

Scientific activity 2000-2018
Assoc. Prof. Dr. Loretta Ichim

a) List of scientific publications in 2000-2018:

- **Monographs, book chapters (international publishers)**

[1] Popescu D., **Ichim L.**, Fratila R., Gornea D., chapter: Image based Control of a Simple Mobile Robotic System, book title: Recent Advances in Systems Safety and Security, Studies in Systems, Decision and Control (Eds. Pricop E., Stamatescu G.), vol. 62, 2016, pp. 117-137, ISBN: 978-3-319-32523-1, ISSN 2198-4182, Springer International Publishing, DOI: 10.1007/978-3-319-32525-5_7

- **Monographs, book chapters (national publishers)**

[1] **Ichim L.**, Fractals and Light Scattering - Theory, Applications, 144pp., Ed. Printech, București, 2006, ISBN: 973-718-636-2, ISBN: 978-973-718-636-2. Cod CNCSIS 54

[2] Popescu D, Stamatescu G., Struțu M.-I., Măciucă A.-M., **Ichim L.**, Applications of Multilevel Sensor Networks in Environmental Monitoring, Ed. Politehnica Press, București, 2014, 213 pp., ISBN: 978-606-515-503-9. Cod CNCSIS 19

[3] **Ichim L.**, Popescu D., Image processing. Applications in Medicine, Ed. Politehnica Press, București, 2018, 140pp., ISBN: 978-606-515-829-0. Cod CNCSIS 19

[4] **Ichim L.**, Popescu D, Dobrescu, R., Fractal Techniques in Multimedia Applications, Ed. Politehnica Press, București, 2016, ISBN: 978-606-515-702-6, 100pp. Cod CNCSIS 19

[5] Dobrescu R., **Ichim L.**, chapter: Scale Free Networks in Modeling Complex Systems. In book: Complexity Modeling (Eds: Dobrescu R., Iordache D.A.), Ed. Politehnica Press, București, 2007 pp. 404–424, ISBN: 978-973-7838-43-8. Cod CNCSIS 19

- **ISI WoS Papers in journals and conference proceedings**

Papers in ISI WoS Journals

[1] Popescu D., **Ichim L.**, Stoican F., “Unmanned aerial vehicle systems for remote estimation of flooded areas based on complex Image processing,” *Sensors*, 17(3), 446, pp. 1-24, 2017, ISSN: 1424-8220, DOI: 10.3390/s17030446. WOS: 000398818700019.

[2] Popescu D., **Ichim L.**, “Intelligent image processing system for detection and segmentation of regions of interest in retinal images,” *Symmetry-Basel*, pp. 1-25, 10(3), 73, 2018; ISSN: 2073-8994, DOI: 10.3390/sym10030073, WOS: 000428515300022.

[3] Caramihale T, Popescu D., **Ichim L.**, “Emotion classification using a tensorflow generative adversarial network implementation,” *Symmetry-Basel*, pp. 1-19, 10(9), 414, 2018; ISSN: 2073-8994, DOI: 10.3390/sym10090414, WOS: 000447336700060.

[4] Popescu D., Drăgana C., Stoican F., **Ichim L.**, Stamatescu G., “A collaborative UAV-WSN network for monitoring large areas,” *Sensors*, 18(12), 4202, pp. 1-25, 2018, ISSN: 1424-8220, DOI: 10.3390/s18124202, WOS: 000454817100121

[5] Chenaru O., Popescu D., Enache D., **Ichim L.**, “Fault-tolerant control system implementation based on parameter analysis,” *Studies in Informatics and Control*, vol. 25, no. 2, pp. 227-237, 2016, ISSN: 1220-1766, WOS: 000378101300010

[6] Marcu R., Dănilă I., Popescu D., Chenaru O., **Ichim L.**, "Message queuing model for a healthcare hybrid cloud computing platform," *Studies in Informatics and Control*, vol. 26, no. 1, pp. 95-104, 2017, ISSN: 1220-1766, WOS: 000400630300011

[7] Popescu D., Stoican F., **Ichim L.**, "Control and optimization of UAV trajectory for aerial coverage in photogrammetry applications," *Advances in Electrical and Computer Engineering*, vol. 16, no. 3, pp. 99-106, 2016, ISSN: 1582-7445, e-ISSN: 1844-7600, DOI: 10.4316/AECE.2016.03014, WOS: 000384750000014

[8] Oltean V. E., Dobrescu R., **Ichim L.**, "On modelling and control of a class of tumour growth processes," *Revue Roumaine des Sciences Techniques, Série Électrotechnique et Énergétique*, pp. 109–118, vol. 56, no. 1, 2011, ISSN: 0035-4066, WOS: 000289219900011

Papers in ISI WoS Conference proceedings

[1] Popescu D., **Ichim L.**, Caramihale T., Texture based method for automated detection, localization and evaluation of the exudates in retinal images, 22nd International Conference on Neural Information Processing (ICONIP 2015), 9-12 November, Istanbul, Turkey, S. Arik et al. (Eds.): ICONIP 2015, Part IV, LNCS 9492, pp. 463–472, 2015, ISBN:978-3-319-26561-2; 978-3-319-26560-5, ISSN: 0302-9743, DOI: 10.1007/978-3-319-26561-2_55, WOS: 000373889900055

[2] **Ichim L.**, Oltean V. E., Dobrescu R., Fractal evaluation of a discrete model for simulation of avascular tumor growth, Book: New Aspects of Automatic Control, Modelling and Simulation, Proceedings of the 10th International Conference on Automatic Control, Modelling & Simulation (ACMOS'08), Istanbul, Turkey, May 27-30, 2008, pp. 90–95, ISBN: 979-960-6766-63-3, WOS: 000258072400019

