, Ghulam; Asad, Muhammad Usman; Balas, Marius M., <i>A Hybrid Time Series Forecasting Model for Disturbance Storm Time Index using a Competitive Brain Emotional Neural Network and Neo-Fuzzy Neurons</i> , ACTA POLYTECHNICA HUNGARICA, Volume: 16, Issue: 4, Pages: 213-229 DOI: 10.12700/APH.16.4.2019.4.11 Published: 2019 Q3, IF = 1,286	(25+20x1,286)/6 = 8,45

b. Articole științifice publicate în ISI Proceedings:

1. Mitra S., Mahapatra G., Balas V.E., Chattarai R., Public key cryptography using Harmony Search Algorithm, [Advances in Intelligent Systems and Computing](#) Volume 757, 2019, Pages 1-11

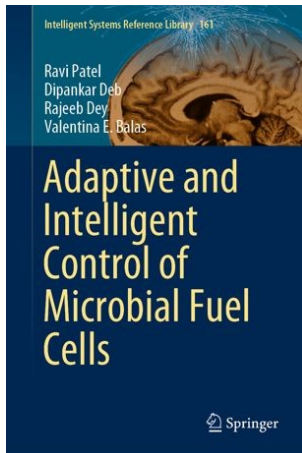
2. [Band Segmentation and Detection of DNA by Using Fast Fuzzy C-mean and Neuro Adaptive Fuzzy Inference System](#)
M Arif, G Wang, VE Balas, S Chen
International Conference on Smart City and Informatization, 49-59

3. [Superior Prosthetic Member Based on Assistive Technologies](#)
S Curea, O Geman, I Chiuchisan, V Balas, G Wang, M Arif
International Conference on Smart City and Informatization, 520-530

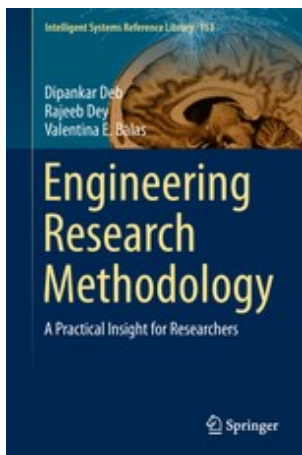
4. Nayyar A., Balas V.E., *Analysis of Simulation Tools for Underwater Sensor Networks (UWSNs)*, [Lecture Notes in Networks and Systems](#), Volume 55, 2019, Pages 165-180

5. Bose A., Roy S.S., Balas V.E., Samui P., *Deep learning for brain computer interfaces*, [Smart Innovation, Systems and Technologies](#) Volume 136, 2019, Pages 333-344

B. Carti de specialitate (co-autor)



1. Adaptive and Intelligent Control of Microbial Fuel Cells
Authors: **Patel, R., Deb, D., Dey, R., E. Balas, V.**, 121 pages
<https://www.springer.com/us/book/9783030180676>



2. Engineering Research Methodology, A Practical Insight for Researchers
Authors: Deb, Dipankar, Dey, Rajeeb, Balas, Valentina E., ISBN 978-981-13-2947-0, 2019
Springer, 105 pag.

3. Supervised Machine Learning in Wind Forecasting and Ramp Event Prediction, Authors:
Harsh S. Dhiman, Dipankar Deb and Valentina Emilia Balas,
<https://www.elsevier.com/books/supervised-machine-learning-in-wind-forecasting-and-ramp-event-prediction/dhiman/978-0-12-821353-7?fbclid=IwAR3fgfIAc8sailtvIHPnwjBqp06CInHFXjy0Vn7BcOkqlebR8flHcCJwUdw>, ISBN:
9780128213537 , Elsevier, 212 pag.



