

## LISTA DE LUCRĂRI

1. Teza de doctorat: *Contribuții la navigația roboților mobili autonomi utilizând rețele neuronale celulare*, Univ. POLITEHNICA Timișoara, 2007.

### 2. Publicații:

- A) Cărți publicate, îndrumare/culegeri publicate,
- A1. **I. Gavriluț**, L. Țepelea, M. Tomșe, *Roboți mobili - Îndrumător de laborator*, Ed. Univ. din Oradea, ISBN 978-606-10-2328-8, CD, 62 pag., 2024.
- A2. **I. Gavriluț**, L. Țepelea, *Testarea echipamentelor electronice - Îndrumător de laborator*, Ed. Univ. din Oradea, ISBN 978-606-10-2198-7, CD, 61 pag., 2022.
- A3. **I. Gavriluț**, L. Țepelea, A. Gacsádi, *Circuite integrate analogice - Îndrumător de laborator*, Ed. Univ. din Oradea, ISBN 978-606-10-1953-3, CD, 75 pag., 2018.
- A4. **I. Gavriluț**, A. Gacsádi, L. Țepelea, *Informatică aplicată în electronică – Teorie și Aplicații*, Ed. Univ. din Oradea, ISBN: 978-606-10-1629-7, 139 pag., 2015.
- A5. R. Dogaru, I. Dogaru, A. Gacsádi, **I. Gavriluț**, *Structura și dinamica rețelelor dinamice complexe – Rețele neliniare celulare*, Ed. Matrix Rom, ISBN 978-973-755-947-0, București, 2013.
- A6. V. Tiponuț, **Gavriluț Ioan**, Gacsádi Alexandru, *Roboți mobili autonomi – Conducerea cu rețele neuronale artificiale*, Editura POLITEHNICA Timișoara, , 286 pag., 2010.
- A7. **Gavriluț Ioan**, *Testarea echipamentelor electronice*, Editura Universității din Oradea, ISBN 978-973-759-620-8, 160 pag. 2008.
- A8. **Gavriluț Ioan**, *Echipamente video - curs*, Editat local, 140 pag., 2008.
- A9. Gacsádi Alexandru, **Gavriluț Ioan**, *Bazele televiziunii- Îndrumător de laborator*, Editura Universității din Oradea, ISBN 978-973-759-657-4, 106 pag., 2008
- A10. **Gavriluț Ioan**, Țepelea Laviniiu, *Utilizarea calculatoarelor – Teorie și Aplicații*, Editura Universității din Oradea, ISBN: 978-973-759-342-9, 178 pag., 2007.
- A11. **Gavriluț Ioan**, *Electronică*, Editura Universității din Oradea, ISBN: 978-973-759-314-6, 131 pag., 2007.
- A12. **Gavriluț Ioan**, *Contribuții la navigația roboților mobili autonomi utilizând rețele neuronale celulare*, Editura POLITEHNICA Timișoara, ISBN: 978-973-625-417-8, 196 pag., 2007
- A13. **Gavriluț Ioan**, Barabás Tiberiu, Gacsádi Alexandru, *Bazele roboticii - Îndrumător de laborator*, Editura Universității din Oradea, ISBN: (10) 973-759-214-X, 92 pag., 2006.
- A14. **Gavriluț Ioan**, Țepelea Laviniiu, *Utilizarea calculatoarelor - Îndrumător de laborator*, Editura Universității din Oradea, ISBN: (10) 973-759-053-8, 77 pag., 2006.
- A15. **Gavriluț Ioan**, Albu Daniel, *Microunde – Îndrumător de laborator*, Editura Universității din Oradea, 54 pag., 2002.
- B) capitole publicate în volume colective,  
C) capitole teoretice redactate,  
D) sisteme de laborator funcționale, după caz, prin care se aduc contribuții la asigurarea și perfecționarea activităților didactice/profesionale.