[3] Dobrescu R., **Ichim L.**, Two dimensional modeling and fractal characterization of tumor vascular network, Bioinformatics, Systems Biology and Intelligent Computing, 2009, IJCBS '09. International Joint Conference on Bioinformatics, Systems Biology and Intelligent Computing, 3-5 Aug. 2009, pp. 483–486, Shanghai, China, ISBN: 978-0-7695-3739-9, DOI: 10.1109/IJCBS.2009.71, WOS: 000282797800085

[4] **Ichim L.**, Dobrescu R., Characterization of tumor angiogenesis using fractal measures, 19th International Conference on Control Systems and Computer Science - CSCS 19, pp. 345–349, 2013, ISBN: 978-0-7695-4980-4, DOI: 10.1109/CSCS.2013.18, WOS: 000328493800052

[5] Dobrescu R., **Ichim L.**, Mocanu Șt., Popa Șt., A fractal model for simulation of biological growth processes, Book: Mathematics and Computers in Biology and Chemistry, Proceedings of the 9th WSEAS International Conference on Mathematics & Computers in Biology & Chemistry (MCBC'08), Bucharest, Romania, June 24-26, 2008, pp. 88–93, ISSN: 1790-5125, ISBN: 978-960-6766-75-6, WOS: 000258094800020

[6] Popescu D., **Ichim L.**, Caramihale, T., Computer — Aided localization of the optic disc based on textural features, 9th International Symposium on Advanced Topics in Electrical Engineering (ATEE 2015), pp. 307–312, 2015, ISBN: 978-1-4799-7514-3, DOI: 10.1109/ATEE.2015.7133820, WOS: 000368159800057

[7] Dănilă I., Dobrescu R., Popescu D., Marcu R., **Ichim L.**, M2M service platforms and device management, 9th International Symposium on Advanced Topics in Electrical Engineering (ATEE 2015), pp. 67–72, 2015, ISBN: 978-1-4799-7514-3, DOI: 10.1109/ATEE.2015.7133674, WOS: 000368159800013

[8] Popescu D., **Ichim L.**, Image recognition in UAV application based on texture analysis, Battiato, S.; BlancTalon, J; Gallo, G; Philips, W; Popescu, D; Scheunders, P (Eds.): ACIVS 2015, Advanced Concepts for Intelligent Vision Systems, 26-29 October, Catania, Italy, LNCS 9386, pp. 693-704, 2015, ISBN: 978-3-319-25903-1, 978-3-319-25902-4, ISSN: 0302-9743, DOI: 10.1007/978-3-319-25903-1_60, WOS: 000374794500060

[9] Dobrescu R., **Ichim L.**, Automatic data acquisition and signal processing in the field of virology, Book: Advances in Mass Data Analysis of Images and Signals in Medicine, Biotechnology, Chemistry and Food Industry, Third International Conference, MDA 2008, LNAI 5108, pp. 52–61, Leipzig,

Germany, July 14, 2008, Springer-Verlag, ISSN: 0302-9743, ISBN: 978-3-540-70714-1, WOS:000258397100005

[10] **Ichim L.**, Popescu D., Cirneanu St., Combining blood vessel segmentation and texture analysis to improve optic disc detection, The 5th IEEE International Conference on E-Health and Bioengineering - EHB 2015, Iași, Romania, November 19-21, pp. 1-4, 2015, ISBN:978-1-4673-7545-0, ISSN: 2575-5137, eISSN: 2575-5145, DOI: 10.1109/EHB.2015.7391359, WOS: 000380397900012

[11] Popescu D., **Ichim L.**, Angelescu N., Ioniță M. G., Improving texture based classification of aerial images by fractal features, 20th International Conference on Control Systems and Computer Science (CSCS 20), pp. 578–583, 2015, ISBN: 978-1-4799-1780-8, DOI: 10.1109/CSCS.2015.18, WOS: 000380375200084

[12] Popescu D., **Ichim L.**, Frățilă R., Gornea D., Reconfigurable robotic system based on mono-camera guidance, Proceedings of the International Conference – 6th Edition Electronics ECAI 2014 - Computers and Artificial Intelligence, 23 October - 25 October, 2014, Bucharest, Romania, pp. 63–69, ISBN:978-1-4799-5479-7, ISSN: 2378-7147, DOI: 10.1109/ECAI.2014.7090222, WOS: 000380489500053

[13] Jarnea A.D., Dobrescu R., Popescu D., **Ichim L.**, Advanced driver assistance system for overtaking maneuver on a highway, The 19th International Conference on System Theory, Control and Computing – ICSTCC 2015, 14-16 October 2015, pp. 759-764, Căile Grădiștei - Fundata, Romania, ISBN: 978-1-4799-8481-7, DOI: 10.1109/ICSTCC.2015.7321385, WOS: 00038238410012

[14] Dobrescu R., **Ichim L.**, Fractal dimension of Mie scattering spectra for the appraisal of infected HeLa cells in cultures, IEEE 7th International Symposium on Bioinformatics & Bioengineering (IEEE BIBE 2007), Conference Center of Harvard Medical School, Boston, Massachusetts, USA, October 14-17, vol. II, pp. 908–913, 2007, ISBN: 978-1-4244-1509-0, DOI:10.1109/BIBE.2007.4375667, WOS: 000252958200139

[15] Popescu D., **Ichim L.**, Caramihale T., Flood areas detection based on UAV surveillance system, The 19th International Conference on System Theory, Control and Computing – ICSTCC 2015, 14-16 October 2015, pp. 753-758, Căile Grădiștei - Fundata, Romania, ISBN: 978-1-4799-8481-7, DOI:10.1109/ICSTCC.2015.7321384, WOS: 000382384100125