C. Prezentă activă în viața științifică națională și internațională

a. invitat cu conferință în plen

1. International Conference on Intelligent Machines (ICIM'19), March 15-16, 2019, Baba Farid College of Engineering and Technology, Bathinda, INDIA - Keynote Speaker, <http://112.196.18.149:8082/>
2. Keynote Speaker to International Conference on “Emergent Research in Mathematics and Engineering - (ICERME-2019)”, during May 17th & 18th, 2019, NIT Agartala, INDIA. <http://nitaonline.nita.ac.in/ICERME2019/?fbclid=IwAR1oi4QG7Qeac6-Oz6NiWn1J80cR-D2BTVTft0e43LPNk0XErnxGPj9xw4s>
3. KEYNOTE SPEAKERS to the 2nd International Conference of Computer Science and Renewable Energies « ICCSRE'2019 », 22-24 July, Agadir, organized by The Polydisciplinary Faculty of Ouarzazate, Faculty of Sciences, Agadir, and National School of Applied Sciences, Ibn Zohr University, Morocco, https://iccsre2019.akrit.org/wp-content/uploads/2019/07/ICCSRE2019_Program_final_version.pdf?fbclid=IwAR38hgjWpdUoVlu-8nDw7IyakV8ikKZyJyidrKGYCgMMa-cmv4XrNAK9pM8
4. Keynote speaker 1st International Conference on Innovation in Modern Science and Technology, ICIMSAT-2019, Siliguri Institute of Technology, Siliguri, Darjeeling, West Bengal, INDIA, <https://www.icimsat2019.com/>
5. *Keynote Speaker* INTERNATIONAL CONFERENCE ON COMPUTING, POWER AND COMMUNICATION TECHNOLOGIES (GUCON 2019), NOIDA, INDIA, <https://gucon.org/GUCON/si.html>
6. Invited Speaker to International Conference on Technics, Technologies and Education, ICTTE 2019, Faculty of Technics and Technologies of Yambol, Trakia University, Yambol, BULGARIA, October 16-18, 2019, <https://ictte.eu/icttepr/invited-speakers/>
7. Plenary Speaker to Joint CINTI-MACRo 2019! The IEEE Joint 19th International Symposium on Computational Intelligence and

Informatics and 7th International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics, November 14-16, 2019 in SZEGED, HUNGARY.
<http://conf.uni-obuda.hu/cinti2019/>

8. Keynote Speaker to the 8th International Conference on Innovation and New Trends in Information Technology (INTIS 2019) - December 20 - 21, 2019 - Tangier, Morocco.
<http://intis19.conferences-it.com>

D. Coordonare volume – 20 volume:

- coordonare de volume colective 3 puncte/volum

1. Editors: [Lakhmi Jain](#) (Australia), Xiangmo Zhao (China), [Valentina Emilia Balas](#) (Romania), [Fugian Shi](#) (China).

Proceedings of the 3rd International Conference on Information Technology and Intelligent Transportation Systems (ITITS 2018), held in Xi'an, China, on 15-16 September 2018,

<http://ebooks.iospress.nl/volume/information-technology-and-intelligent-transportation-systems-proceedings-of-the-3rd-international-conference-on-information-technology-and-intelligent-transportation-systems>



2. Telemedicine Technologies, 1st Edition

Big Data, Deep Learning, Robotics, Mobile and Remote Applications for Global Healthcare

Editors: D. Jude Hemanth [Valentina Emilia Balas](#), [https://www.elsevier.com/books/telemedicine-technologies/hemanth/978-0-12-816948-](https://www.elsevier.com/books/telemedicine-technologies/hemanth/978-0-12-816948-3?fbclid=IwAR0r7jQZo1kpy_QMU7oCWL9ndZLehmKG1nSjZmPcIW69CQmF-8cHAt_XfpE)

[3?fbclid=IwAR0r7jQZo1kpy_QMU7oCWL9ndZLehmKG1nSjZmPcIW69CQmF-8cHAt_XfpE](https://www.elsevier.com/books/telemedicine-technologies/hemanth/978-0-12-816948-3?fbclid=IwAR0r7jQZo1kpy_QMU7oCWL9ndZLehmKG1nSjZmPcIW69CQmF-8cHAt_XfpE)