### 3. Articole/studii publicate:

- A) în reviste de specialitate de circulație internațională recunoscute cotate ISI sau indexate în baze de date internaționale specifice domeniului, care fac un proces de selecție a revistelor pe baza unor criterii de performanță;  
B) indexate în baze de date internaționale recunoscute (BDI).  
C) în alte reviste de specialitate de circulație internațională;  
D) în reviste din țară recunoscute C.N.C.S.I.S.;  
E) în alte reviste de specialitate de circulație națională cu (ISBN, ISSN)
- B1. G.C. Creț, L. Țepelea, C. Grava, **I. Gavriluț**, S. Toma, *Using Raspberry Pi and the OpenCV library to command a robot for tracking a colored object*, 17th Int. Conf. on Engineering of Modern Electric Systems (ICEMES 2023) June 9-10, 2023, Oradea, Romania – IEEE
- B2. **I. Gavriluț**, G. C. Creț, C. Grava, L. Țepelea and I. M. Buciu, *Exploration Algorithm for a Mobile Robot. An Experiment*, 16th Int. Conf. on Engineering of Modern Electric Systems, (EMES), June 2021, Oradea, Romania.
- B3. G. C. Creț, L. Țepelea, I. Buciu, **I. Gavriluț** and C. Grava, *Using block-matching methods to help navigating Visually Impaired People using Raspberry PI Platform*, 16th Int. Conf. on Engineering of Modern Electric Systems, (EMES), June 2021, Oradea, Romania.
- B4. L. Țepelea, I. Buciu, C. Grava, **I. Gavriluț** and A. Gacsádi, *A Vision Module for Visually Impaired People by Using Raspberry PI Platform*, 15th Int. Conf. on Engineering of Modern Electric Systems, (EMES), pp., 13-14 June 2019, Oradea, Romania, ISBN: 978-1-7281-0773-8, 978-1-7281-0774-5.