[16] **Ichim L.**, Popescu D., Cirneanu Șt., Combining LBP and co-occurrence matrix information to accurate recognition of the optic disc in retinal image, 13th International Conference on Development and Application Systems (DAS 2016), May 19-21, Suceava, Romania, pp. 254-259, 2016, ISBN:978-1-5090-1993-9, DOI: 10.1109/DAAS.2016.7492582, WOS: 000383222200041

[17] **Ichim L.**, Caramihale T., Popescu D., Intelligent feature selection for regions of interest identification in retinal images, 11th IEEE International Symposium on Applied Computational Intelligence and Informatics (SACI 2016), May 12-14, Timișoara, Romania, pp. 311-315, 2016, ISBN:978-1-5090-2380-6, DOI: 10.1109/SACI.2016.7507392, WOS: 000387119900056

[18] Popescu D., **Ichim L.**, Caramihale T., Detection of exudates and hemorrhages using an efficient criterion for feature selection, 39th International Conference on Telecommunications and Signal Processing (TSP 2016), 27-29 June, Vienna, Austria, pp. 711-715, 2016, ISBN: 978-1-5090-1288-6, DOI: 10.1109/TSP.2016.7760977, WOS: 000390164000156

[19] Gornea D., Popescu D., **Ichim L.**, Remote assessment of flooded areas based on Inter-spectral statistical features, 39th International Conference on Telecommunications and Signal Processing (TSP 2016), 27-29 June, Vienna, Austria, pp. 707-710, 2016, ISBN: 978-1-5090-1288-6. DOI: 10.1109/TSP.2016.7760976, WOS: 000390164000155

[20] Popescu D., **Ichim L.**, Aerial image segmentation by use of textural features, The 20th International Conference on System Theory, Control and Computing – ICSTCC 2016, 13-15 October 2016, Sinaia, Romania, 2016, pp. 721-726, ISBN:978-1-5090-2720-0, ISSN: 2372-1618, DOI: 10.1109/ICSTCC.2016.7790752, WOS: 000391609900122

- [21] Şumălan A.S., Popescu D., **Ichim L.**, Flooded area detection using UAV images, 24th Telecommunications forum TELFOR 2016 Serbia, Belgrade, November 22-23, pp. 1-4, 2016, ISBN: 978-1-5090-4086-5, DOI: 10.1109/TELFOR.2016.7818798, WOS: 000393491700086
- [22] **Ichim L.**, Popescu, D., Remote image classification based on patch dissimilarity, 24th Mediterranean Conference on Control and Automation (MED), JUN 21-24, 2016, Athens, Greece, ISBN:978-1-4673-8345-5, ISSN: 2325-369X, pp. 1186-1191, 2016, DOI: 10.1109/MED.2016.7536035, WOS: 000391154900196
- [23] Caramihale T., Popescu D., **Ichim L.**, Detection of regions of interest in retinal images using artificial neural networks and K-means clustering, 22nd International Conference on Applied Electromagnetics and Communications (ICECOM), 19-21 Sept., Dubrovnik, Croatia, pp. 1-6, 2016, ISBN: 978-953-6037-72-8, DOI: 10.1109/ICECom.2016.7843911, WOS: 000400382100040
- [24] Popescu D., **Ichim L.**, Gornea D., Complex image processing using correlated color information, Advanced Concepts for Intelligent Vision Systems ACIVS, BlancTalon, J.; Distanto, C.; Philips, W.; Popescu, D.; Scheunders, P. (Eds.): ACIVS 2016, Lecce, Italy, 24-27 October, 2016, LNCS 10016, pp. 723-734, ISBN: 978-3-319-48680-2; 978-3-319-48679-6, ISSN: 0302-9743, eISSN: 1611-3349, DOI: 10.1007/978-3-319-48680-2_63, WOS: 000390177400063
- [25] Şumălan A.L., Popescu D., **Ichim L.**, Flood evaluation in critical areas by UAV surveillance, 8th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), 30 June-2 July, 2016, pp. 1-6, ISBN: 978-1-5090-2047-8, ISSN: 2378-7147, DOI: 10.1109/ECAI.2016.7861118, WOS: 000402541200054
- [26] Dobrescu S., Chenaru O., Matei N., **Ichim L.**, Popescu, D., A service oriented system of reusable algorithms for distributed control of petroleum facilities in onshore oilfields, 8th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), 30 June-2 July, 2016, pp. 1-6, ISBN: 978-1-5090-2047-8, ISSN: 2378-7147, DOI: 10.1109/ECAI.2016.7861115, WOS: 000402541200051
- [27] Caramihale T., Popescu D., **Ichim L.**, A neural-network based approach for exudates evaluation in retinal images, 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE 2017), 23-25 Martie, Bucharest, Romania, pp. 268–273, 2017, ISBN:978-1-5090-5160-1, ISSN: 1843-8571, DOI: 10.1109/ATEE.2017.7905107, WOS: 000403399400053
- [28] Cirneanu S., **Ichim L.**, Popescu D., Accurate localization of the optic disc based on LBP descriptors, 40th International Conference on Telecommunications and Signal Processing (TSP), pp. 678-681, 5-7 July 2017, Barcelona, Spain, ISBN: 978-1-5090-3982-1, DOI: 10.1109/TSP.2017.8076073, WOS: 000425229000144
- [29] **Ichim L.**, Popescu D., Retinal image segmentation based on weighted local detectors and confusion matrix, 40th International Conference on Telecommunications and Signal Processing (TSP), pp. 654-658, 5-7 July 2017, Barcelona, Spain, ISBN: 978-1-5090-3982-1, DOI: 10.1109/TSP.2017.8076068, WOS: 000425229000139
- [30] Camachi B.E.M., Chenaru O., **Ichim L.**, Popescu D., A practical approach to IEC 61850 standard for automation, protection and control of substations, 9th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), pp. 1-6, 22 June-1July 2017, Targoviste, Romania, ISBN:978-1-5090-6458-8, ISSN: 2378-7147, DOI: 10.1109/ECAI.2017.8166471, WOS: 000425865900087
- [31] Matei N.M., Dobrescu S.-L., **Ichim L.**, Popescu D., Pricop E., A multi-agent system for management of control functions as services in onshore oilfield, 9th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), pp. 1-5, 22 June-1July 2017, Târgovişte, Romania, ISBN:978-1-5090-6458-8, ISSN: 2378-7147, DOI: 10.1109/ECAI.2017.8166473, WOS: 000425865900089
- [32] Savu M., Popescu D., **Ichim L.**, Blood vessel segmentation in eye fundus images, International Conference on Smart Systems and Technologies (SST), pp. 245-249, 18-20 October 2017, Osijek, Croatia, ISBN: 978-1-5386-2101-1, DOI: 10.1109/SST.2017.8188703, WOS: 000427141100035