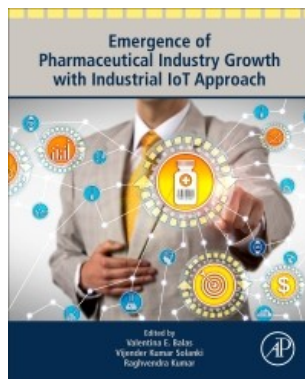


3. "Internet of Things in Biomedical Engineering"

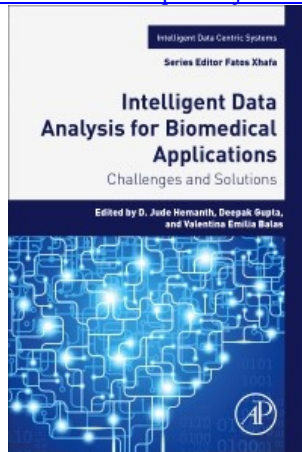
Editors: Valentina E. Balas, [Le Hoang Son](#), [Sudan Jha](#), [Manju Khari](#), [Dr-Raghvendra Kumar Agrawal](#),
[https://www.elsevier.com/books/internet-of-things-in-biomedical-engineering/balas/978-0-12-817356-](https://www.elsevier.com/books/internet-of-things-in-biomedical-engineering/balas/978-0-12-817356-5?fbclid=IwAR3TRnSBGMOZVeILWd8oG3GT2JkhxKbYkmbGde9IgfiwY8veGEnmt4Ilrjg)
[5?fbclid=IwAR3TRnSBGMOZVeILWd8oG3GT2JkhxKbYkmbGde9IgfiwY8veGEnmt4Ilrjg](https://www.elsevier.com/books/internet-of-things-in-biomedical-engineering/balas/978-0-12-817356-5?fbclid=IwAR3TRnSBGMOZVeILWd8oG3GT2JkhxKbYkmbGde9IgfiwY8veGEnmt4Ilrjg)



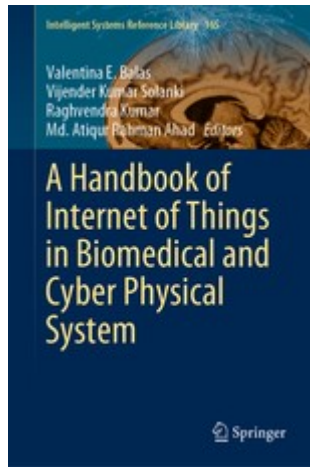
4. "Emergence Pharmaceutical Industry Growth with Industrial Internet of Things Approach", Editors: Valentina Emilia Balas, [Vij E Nder](#) and [Dr-Raghvendra Kumar Agrawal](#), <https://www.elsevier.com/books/emergence-of-pharmaceutical-industry-growth-with-industrial-iot-approach/balas/978-0-12-819593-2>



5. "Intelligent Data Analysis for BioMedical Applications: Challenges and Solutions", Editors: Jude Hemanth, Valentina E. Balas, Deepak Gupta, https://www.elsevier.com/books/intelligent-data-analysis-for-biomedical-applications/d-jude/978-0-12-815553-0?fbclid=IwAR3nqZKmsjLVDijWomoTYA8S8Li7uZrg4qoO8QMI3H23NpzTgmLXxbrWv_o



6. "A Handbook of Internet of Things in Biomedical and Cyber Physical System" Editors: Valentina E. Balas, Vijender Kumar Solanki, [Dr-Raghvendra Kumar Agrawal](#), [Md Atiqur Rahman Ahad](#) <https://www.springer.com/gp/book/9783030239824>



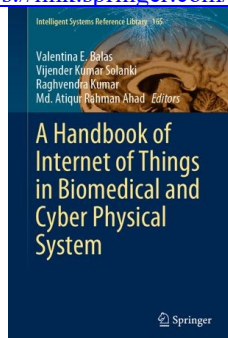
7. Handbook of Data Science Approaches for Biomedical Engineering, 1st Edition, Editors: Valentina E. Balas, Vijender Kumar Solanki, Raghvendra Kumar, and [Manju Khari](https://www.elsevier.com/books/handbook-of-data-science-approaches-for-biomedical-engineering/balas/978-0-12-818318-2?fbclid=IwAR3Jzcpc9sOKDcgGNRZ9stUZn6LDId7gm6W5tRe-DN2rrW6bav-XJuHU0mU),
<https://www.elsevier.com/books/handbook-of-data-science-approaches-for-biomedical-engineering/balas/978-0-12-818318-2?fbclid=IwAR3Jzcpc9sOKDcgGNRZ9stUZn6LDId7gm6W5tRe-DN2rrW6bav-XJuHU0mU>