- B5. **I. Gavriluț**, L. Țepelea, A. Gacsádi, *Indoor localization method based on the sound signal - An Experimental Setup*, Proc. of 15th Int. Conf. on Engineering of Modern Electric Systems (EMES), pp., 13-14 June 2019, Oradea, Romania, ISBN: 978-1-7281-0773-8, 978-1-7281-0774-5.
- B6. L. Țepelea, **I. Gavriluț**, Alexandru Gacsádi, *Smartphone Application to Assist Visually Impaired People*, 2017 14th International Conference on Engineering of Modern Electric Systems, EMES 2017, Oradea, pp. 228-231, 2017
- B7. A. Gacsádi, P. Szolgay, L. Țepelea, R. Reiz, **I. Gavriluț**, *Scalar Parameters Optimization in PDE Based Medical Image Denoising by using Cellular Wave Computing*, Journal of El. and El. Eng., Vol. 9, vol. 2, pp. 25-30, Oradea, 2016.
- B8. L. Țepelea, **I. Gavriluț**, V. Tiponut, P. Szolgay, A. Gacsádi, *OCR application on smartphone for visually impaired people*, Journal of Electrical and Electronics Engineering, Vol. 7, Issue 1, pp. 153-156, Oradea, 2014.
- B9. L. Țepelea, **I. Gavriluț**, A. Gacsádi, *Exploration algorithm for a mobile robot based on two infrared sensors*, Journal of Electrical and Electronics Eng., Vol. 5, Nr. 1, May 2012, Univ. of Oradea Publisher, pp. 255-258, ISSN 1844-6035.
- B10. **I. Gavriluț**, L. Țepelea, A. Gacsádi, *A CNN based nonlinear wave metric for CT images*, Journal of Electrical and Electronics Engineering, Vol. 4, No. 2, University of Oradea Publisher, pp. 29-32, ISSN 1844-6035, 2011.
- B11. L. Țepelea, **I. Gavriluț**, A. Gacsádi, *A CNN Based Algorithm for Medical Image Correlation*, Journal of Computer Science and Control Systems, Vol. 4, Nr. 2, University of Oradea Publisher, pp. 69-72, ISSN 1844-6043, 2011.
- B12. L. Țepelea, R.Reiz, **I. Gavriluț**, A. Gacsádi, *A CNN Computing Algorithm for Image Correlation*, Journal of Electrical and Electronics Engineering, Vol.3, No.2, 2010, University of Oradea Publisher, pp. 217-220, ISSN 1844-6035.
- B13. L. Țepelea, **I. Gavriluț**, A. Gacsádi, *Edge Based CNN Image Segmentation Methods for Medical Imaging*, Journal of Computer Science and Control Systems, Vol. 3, Nr. 2, 2010, Univ. of Oradea Publisher, pp.95-98, ISSN 1844-6043.
- B14. L. Țepelea, V. Tiponut, **I. Gavriluț**, *Applications of Cellular Neural Networks in Trajectory Planning*, Journal of Electrical and Electronics Engineering, Vol. 3, No.1, pg. 223-226, 2010.
- B15. L. Țepelea, **I. Gavriluț**, R. Albu, *Remote Laboratory with LabView and VPN*, Journal of Electrical and Electronics Engineering, Vol. 3, No.2, University of Oradea Publisher, pp. 221-224, ISSN 1844-6035, 2010.
- B16. **I. Gavriluț**, A. Gacsádi, C. Grava, O. Straciuc, L. Țepelea, *Analysis methods of noise extraction from CT images*, Journal of Electrical and Electronics Engineering, Vol.2, No. 2, pp. 146-149, ISSN 1844-6035, June, 2009.
- B17. C. Grava, A. Gacsádi, **I. Gavriluț**, *Arterial elasticity maps obtained by using basic block-matching methods*, Journal of Electrical and Electronics Engineering, Vol. 2, No. 1, pp. 151-154, ISSN 1844-6035, June, 2009.
- D1. **I. Gavriluț**, V. Tiponut, A. Gacsádi, L. Țepelea, *Obstacles Avoidance Method for an Autonomous Mobile Robot using Two IR Sensors*, Journal of Electrical and Electronics Engineering, ISSN: 1844-6035, pp. 194-197, Oradea, May, 2008.
- D2. **I. Gavriluț**, A. Gacsádi, *Multi-robot Coordination by using Cellular Neural Networks*, Journal of Electrical and Electronics Engineering, ISSN: 1844-6035, pp. 190-194, Oradea, May 29-30, 2008.
- D3. **I. Gavriluț**, V. Tiponut, A. Gacsádi, *Mobile robots path planning by using Cellular Neural Networks*, Annals of the University of Craiova, Series: Automation, Computers, Electronics and Mechatronics, Vol. 4 (31), No. 2, pp. 46-53, ISSN: 1841-0626, Craiova, Romania, 2007.
- D4. **I. Gavriluț**, V. Tiponut, A. Gacsádi, L. Țepelea, *Mobile robot control by using CNN processing - An experiment*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '07), Annals of the University of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 36-39, Oradea, May 24-26, 2007.
- D5. L. Țepelea, A. Gacsádi, **I. Gavriluț**, *Man-Machine interface for visually impaired people*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '07), Annals of the University of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 99-102, Oradea, May 24-26, 2007.
- D6. **I. Gavriluț**, V. Tiponut, O. Neamtu, L. Țepelea, A. Gacsádi, *Path Planning Methods for Mobile Robot by Using Cellular Neural Networks*, Proc. of The 6-th Intern. Conf. on Renewable Sources and Environmental Electro-Technologies (RSEE '06), Annals of the Univ. of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 39-42, June 8-10, Oradea, 2006.
- D7. O. Neamtu, L. Țepelea, **I. Gavriluț**, *Inverter Optimized on Simulations*, Proc. of The 6-th Intern. Conf. on Renewable Sources and Environmental Electro-Technologies (RSEE '06), Annals of the University of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 75-79, June 8-10, Oradea, 2006.
- D8. **I. Gavriluț**, A. Gacsádi, L. Țepelea, V. Tiponut, D. Albu, *Target search by mobile robot in a labyrinth using cellular neural networks*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '05), Annals of the Univ. of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 54 -59, Oradea, May 26-28, 2005.
- D9. V. Tiponut, L. Țepelea, C. Lar, **I. Gavriluț**, A. Gacsádi, *An integrated environment for assisted movement of blind persons*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '05), Annals of the University of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, 128 -131, Oradea, May 26-28, 2005.
- D10. A. Gacsádi, R. Reiz, **I. Gavriluț**, L. Țepelea, V. Tiponut, *Noise removal in images by using cellular neural networks*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '05), Annals of the University of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 50 -53, Oradea, May 26-28, 2005.
- D11. **I. Gavriluț**, A. Gacsádi, V. Tiponut, *Path planning for a cooperative task in case of two mobile robots using cellular neural networks*, Proc. of The 2-nd Intern. Conf. on Robotics (Robotica - 2004), ISBN: 973-97258-6-X, pp. 79-80, Timișoara / Reșița, Oct. 14-16, 2004.
- D12. **I. Gavriluț**, A. Gacsádi, V. Tiponut, *Simultaneously paths planning for two mobile robots using cellular neural networks*, Proc. of The 5-th Int. Conf. on Renewable Sources and Environmental Electro-Technologies (RSEE '04), Annals of the Univ. of Oradea, Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 64-69, Oradea, May, 2004.