- [33] Stoican F., Prodan I., Popescu D., **Ichim L.**, Constrained trajectory generation for UAV systems using a B-spline parametrization, 25th Mediterranean Conference on Control and Automation (MED), 3-6 July, pp. 613-618, Valetta, Malta, 2017, ISBN:978-1-5090-4533-4, ISSN: 2325-369X, DOI: 10.1109/MED.2017.7984185, WOS: 000426926300100
- [34] Chenaru O., Popescu D., Enache D., **Ichim L.**, Stoican F., Improving operational security for web-based distributed control systems in wastewater management, 25th Mediterranean Conference on Control and Automation (MED), 3-6 July, pp. 1089-1093, Valetta, Malta, 2017, ISBN:978-1-5090-4533-4, ISSN: 2325-369X, DOI: 10.1109/MED.2017.7984263, WOS: 000426926300178
- [35] Șumălan A.L., Popescu D., **Ichim L.**, Flooded and vegetation areas detection from UAV images using multiple descriptors, 21st International Conference on System Theory, Control and Computing (ICSTCC), pp. 447-452, 19-21 October 2017, Sinaia, Romania, ISBN:978-1-5386-3842-2, ISSN: 2372-1618, DOI: 10.1109/ICSTCC.2017.8107075, WOS: 000427419900073
- [36] Popescu D., **Ichim L.**, Vlăsceanu E., Chenaru C., Multi-ground-control system for unmanned aerial vehicles, 25th Telecommunication Forum (TELFOR), 21-22 November 2017, Belgrade, Serbia, pp. 1-5, ISBN: 978-1-5386-3073-0, DOI: 10.1109/TELFOR.2017.8249317, WOS: 000427782600046
- [37] Tudorache S., Popescu D., **Ichim L.**, Combining efficient textural features with CNN - based classifiers to segment regions of interest in aerial images, 5th International Symposium on Electrical and Electronics Engineering (ISEEE), pp. 1-6, 20-22 October 2017, Galați, Romania, ISBN: 978-1-5386-2059-5, ISSN: 2378-3907, DOI: 10.1109/ISEEE.2017.8170631, WOS: 000428234400007
- [38] Bubulac L., **Ichim L.**, Popescu D., Purcarea L.V., Cirneanu Șt., Lazar G., Popa-Velea O., Detection and management of student stress in the learning process, 10th annual International Conference of Education, Research and Innovation (ICERI 2017), Seville, Spain, 16-18 November, 2017, pp. 6537-6544, ISBN: 978-84-697-6957-7, ISSN: 2340-1095, DOI: 10.21125/iceri.2017.1690, WOS: 000429975306092
- [39] **Ichim L.**, Popescu D., The university-industry-government partnership in Romanian Program Bridge Grant for increasing the quality of research in technical higher education, 10th annual International Conference of Education, Research and Innovation (ICERI 2017), Seville, Spain, 16-18 November, 2017, ISBN: 978-84-697-6957-7, ISSN: 2340-1095, pp. 5613-5619, DOI: 10.21125/iceri.2017.1454, WOS: 000429975305109
- [40] **Ichim L.**, Popescu D., Combining color fractal with LBP information for flood segmentation in UAV-based images, S. Battiato et al. (Eds.): ICIAP 2017, Part II, LNCS 10485, pp. 741–752, 2017, ISBN: 978-3-319-68548-9; 978-3-319-68547-2, ISSN: 0302-9743, eISSN: 1611-3349, DOI: 10.1007/978-3-319-68548-9_67, WOS: 000445230400067
- [41] Caramihale T., Popescu D., **Ichim L.**, Interconnected neural networks based on voting scheme and local detectors for retinal image analysis and diagnosis, S. Battiato et al. (Eds.): ICIAP 2017, Part II, LNCS 10485, pp. 753-764, ISBN: 978-3-319-68548-9; 978-3-319-68547-2, ISSN: 0302-9743, eISSN: 1611-3349, DOI: 10.1007/978-3-319-68548-9_68, WOS: 000445230400068
- [42] Popescu D., **Ichim L.**, Dobrescu R., Sliding box method for automated detection of the optic disc and macula in retinal images, Third International Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2015), Granada, Spain, April 15-17, 2015, LNCS 9043, pp. 250–261, 2015, ISBN:978-3-319-16483-0; 978-3-319-16482-3, ISSN: 0302-9743, DOI: 10.1007/978-3-319-16483-0_26, WOS: 000410783200026
- [43] Camachi B.E.M., Popescu D., **Ichim L.**, Cyber security of smart grid Infrastructure, 12th International Symposium on Applied Computational Intelligence and Informatics (SACI), May 17-19, 2018, pp. 303-308, ISBN: 978-1-5386-4640-3, DOI: 10.1109/SACI.2018.8441017, WOS: 000448144200053
- [44] Cojocaru J.-I.-R., Popescu D., **Ichim L.**, Texture classification algorithm using elements of fractal analysis, 21st International Conference on Control Systems and Computer Science (CSCS), 29-31 May 2017, Bucharest, Romania, pp. 435-440, ISBN: 978-1-5386-1839-4, DOI: 10.1109/CSCS.2017.67, WOS: 000449004400060