8. Applications of Robotics in Industry Using Advanced Mechanisms
 Proceedings of International Conference on Robotics and its Industrial Applications 2019. Editors: Nayak, J., Balas, V.E., Favorskaya, M., Choudhury, B.B., Rao, S.K.M., Naik, B. (Eds.)
<https://www.springer.com/gp/book/9783030302702>



9. A Handbook of Internet of Things in Biomedical and Cyber Physical System, Editors: Valentina E. Balas, Vijender Kumar Solanki, Raghvendra Kumar, Md. Atiqur Rahman Ahad
<https://link.springer.com/book/10.1007/978-3-030-23983-1>



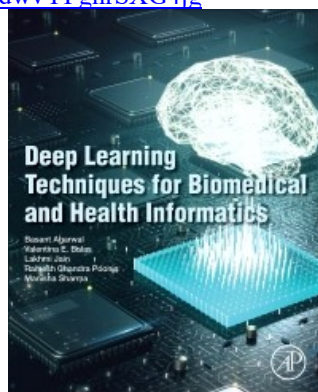
10. Advances in Data Science and Management, Proceedings of ICDSM 2019
Editors: **Borah**, Samarjeet, **Balas**, Valentina Emilia, **Polkowski**, Zdzislaw (Eds.),
https://www.springer.com/gp/book/9789811509773?fbclid=IwAR14vshjUvyeHsQWf2Q5eFsr_BX5QQ7rKn1P4C-A6z4owtSgMPeIErrSNPY



11. Recent Trends and Advances in Artificial Intelligence and Internet of Things, Editors: **Balas**, Valentina E., **Kumar**, Raghvendra, **Srivastava**, Rajshree
<https://www.springer.com/gp/book/9783030326432>



12. "Deep Learning Techniques for Biomedical and Health Informatics"
Editors: Basant Agarwal, [Valentina Emilia Balas](#), [Lakhmi Jain](#), Ramesh Poonia, Manisha Sharma,
https://www.elsevier.com/books/Deep%20Learning%20Techniques%20for%20Biomedical%20and%20Health%20Informatics/9780128190616?utm_campaign=ELS+STBK+AuthorConnect+Release&utm_campaignPK=1625547453&utm_term=OP61545&utm_content=1634754343&utm_source=93&BID=740075198&utm_medium=email&SIS_ID=0&fbclid=IwAR1xRyLoPZDNbFZILeC8XyjcaHbwExRjdUyCtYGMg6zNAdwvYFgnrSXG4jg



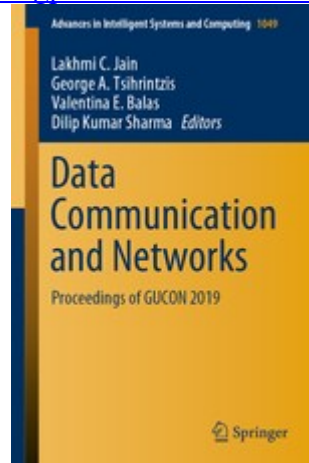
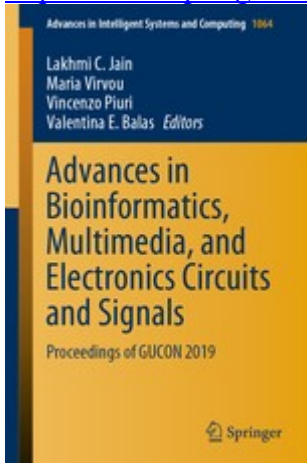
13. Handbook of Research on Blockchain Technology
Editors: Saravanan Krishnan, Valentina Emilia Balas, Julie Golden, Harold Robinson, S. Balaji, Raghvendra Kumar, https://www.elsevier.com/books/handbook-of-research-on-blockchain-technology/krishnan/978-0-12-819816-2?fbclid=IwAR3vjc6Tm0HYu_Q2j_NMJSNkbOGI7qFXCEXbpDVRsHleYwzVJwyWW46-3ys