- D13. D. Albu, N. Drăghiciu, S. Castrase, **I. Gavriliuț**, L. Țepelea, *Multilevel power inverter for uninterruptible power supply*, Proc. of The 5-th Intern. Conf. on Renewable Sources and Environmental Electro-Technologies (RSEE '04), Fascicle of Electrotechnics, Section of Electronics, ISSN 1454-9239, pp. 13 -16, Oradea, May, 2004.
- D14. **I. Gavriliuț**, *Path tracking by mobile robot using cellular neural network*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '03), Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 54-57, Oradea, May 29-31, 2003.
- D15. **I. Gavriliuț**, A. Gacsádi, *Trajectory planning and predicting using CNN*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '03), Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 58-61, Oradea, May 29-31, 2003.
- D16. **I. Gavriliuț**, *Path planning of a mobile robot using Potential Field Method*, Proc. of Intern. Conf. on Renewable Sources and Environmental Electro-Technologies (RSEE '02), Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 55-58, Oradea, June 6-9, 2002.
- D17. **I. Gavriliuț**, *A navigation system for autonomous mobile robot*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '01), Fascicle of Electrot., Section of Electronics, ISSN: 1454-9239, pp. 51-54, Băile Felix, May 24-26, 2001.
- D18. A. Schiop, **I. Gavriliuț**, *Fuzzy controller for inverter fed induction machines*, Proc. of Intern. Conf. on Renewable Sources and Environmental Electro-Technologies (RSEE '00), Fascicle of Electrotechnics, Section of Electronics, ISSN: 1454-9239, pp. 141-146, Oradea, May 25-27, 2000.
- D19. D. Albu, **I. Gavriliuț**, *Transversal digital filter*, Proc. of Intern. Conf. on Engineering of Modern Electric Systems (EMES '99), Fascicle of Electrot., Section of Electronics, Vol. 1, ISSN: 1454-9239, pp. 11-14, Băile Felix, May 27-29, 1999.
- D20. **I. Gavriliuț**, A. Schiop, *Electronic system for automatic on-off and restarting microwave generator*, Proc. of Intern. Conf. on Renewable Sources and Environmental Electro-Technologies (RSEE '98), Fascicle of Electrotechnics, Section of Electronics, ISSN: 1223-2106, pp. 105-109, Băile Felix, May 27-30, 1998.

- E1. A. Gacsádi, **I. Gavriliuț**, L. Țepelea, *Rezolvarea ecuațiilor diferențiale parțiale utilizând rețele neuronale celulare*, Proc. Conf. Int. "Tendințe în dezvoltarea aplicațiilor ciberneticii", Ac. de Cibernetică, "Ștefan Odobleja", Băile Felix, 2004.