- [45] **Ichim L.**, Popescu D., Image processing in hybrid wireless sensor network for small flooded areas evaluation, 4th International Conference on Control, Decision and Information Technologies (CoDIT), 5-7 April 2017, pp. 0318 - 0323, Barcelona, Spain, ISBN: 978-1-5090-6465-6, DOI: 10.1109/CoDIT.2017.8102611, WOS: 000450826500055
- [46] Drăgana C., Stamatescu G., **Ichim L.**, Popescu D., Interlinking unmanned aerial vehicles with wireless sensor networks for improved large area monitoring, 4th International Conference on Control, Decision and Information Technologies (CoDIT), 5-7 April 2017, pp. 0359 - 0364, Barcelona, Spain, ISBN: 978-1-5090-6465-6, DOI: 10.1109/CoDIT.2017.8102618, WOS: 000450826500062
- [47] **Ichim L.**, Popescu D., Road detection and segmentation from aerial images using a CNN based system, 41st International Conference on Telecommunications and Signal Processing (TSP '18), July 4-6, 2018 Athens, Greece, pp. 1-5, Electronic ISBN: 978-1-5386-4695-3, Print on Demand(PoD) ISBN: 978-1-5386-4696-0, DOI: 10.1109/TSP.2018.8441366, WOS: 000454845100070
- [48] Cirneanu Șt., **Ichim L.**, Popescu D., Improvement of optic disc localization using Gabor filters, 41st International Conference on Telecommunications and Signal Processing (TSP '18), July 4-6, 2018 Athens, Greece, pp. 1-5, Electronic ISBN: 978-1-5386-4695-3, Print on Demand(PoD) ISBN: 978-1-5386-4696-0, DOI: 10.1109/TSP.2018.8441261, WOS: 000454845100066
- [49] Enache D., Chenaru O., **Ichim L.**, Popescu D., Residual water burst detection using WSN measurements and cloud analysis, 26th Mediterranean Conference on Control and Automation, June 19-22, 2018, Zadar, Croatia, pp. 926-931, ISBN: 978-1-5386-7891-6, Electronic ISBN: 978-1-5386-7890-9, DOI: 10.1109/MED.2018.8442869, WOS: 000454718500153
- [50] Militaru G., Popescu D., **Ichim L.**, Connectivity solutions for hybrid air-ground sensor networks, 26th Mediterranean Conference on Control and Automation, June 19-22, 2018, Zadar, Croatia, pp. 932-937, ISBN: 978-1-5386-7891-6, Electronic ISBN: 978-1-5386-7890-9, DOI: 10.1109/MED.2018.8442902, WOS: 000454718500154
- [51] Chenaru O., Popescu D., Mihai V., **Ichim L.**, Integration of WSN, IoT and cloud computing in distributed monitoring system for aging persons in active life, 26th Mediterranean Conference on Control and Automation, June 19-22, 2018, Zadar, Croatia, pp. 938-943, ISBN: 978-1-5386-7891-6, Electronic ISBN: 978-1-5386-7890-9, DOI: 10.1109/MED.2018.8442646, WOS: 000454718500155
- [52] Militaru G., Popescu D., **Ichim L.**, UHF propagation model calibration using correlations between field measurements and prediction, IEEE Radio and Antenna Days of the Indian Ocean (IEEE RADIO 2018), Mauritius, 15 - 18 October 2018, pp. 1-2, Electronic ISBN: 978-99949-0-470-9, DOI: 10.23919/RADIO.2018.8572437, WOS: 000457734500045
- [53] Stoican F., Popescu D., **Ichim L.**, A geometrical interpretation of communication restrictions in a multi-agent environment, IEEE Radio and Antenna Days of the Indian Ocean (IEEE RADIO 2018), Mauritius, 15 - 18 October 2018, pp. 1-2, Electronic ISBN: 978-99949-0-470-9, DOI: 10.23919/RADIO.2018.8572375, WOS: 000457734500027
- [54] Hanganu C.E., Chenaru O., **Ichim L.**, Popescu D., Efficient solution for smart home applications, 26th Telecommunications Forum (TELFOR 2018), Belgrade, Serbia, November 20-21, pp. 1-4, 2018, ISBN:978-1-5386-7171-9, DOI: 10.1109/TELFOR.2018.8611836, WOS: 000459714200096
- [55] Militaru G., Popescu D., **Ichim L.**, UAV-to-UAV communication options for civilian application, 26th Telecommunications Forum (TELFOR 2018), Belgrade, Serbia, November 20-21, pp. 1-4, 2018, ISBN: 978-1-5386-7171-9, DOI: 10.1109/TELFOR.2018.8612108, WOS: 000459714200043
- [56] Stoican F., Prodan I., Popescu D., **Ichim L.**, Vlăsceanu E., Mixed-integer representations for mission constraints in a multi-agent team, 15th International Conference on Control, Automation, Robotics and Vision (ICARCV), November 18-21, 2018, Marina Bay Sands Expo and Convention Centre, Singapore, pp. 562-567, ISBN: 978-1-5386-9582-1, ISSN: 2474-2953, DOI: 10.1109/ICARCV.2018.8580636, WOS: 000459847700095
- [57] Șumălan A., Popescu D., **Ichim L.**, CNN based on LBP for evaluating natural disasters, 15th International Conference on Control, Automation, Robotics and Vision (ICARCV), November 18-21, 2018, Marina Bay Sands Expo and Convention Centre, Singapore, pp. 568-573, ISBN: 978-1-5386-9582-1, ISSN: 2474-2953, DOI: 10.1109/ICARCV.2018.8581130, WOS: 000459847700096