14. Micro-Electronics and Telecommunication Engineering
 Editors: Sharma, D.K., Balas, V.E., Son, L.H., Sharma, R., Cengiz, K
<https://www.springer.com/gp/book/9789811523281>



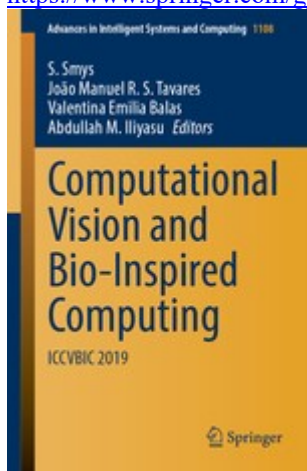
- 15 si 16 - GUCON 2019 Conference, <https://www.springer.com/gp/book/9789811503382>
<https://www.springer.com/gp/book/9789811501319>



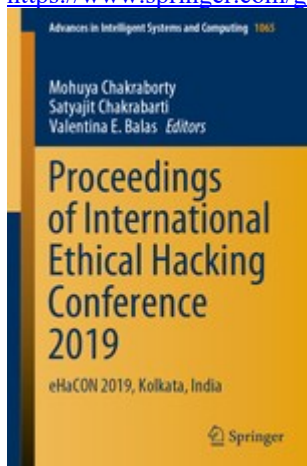
- 17 si 18 – ICDMAI conference,
<https://www.springer.com/gp/book/9789813299481>
<https://www.springer.com/gp/book/9789811393631>



19. Computational Vision and Bio-Inspired Computing, ICCVBIC 2019
 Editors: S. Smys, [João Manuel RS Tavares](https://www.springer.com/gp/book/9783030372170#aboutBook), Valentina E. Balas, Abdullah M. Ilyasu,
<https://www.springer.com/gp/book/9783030372170#aboutBook>



20. Conference 2019, eHaCON 2019, Kolkata, India,
 Editors: Mohuya Chakraborty, Satyajit Chakrabarti, Valentina E. Balas.
Congratulations to my co-editors, authors and reviewers!
<https://www.springer.com/gp/book/9789811503603>



E. Contracte de cercetare / grant / proiecte derulate prin UAV a. Proiecte / granturi naționale câștigate prin competiție Cod proiect: PN-III-P1-1.1-MCD-2019-0133, Contract nr.: 23/24.09.2019 – mobilitate cercetatori din diaspora – Prof. Stefan Bratosin Membru <i>Membru in proiectul BioCell Nano Art</i>
b. Proiecte / granturi internaționale câștigate prin competiție <i>Responsabil partener la proiectul Cooperare europeana si internationala PN 3- P3-544/16.07.2018, Proiect bilateral cu China 2018-2020</i> Membru
c. Alte contracte câștigate prin competiție (ex. proiecte locale, proiecte cu mediul de afaceri etc.) 6 puncte / coordonator; <i>Proiect cu Ministerul Educatiei pentru finantarea Sesiunii Stiintifice Studentesti 2019 la Facultatea de Inginerie</i>

F. Recunoaștere națională și internațională a. Membru în comitetul științific al unor manifestări științifice (juriul unor evenimente expoziționale, curator expoziție) - indexate ISI 10 puncte – Conferinta ECC - https://www.ecc2019.ro/ Conferinta VTCA- https://www.vtca2019.ro/ - indexate BDI - neindexate - curator - membru juriu Sesiunea MatStud, Oradea
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G. Premii și distincții

- Academia Română: **Premiul Academiei Romane: Tudor Tanasescu**



2. ASAS, AOSR, altele asemenea
Premiul GOREA



3. *Naționale Premiul de Excelență UAV*