F) citări ISI/BDI/Alte reviste

- F1. Atmeh, Ghassan; Subbarao, Kamesh, *A Dynamic Neural Network with Feedback for Trajectory Generation*, 4th IFAC Conf. on Advances in Control and Optimization of Dynamical Systems (ACODS 2016), INDIA Date: FEB 01-05, 2016, Vol. 49 Issue: 1 Pg. 367-372, 2016.
- F2. Ju Hwan Lee, Sung Min Kim, *Estimating contrast agent motion from ultrasound images using an anisotropic diffusion-based optical flow technique*, Original Research Article, Computers in Biology and Medicine, Volume 43, Issue 11, November 2013, Pages 1853-1862
- F3. Li, Lingling; Lin, Cheng-Jian; Huang, Mei-Ling; et al., *Mobile robot navigation control using recurrent fuzzy cerebellar model articulation controller based on improved dynamic artificial bee colony*, ADVANCES IN MECHANICAL ENGINEERING Volume: 8 Issue: 11, NOV 2016
- F4. Kun-Lin Wu ; Chi-Wen Lo ; Yueh-chen Lin ; Jing-Sin Liu, *3D path planning based on nonlinear geodesic equation*, Control & Automation (ICCA), 11th IEEE Int. Conf. on , 18-20 June 2014, Page(s): 342 – 347.
- F5. F. Abdessemed, M. Faisal, M. Emmadeddine, R. Hedjar, K. Al-Mutib, M. Alsulaiman, and H. Mathkou, *A Hierarchical Fuzzy Control Design for Indoor Mobile Robot*, Int. Journal of Adv. Robotic Systems, Int J Adv Robot Syst, 2014.
- F6. Xu, G., Yin, Y., Yin, L., Hao, Y., Zhou, M., *A fast road image segmentation algorithm based on cellular neural networks*, Proc. of the 26-th Chinese Control Conf., CCC 2007, art. no. 4347031, pp. 114-116, 2007.
- F7. Xu, G., Yin, Y., Yin, L., Hao, Y., Wang, Z., *Visual information processing using cellular neural networks for mobile robot*, Proc. of 2007 IEEE Intern. Conf. on Grey Systems and Intelligent Services, GSIS 2007, art. no. 4443432, pp. 1046-1050, 2007.
- F8. P. Shamsinejad, M. Saraee, F. Sheikholeslam, *A new path planner for autonomous mobile robots based on genetic algorithm*, IEEE Intern. Conf. on Computer Science and Information Technology (ICCSIT), pp. 115 – 120, 9-11 July 2010, Chengdu DOI: 10.1109/ICCSIT.2010.5563666
- F9. C. Schwarzmüller, Christopher; K. Kyamakya, *Implementing a CNN Universal Machine on FPGA: state-of-the-art and key challenges*, Proc. Conf. Intern. Symp. on Theoretical Engineering, ISTET 2009, (ITG-FB 217), Lübeck, Germany.
- F10. Ugurlu, Y., Nagano, T., *Project-based learning using LabVIEW and embedded hardware*, Year the Document was Publish 2011, Source of the Document 2011 IEEE/SICE International Symposium on System Integration, SII 2011, 6147510, pp. 561-566.
- F11. Akter, S., Lee, D.-J., Lim, S.T., Chong, K.T., *Grid based path planning using CNN & artificial potential field method*, Source of the Document Applied Mechanics and Materials, 392, pp. 830-836., 2013.
- F12. UA Syed, F Kunwar, M Iqbal, *Guided Autowave Pulse Coupled Neural Network (GAPCNN) based real time path planning and an obstacle avoidance scheme for mobile robots*, Robotics and Autonomous Systems, Volume 62, Issue 4, April 2014, Pages 474–486.
- F13. Ahmed, S.U. ; Malik, U.A. ; Iqbal, K.F. ; Ayaz, Y. and more authors, *Sparsed potential-PCNN for real time path planning and indoor navigation scheme for mobile robots*, Mechatronics and Automation (ICMA), 2011 Intern. Conference on.

4. A) Articole/studii publicate în volumele unor manifestări științifice: (se precizează dacă este cazul - cotate ISI sau indexate în baze de date internaționale-BDI).