- [58] Popescu D., **Ichim L.**, Stoican F., Flooded area segmentation from UAV images based on generative adversarial networks, 15th International Conference on Control, Automation, Robotics and Vision (ICARCV), November 18-21, 2018, Marina Bay Sands Expo and Convention Centre, Singapore, pp. 1361-1366, ISBN: 978-1-5386-9582-1, ISSN: 2474-2953, DOI: 10.1109/ICARCV.2018.8581341, WOS: 000459847700229
- [59] Jianu S, **Ichim L.**, Popescu D., Chenaru O., Advanced processing techniques for detection and classification of skin lesions, 22nd International Conference on System Theory, Control and Computing (ICSTCC), October 10-12, 2018, Sinaia, Romania, pp. 498-503, ISBN: 978-1-5386-4444-7, Print on Demand(PoD) ISSN: 2372-1618, DOI: 10.1109/ICSTCC.2018.8540732, WOS: 000465109800082
- [60] Safca N., Popescu D., Ichim L., El-khatib H., Chenaru O., Image processing techniques to identify red blood cells, 22nd International Conference on System Theory, Control and Computing (ICSTCC), October 10-12, 2018, Sinaia, Romania, pp. 93-98, ISBN: 978-1-5386-4444-7, Print on Demand(PoD) ISSN: 2372-1618, DOI: 10.1109/ICSTCC.2018.8540708, WOS: 000465109800015
- [61] Militaru I. G., Popescu D., Mateescu C., **Ichim L.**, Correlation between distance and frequency bands in hybrid air-ground sensor networks, 5th International Conference on Control, Decision and Information Technologies (CoDIT), 10-13 April 2018, Thessaloniki, Greece, pp. 247-252, 2018, Electronic ISBN: 978-1-5386-5065-3, Electronic ISSN: 2576-3555, DOI: 10.1109/CoDIT.2018.8394859, WOS: 000468641000042
- [62] Mihai V., Drăgana C., Stamatescu G., Popescu D., **Ichim L.**, Wireless sensor network architecture based on fog computing, 5th International Conference on Control, Decision and Information Technologies (CoDIT), 10-13 April 2018, Thessaloniki, Greece, pp. 743-747, 2018, Electronic ISBN: 978-1-5386-5065-3, Electronic ISSN: 2576-3555, DOI: 10.1109/CoDIT.2018.8394851, WOS: 000468641000124
- [63] **Ichim L.**, Popescu D., Monitoring and evaluation of flooded areas based on fused texture descriptors, In: Blanc-Talon J., Penne R., Philips W., Popescu D., Scheunders P. (eds) Advanced Concepts for Intelligent Vision Systems. ACIVS 2017. Lecture Notes in Computer Science, vol. 10617, pp. 349-360, 2017, Online ISBN: 978-3-319-70353-4, Print ISBN: 978-3-319-70352-7, DOI: 10.1007/978-3-319-70353-4_30, WOS: 000463335100030
- [64] **Ichim L.**, Popescu D., Integrating UAV in IoT for RoI classification in remote images, In: Blanc-Talon J., Penne R., Philips W., Popescu D., Scheunders P. (eds), Advanced Concepts for Intelligent Vision Systems. ACIVS 2018, Lecture Notes in Computer Science, vol. 11182, pp. 270-282, 2018, ISBN:978-3-030-01449-0; 978-3-030-01448-3, ISSN: 0302-9743DOI: 10.1007/978-3-030-01449-0_23, WOS: 000476892400023
- [65] Vlăsceanu, E., Popescu D., Ichim L., Ground control station for an Unmanned Aerial Vehicle integrated in IoT, 10th International Conference on Electronics, Computers and Artificial Intelligence - ECAI 2018 (6th International Workshop on Systems Safety & Security – IWSSS), June 28– June 30, 2018, pp. 1-6, ISBN: 978-1-5386-4901-5, WOS:000467734100120
- [66] Șumălan A., Ichim L., Popescu D., Person detection in video surveillance, 10th International Conference on Electronics, Computers and Artificial Intelligence - ECAI 2018 (6th International Workshop on Systems Safety & Security – IWSSS), June 28– June 30, 2018, pp. 1-6, ISBN: 978-1-5386-4901-5, WOS:000467734100010

- **Papers in BDI journals and conference proceedings**

BDI Journal papers

- [1] **Ichim L.**, Bleotu C., Diaconu C. C., "Fractal dimensions of cell substructures. An experimental approach," U.P.B. Sci. Bull., Series C, vol. 66, pp. 99–108, 2004, ISSN: 1454-234x [Scopus]
- [2] **Ichim L.**, "Fractal methods in cellular and nuclear morphology," U.P.B. Sci. Bull., vol. 69, no. 2, Series C, pp. 73–85, 2007, ISSN: 1454-234x [Scopus]