- A1. **I. Gavriluț**, L. Țepelea, A. Gacsádi, Path planning based on intermediate targets using Cellular Neural Networks, Proc. of 13th International Conference on Engineering of Modern Electric Systems, 11-12 June 2015 (IEEE Xplore).
- A2. **I. Gavriluț**, L. Țepelea, A. Gacsádi, *CNN processing techniques for image-based path planning of a mobile robot*, Proc. of The 15th WSEAS Int. Conf. on SYSTEMS, Corfu Island, Greece July 14-16, 2011, (ISI Proc.).
- A3. A. Gacsádi, L. Țepelea, **I. Gavriluț**, O. Straciuc, *Energy Based Medical Imaging Segmentation Methods by using Cellular Neural Networks*, Proc. of the WSEAS Int. Conf. on Systems, Recent Researches in System Science, pp.109-195, Corfu Island, Greece, 2011 (Scopus).
- A4. L. Țepelea, A. Gacsádi, **I. Gavriluț**, V. Tîponuț, *A CNN Based Correlation Algorithm to Assist Visually Impaired Persons*, IEEE Proc. of the Int. Symposium on Signals Circuits and Systems (ISSCS 2011), pp.169-172, June 30, 2011-July 1 2011, Iasi, Romania, ISBN 978-1-4577-0201-3, Digital Object Identifier: 10.1109/ISSCS.2011.5978686.
- A5. **I. Gavriluț**, V. Tîponuț, A. Gacsádi, *Mobile Robot Navigation based on CNN Images Processing – An Experimental Setup*, Proc. of the WSEAS Intern. Conf. on Systems, ISSN 1790-2769, pp.220-225, Rodos Island, Greece, July 22-24, 2009, (ISI Proc.).
- A6. A. Gacsádi, C. Grava, O. Straciuc, **I. Gavriluț**, *PDE-Based Medical Images Denoising Using Cellular Neural Networks*, IEEE Proc. of the Intern. Symposium on Signals Circuits and Systems (ISSCS 2009), Vol. 2, pp. 397-400, ISBN 978-1-4244-3784-9, Iasi, Romania, July 9-10, 2009, (ISI Proc./IEEE Xplore/INSPEC).
- A7. A. Gacsádi, V. Tîponuț, E. Gergely, **I. Gavriluț**, *Variational Based Image Enhancement Method by using Cellular Neural Networks*, Proc. of the WSEAS Intern. Conf. on Systems, ISSN 1790-2769, pp. 396-401, Rodos Island, Greece, July 22-24, 2009, (ISI Proc.).
- A8. R. Mirsu, V. Tîponuț, **I. Gavriluț**, *Storing Information With Spiking Neural Networks*, Proceedings of the 13th WSEAS Int. Conf. on COMPUTERS, ISSN 1790-5109, ISBN: 978-960-474-099-4, pp.318-322, Rodos Island, Greece, July 22-24, 2009, (ISI Proc.).
- A9. **I. Gavriluț**, V. Tîponuț, A. Gacsádi, L. Țepelea, *Wall-following Method for an Autonomous Mobile Robot using Two IR*, New Aspects of Systems, Proc. of The 12th WSEAS Intern. Conf. on SYSTEMS, ISSN 1790-2769, ISBN 978-960-6766-83-1, pp. 205-209, Heraklion, Crete Island, Greece, July 22-25, 2008, (ISI Proc.).
- A10. V. Tîponuț, A. Gacsádi, **I. Gavriluț**, *Applications of Artificial Neural Networks in Mobile Robots Navigation*, Automation & Information: Theory and Advanced Technology, Proc. of The 9th WSEAS Intern. Conf. on AUTOMATION and INF. (ICAI'08), ISSN 1790-5117, ISBN 978-960-6766-77-0, pp. 236-241, Buc., Romania, June 24-26, 2008,
- A11. **I. Gavriluț**, V. Tîponuț, A. Gacsádi, C. Grava, *CNN processing techniques for multi-robot coordination*, Proc. of Intern. Symp. on Signals, Circuits and Systems (ISSCS '07), Vol. 1, ISBN: 1-4244-0968-3, IEEE Catalog Number 07EX1678, pp. 269-272, Iași, July 12-13, 2007 (ISI Proc./IEEE Xplore/INSPEC).
- A12. C. Grava, A. Gacsádi, C. Gordan, A. M. Grava, **I. Gavriluț**, *Applications of the Iterated Conditional Modes Algorithm for Motion Estimation in Medical Image Sequences*, Proc. of Intern. Symp. on Signals, Circuits and Systems (ISSCS '07), Vol. 1, ISBN: 1-4244-0968-3, IEEE Catalog Number 07EX1678, pp. 373-376, Iași, July 12-13, 2007 (ISI Proc./IEEE Xplore/INSPEC).
- A13. **I. Gavriluț**, V. Tîponuț, A. Gacsádi, *An Integrated Environment for Mobile Robot Navigation based on CNN Images Processing*, Proc. of The 11-th WSEAS Intern. Conf. on SYSTEMS, ISSN: 1790-5117, ISBN: 978-960-8457-90-4, pp. 81-86, Agios Nikolaos, Crete Island, Greece, July 23-28, 2007 (ISI Proc.).
- A14. **I. Gavriluț**, A. Gacsádi, C. Grava, V. Tîponuț, *Vision based algorithm for path planning of a mobile robot by using cellular neural networks*, Proc. of 2006 IEEE – TTTC Intern. Conf. on Automation, Quality&Testing, Robotics (AQTR '06), Vol. 1, ISBN: 1-4244-0360-X, IEEE Catalog Number 06EX1370, pp. 306-311, Cluj-Napoca, May 25-28, 2006 (IEEE Xplore/INSPEC).
- A15. **I. Gavriluț**, V. Tîponuț, A. Gacsádi, *Path Planning of Mobile Robots by Using Cellular Neural Networks*, Proc. of The 10-th IEEE Intern. Workshop on Cellular Neural Networks (CNNA 2006), ISBN: 1-4244-0639-0, pp. 108-113, Istanbul, Turkey, 28-30 August, 2006 (ISI Proceedings/IEEE Xplore/INSPEC).
- A16. **I. Gavriluț**, A. Gacsádi, L. Țepelea, V. Tîponuț, *Motion planning for two mobile robots in an environment with obstacles by using cellular neural networks*, Proc. of The 7-th Intern. Symp. on Signals, Circuits and Systems (ISSCS '05), Vol. 2, ISBN: 0-7803-9029-6, IEEE Catalog Number 05EX1038, pp. 801-804, Iași, July 14-15, 2005 (ISI Proceedings/IEEE Xplore/INSPEC).

B) internaționale recunoscute (cu ISSN sau ISBN) țară și din străinătate,

- B1. L. Țepelea, **I. Gavriluț**, A. Gacsádi and V. Tîponuț, *Image-based motion planning for two mobile robots in an environment with obstacles by using cellular neural networks*, Journal International Review of Applied Sciences and Engineering, pp.45-50, Vol. 2, No. 1, Jun. 2011 Publisher Akadémiai Kiadó ISSN 2062-0810, DOI 10.1556/IRASE.2.2011.1.7
- B2. L. Țepelea, **I. Gavriluț**, O. Neamțu, E. Gergely and A. Gacsádi, *A LabVIEW-Based Soundcard Interface for E-Laboratory*, Journal International Review of Applied Sciences and Engineering, pp.45-50, Vol. 2, No. 2, Dec. 2011 Publisher Akadémiai Kiadó ISSN 2062-0810, DOI, 10.1556/IRASE.2.2011.2.10

- B3. L. Țepelea, **I. Gavriliuț**, A. Gacsádi, V. Tiponuț, *Image-Based Motion Planning for Two Mobile Robots in an Environment with Obstacles by Using Cellular Neural Networks*, 16th „Building Services, Mechanical and Building Industry Days”, Int. Conf., ISBN 978-963.473-315-7, pp.289-496, 14-15 October 2010, Debrecen, Hungary.
- B4. **I. Gavriliuț**, V. Tiponuț, A. Gacsádi, *Mobile Robot Navigation based on CNN Images Processing – An Experimental Setup*, WSEAS Trans. on Systems, Issue 8, Vol. 8, pp. 947-956, ISSN 1109-2777, Aug. 2009.
- B5. **I. Gavriliuț**, V. Tiponuț, A. Gacsádi, *Mobile Robots Guidance by using Cellular Neural Networks*, Proc. of The Intern. Symp. on System Theory, Automation, Robotics, Computers, Informatics, Electronics and Instrumentation (SINTES 13), Vol. 1, ISBN: 978-973-742-839-4, pp. 233-238, October 18-20, Craiova, 2007.
- B6. V. Tiponuț, A. Gacsádi, C. Căleanu, **I. Gavriliuț**, *Neural Network Guided Robot Collectivity – An Experimental Setup*, Proc. of The 7-th WSEAS Intern. Conf. on Neural Networks (NN '06), pp. 41-46, Cavtat, Croatia, June 12-14, 2006.
- B7. V. Tiponuț, **I. Gavriliuț**, C. Căleanu, A. Gacsádi, *Development of a Neural Network Guided Mobile Robot Collectivity*, WSEAS Trans. on Circuits and Systems, Issue 6, Vol. 5, ISSN: 1109-2734, pp. 805-812, Greece, June, 2006.
- B8. V. Tiponuț, A. Gacsádi, L. Țepelea, C. Lar, **I. Gavriliuț**, *Integrated Environment for Assisted Movement of Visually Impaired*, Proc. of The 15-th Intern. Workshop on Robotics in Alpe-Adria-Danube Region (RAAD '06), ISBN: 9637154 48 5, CD-Rom, Balatonfüred, Hungary, June 15-17, 2006.