- [3] Dobrescu R., **Ichim L.**, “Using fractal dimension as discriminator of infected HeLa cells from spectrophotometric images, I. J. Functional Informatics and Personalised Medicine, vol. 1, no. 1, pp. 53–67, 2008, ISSN: 1756-2104 [Scopus]
- [4] **Ichim L.**, Dobrescu R., “Device and method for acquisition and automatic data processing in virology,” Transactions on Mass-Data Analysis of Images and Signals, vol. 1, no. 2, pp. 210–223, Sept. 2009, ISSN: 1868-6451 [DBLP]
- [5] Dobrescu R., Vasilescu C., **Ichim L.**, “Fractals and scaling analysis in tumor growth evaluation,” WSEAS Transactions on Systems, vol. 6, no. 1, pp. 102-108, 2007 ISSN:1109-2777 [Scopus]
- [6] Dobrescu R., Dobrescu M., **Ichim L.**, “Improved content based image retrieval technique with fractal discriminator,” WSEAS Transactions on Systems, vol. 5, no. 12, pp. 2781-2788, 2006, ISSN: 11092777 [Scopus]

Papers in BDI Conference proceedings

- [1] Dobrescu R., Vasilescu C., **Ichim L.**, Using fractal dimension in tumor growth evaluation, Proceedings of the 5th WSEAS International Conference on Non-Linear Analysis, Non-Linear Systems and Chaos (NOLASC '06), pp. 63–68, Bucharest, Romania, October 16-18, 2006, ISBN: 960-8457-54-8 [ACM DL]
- [2] **Ichim L.**, Dobrescu R., Vasilescu C., Two dimensional modeling and computer simulation of tumor growth, WORLDCOMP'08, Proceedings of the 2008 International Conference on Bioinformatics & Computational Biology (BIOCOMP 2008), July 14-17, Las Vegas Nevada, USA, vol. 1, CSREA Press USA, pp. 328–333, 2008, ISBN: 1-60132-055-8 [Scopus]
- [3] Oltean V.E., Dobrescu R., **Ichim L.**, Dobrică L., Behaviour prediction and simulation of partition-based biological models - Some open issues of lattice paradigms, IFAC Proceedings Volumes, vol. 42, Issue 25, January 2009, pp. 80–85, 12th IFAC Workshop on Supplementary Ways for Improving International Stability, 2009, ISBN: 978-3-902661-57-9, DOI:10.3182/20091028-3-RO-4007.00018 [IFAC POL & Elsevier]
- [4] Dobrescu R., Dobrescu M., **Ichim L.**, Using texture and fractal analysis for classification of cell nuclei from light scattering spectroscopic images, Proceedings of IEEE WHISPERS 2010 – Workshop on Hyperspectral Image and Signal Processing, 14-16 June, pp. 1–4, Reykjavik, Island, 2010, ISBN: 978-1-4244-8906 [Scopus, IEEE Xplore], DOI:10.1109/WHISPERS.2010.5594874
- [5] Dobrescu R., **Ichim L.**, Mocanu Șt., Popescu D., Benign and malignant breast lesions: diagnosis using fractal measures, Proceedings of the 18th International Conference on System Theory, Control and Computing (ICSTCC 2014), Sinaia, Romania, October 17-19, 2014, pp. 82–86, ISBN: 978-1-4799-4602-0 [Scopus, IEEE Xplore]
- [6] Dobrescu R., **Ichim L.**, Crișan D., Diagnosis of breast cancer from mammograms by using fractal measures, International Journal of Medical Imaging, vol. 1, Issue 2, 2013, pp. 32-38. doi: 10.11648/j.ijmi.20130102.14, ISSN Print: 2330-8303, ISSN Online: 2330-832X [CrossRef, Journal Seek], DOI: 10.11648/j.ijmi.20130102.14.
- [7] Dobrescu R., **Ichim L.**, Mocanu Șt., Popa Șt., A fractal approach to pattern formation in biological systems, WSEAS Transactions on Biology and Biomedicine, vol. 5, no. 6, pp. 107-116, 2008, ISSN: 1109-9518 [Semantic Scholar]
- [8] Popescu D., **Ichim L.**, Docea A., Complex conditional Generative Adversarial Nets for multiple objectives detection in aerial images, 25th International Conference on Neural Information Processing (ICONIP 2018), 13-16 December, Siem Reap, Cambodia, L. Cheng et al. (Eds.): ICONIP 2018, LNCS 11304, pp. 671–683, 2018, ISSN: 0302-9743, ISBN: 978-3-030-04211-0 [Springer]
- [9] Vlăsceanu, E., Popescu D., Ichim L., Ground control station for an Unmanned Aerial Vehicle integrated in IoT, 10th International Conference on Electronics, Computers and Artificial Intelligence - ECAI 2018 (6th International Workshop on Systems Safety & Security – IWSSS), June 28– June 30, 2018, pp. 1-6, ISBN: 978-1-5386-4901-5 [IEEE Xplore]

[10] Șumălan A., Ichim L., Popescu D., Person detection in video surveillance, 10th International Conference on Electronics, Computers and Artificial Intelligence - ECAI 2018 (6th International Workshop on Systems Safety & Security – IWSSS), June 28– June 30, 2018, pp. 1-6, ISBN: 978-1-5386-4901-5 [IEEE Xplore]

b) List of reasearch grants 2000-2018:

- **International research grants**

[1] FP7 project ERRIC Empowering Romanian Research on Intelligent Information Technologies, REGPOT-2010-1 No. 264207, 2010-2014, Project manager: prof.dr.ing. Adina Florea (Team member)

- **National research grants**

[1] Grant Academia Română nr. 308 / 2001, Light diffusion spectrophotometric analysis of the transformation degree in cell culture, Project manager: Ichim Loretta, Executant: Institutul de Virusologie "Stefan S. Nicolau", Beneficiary: Academia Romana, 2001 - 2002 (Project manager)

[2] Multispectral system for monitoring of critical area in the energy field, UEFISCDI Innovation Check, no. PN-III-P2-2.1-CI-2017-0638, Project 64CI/2017, Project manager: Ichim Loretta, Executant: UPB, Beneficiar SONERG TRADING SRL, 07.2017-12.2017 (Director de proiect)

[3] FPGA-based multifunction module for image processing in industrial robotics, UEFISCDI Innovation Check, no. PN-III-P2-2.1-CI-2017-0523, Project 62CI/2017, Project manager: Ichim Loretta, Executant: UPB, Beneficiary ASTI CONTROL SA, 07.2017-12.2017 (Project manager)

[4] Smart multisensor network for indoor monitoring, no. PN-III-P2-2.1-CI-2017-0508, UEFISCDI Innovation Check, Project 100CI/2017, Project manager: Ichim Loretta, Executant: Valahia University of Targoviste, Beneficiary: SOCIETATEA DE INGINERIE SISTEME SIS S.A., 07.2017-12.2017 (Project manager)

[5] Cloud architecture for an open library of complex re-usable logical function blocks for optimized systems, Project PN-II-PT-PCCA2013-4-2123, Project manager: Prof.dr.ing. Daniela Hossu, 2014-2017 (Team member).

[6] Morphometric models and techniques with application in improving the imagistic diagnosis in digestive cancer and evaluation of new therapies, PNCDI-PNII-Parteneriate Project CNMP PN2 61-031 Project manager: Prof.dr.ing. Radu Dobrescu, 2007-2010 (Team member).

[7] Multisensory robot system for aerial monitoring of critical infrastructure (MUROS), National Program STAR, Project 71/2013, Project manager: Prof.dr.ing. Dan Popescu, 2013-2016 (Team member).

[8] Applications of fractal analysis in image processing, CNCSIS PD121 PD_25, Project manager: Prof.dr.ing. Radu Dobrescu, 2006-2008 (Team member).

[9] Multi-drones system for evaluation of flood effects (SIMUL), Proiect Bridge BG49, Project manager: Prof.dr.ing. Dan Popescu, 2016-2018 (Team member).

[10] Context management platform for environmental intelligence applications (CONSERT), Project no. PN-III-P2-2.1-PED-2016-1753, 34PED/2017, Project manager: Prof.dr.ing. Adina Florea, 2016-2018 (Team member).

[11] Integrated multi-agent aerial robotic system for exploring terrestrial regions of interest (MAARS), National Program STAR, Project no. 185/2017, Project manager: Prof.dr.ing. Dan Popescu, 2017-2019 (Team member).

[12] Intelligent and distributed control of 3 complex autonomous systems integrated into emerging technologies for medical-social personal assistance and servicing of precision flexible manufacturing lines (CIDSACTEH) - PN-III-P1-1.2-PCCDI-2017-0290, project no. 78PCCDI/01.03.2018, UPB Project manager: Prof.dr.ing. Radu Dobrescu, 2018-2020 (Team member)

[13] Integrated UAV–WSN–IoT intelligent monitoring system for precision agriculture (MUWI), Project no. 1224/2018 UPB, subsidiary of the project NETIO - UEFISCDI, Project manager: Prof.dr.ing. Dan Popescu, 2018-2020 (Team member).

[14] Unstructured systems for identifying of viral antigens used in medical diagnosis, 2007-2010, PNCDI-PNII-Parteneriate Project, Project manager: dr. Zaharia C. (Team member).

[15] Research on the role of endogenous and exogenous glucocorticoids in modulating apoptosis of peripheral lymphocytes in HIV infection, 2000-2002, ANSTI Project, Project manager: dr. Topârceanu F. (Team member).

[16] Particularities of the immune and hormonal response in neuroinfection in children, 2001-2002, MEC Project, Project manager: dr. Topârceanu F. (Team member).

[17] Promotion within a European and International partnership of biomedical research under extreme life conditions, 2006-2008, CEEEX-M3-134/2006 Project, Project manager: dr. Topârceanu F. (Team member).

[18] Phycodnaviruses – Molecular detection. Researching opportunities in aquatic ecosystems from Larsemann Hills, East Antarctica, Law-Racovitza Station, 2007-2008, Grant Academia Română, Project manager: dr. Topârceanu F. (Team member).

[19] Research on development of a structure (cognitive) complexe targeting the definition of major risk referent in different socio-economic activities, 2007-2010, PNII-Parteneriate în domenii prioritare Project, Project manager: dr. Zaharia C. (Team member).

c) List of patents obtained in 2000-2018:

- *National patents*

[1] **Ichim L.**, "Spectrophotometric device for microscopes", patent BI no.120590/ 2006, Derwent Primary Accession Number: 2007-006655 [01], International Patent Classification: G01J-003/44; G01N-013/10; G02B-021/06

[2] Dobrescu R., Țarălungă S., **Ichim L.**, Mocanu S., "Distributed processing platform with applications in fractal analysis", patent RO 123593 B1, 29.11.2013, Derwent Primary Accession Number: 2014-F54192 [26], International Patent Classification: G06F-017/30; G06F-009/50