C) naționale,

- C1. A. Gacsádi, **I. Gavriliuț**, L. Țepelea, *Îmbunătățirea imaginilor utilizând rețele neuronale celulare și ecuații diferențiale parțiale*, Analele Universității din Oradea, Fascicula Colegiului Universitar Tehnic, Economic și de Administrație, ISSN: 1582-7186, Oradea, 2004.

## 5. Brevete de invenție

## 6. Proiecte/contracte/granturi de cercetare-dezvoltare-inovare:

A) obținute prin competiție pe bază de contract/grant internaționale

B) obținute prin competiție pe bază de contract/grant naționale

- B1. *Mediu integrat pentru deplasarea asistată a persoanelor cu handicap vizual*, 90.000 RON, Grant CNCSIS A 639/2005, membru, director - Prof.dr.ing. V. Tiponuț, 2005-2007.
- B2. *Utilizarea tehnologiei rețelelor neuronale celulare pentru navigația robotilor mobili autonomi*, 50.000 RON, membru, Grant CNCSIS A 473/2006, director - Prof.dr.ing. A. Gacsádi, 2006-2007.
- B3. *Dezvoltarea unor metode de prelucrare și analiză a imaginilor computer tomografice utilizând rețele neuronale celulare și integrarea acestora într-un sistem de asistare a diagnozei medicale*, Proiect de cercetare exploratorie PN II - Idei 668/2008, contract Nr.645/19.01.2009, domeniul științe ingineresti, electronică și telecomunicații, membru, director - Prof.dr.ing. A. Gacsádi, 2009-2011.
- B4. *Tehnici de analiza, modelare și simulare pentru imagistica, bioinformatica și sisteme complexe (ITEMS)*; Cod Proiect: 61756, Nr. Contract: POSDRU/86/ 1.2/S/61756, E 4863/28.06.2010, 2010-2013, membru colaborator

C) contracte de cercetare cu mediul socio-economic

- C1. *Senzor inteligent realizat cu microconvertorul ADuC 812*, Contract de cercetare Nr. 2386/28.02.2005, executant Univ. din Oradea, beneficiar SC. Toner S.R.L. Oradea, membru, director - Prof.dr.ing. A. Gacsádi, 2005.

D) alte lucrări de cercetare-dezvoltare, după caz.

7. A) Creații artistice prezentate la manifestări recunoscute, precum și, după caz, alte lucrări similare ,  
B) lucrări prezentate la diferite seminarii/expoziții și nepublicate, etc.

## 8. Recunoașterea prestigiului științific

A) Conducere de doctorat

B) Referent în comisii de doctorat internaționale în ultimii 5 ani

C) Membru în colective de redacție ale unor reviste științifice recunoscute

D) Referent atestat al unor reviste științifice cotate ISI sau indexate în BDI în ultimii 5 ani

E) Expert științific atestat național / internațional

F) Premii

G) membru în asociații științifice și profesionale

G1. Membru A.R.R. (Asociația Română de Robotică)

G2. Membru AIEER (Asociația Inginerilor Electricieni și Electroniști din Romania)

## 9. Altele neprecizate mai sus.