

Assoc. Prof. Dipl. Eng. Bogdan GHERMAN, PhD
TECHNICAL UNIVERSITY OF CLUJ-NAPOCA
FACULTY OF INDUSTRIAL ENGINEERING, ROBOTICS AND PRODUCTION
MANAGEMENT
MECHANICAL ENGINEERING DEPARTMENT
Research Center for Industrial Robots Simulation and Testing

**SCIENTIFIC PUBLICATIONS, RESEARCH GRANTS
AND PATENTS LIST**

PhD Thesis

Researches on the development of kinematic, dynamic and functional models for an innovative parallel hybrid robot for minimally invasive surgery - Scientific coordinator: Prof. Dipl. Eng. Doina Liana PISLA, PhD

1. Books

1. Vaida, C., **Gherman, B.**, Pisla, D., Utilizarea și programarea calculatoarelor, Vol. III, Programare în MATLAB cu aplicații în inginerie, coordinated by Prof. Dipl. Eng. Doina Liana Pisla, PhD, Ed. Mediamira, Cluj-Napoca, 2014, ISBN- 978-973-713-312-0
2. **Gherman, B.**, Vaida, C., Pisla, D., Utilizarea și programarea calculatoarelor, Vol. II, Programare în limbajul C cu aplicații în inginerie, coordinated by Prof. Dipl. Eng. Doina Liana Pisla, Ed. Mediamira, Cluj-Napoca, 2013, ISBN- 978-973-713-305-2
3. Tucan, P., Vaida, C., **Gherman, B.**, Pisla, D. Medical robotics Vol. I: Innovative Medical Parallel Robots for Oncology, coordinated by Prof. Dipl. Eng. Doina Liana Pisla, Ed. Casa cărții de știință, Cluj-Napoca, 2023, ISBN- 978-606-17-2191-7
4. Tucan, P., Vaida, C., **Gherman, B.**, Pisla, D. Medical robotics Vol. II: Innovative parallel robots for medical rehabilitation, coordinated by Prof. Dipl. Eng. Doina Liana Pisla, Ed. Casa cărții de știință, Cluj-Napoca, 2023, ISBN- 978-606-17-2192-4

2. Book Chapters

1. Pisla, D., Andras, I., Pusca, A., Radu, C., Gherman, B., Tucan, P., Crisan, N., Vaida, C., Al Hajjar, N. (2023). Design and Functional Analysis of a New Parallel Modular Robotic System for Single Incision Laparoscopic Surgery. In: Tarnita, D., Dumitru, N., Pisla, D., Carbone, G., Geonea, I. (eds) New Trends in Medical and Service Robotics. MESROB 2023. Mechanisms and Machine Science, vol 133. Springer, Cham. https://doi.org/10.1007/978-3-031-32446-8_4
2. Gherman, B., Radu, C., Caprariu, A., Al Hajjar, N., Vaida, C., Ciocan, A., Tucan, P., Mois, E., Pisla, D. (2023). On the Stiffness Modelling of the ProHep-LCT Robotic Needle Insertion Instrument. In: Petrič, T., Ude, A., Žlajpah, L. (eds) Advances in Service and Industrial Robotics. RAAD 2023. Mechanisms and Machine Science, vol 135. Springer, Cham. https://doi.org/10.1007/978-3-031-32606-6_29
3. Tucan, P., Gherman, B., Pisla, A., Horsia, A., Vaida, C., Pisla, D. (2023). A Singularity-Free Approach for Safe Operation of a Parallel Robot for Lower Limb Rehabilitation. In: Petrič, T., Ude, A., Žlajpah, L. (eds) Advances in Service and Industrial Robotics. RAAD 2023. Mechanisms and Machine Science, vol 135. Springer, Cham. https://doi.org/10.1007/978-3-031-32606-6_17
4. Vaida, C.; Birlescu, I.; Pisla, A.; Carbone, G.; Plitea, N.; Ulinici, I.; Gherman, B.; Puskas, F.; Tucan, P.; Pisla, D.; RAISE-An Innovative Parallel Robotic System for Lower Limb Rehabilitation New Trends in Medical and Service, Robotics, pp 293-302, 2019
5. Nadas, Iuliu; Pisla, Doina; Ceccarelli, Marco; Vaida, Calin; Gherman, Bogdan; Tucan, Paul; Carbone, Giuseppe; Design of Dual-Arm Exoskeleton for Mirrored Upper Limb Rehabilitation, New Trends in Medical and Service, Robotics, pp 303-311, 2019
6. Gherman, B; Girbacia, T; Cocorean, D; Vaida, C; Butnariu, S; Plitea, N; Talaba, D; Pisla, D; Virtual planning of needle guidance for a parallel robot used in brachytherapy, New Trends in Medical and Service Robots, pp 109-120, 2016

7. B. Gherman, N. Plitea, D. Pislă, An Innovative Parallel Robotic System for Transperineal Prostate Biopsy, *New Trends in Mechanism and Machine Science*, Vol. 43, pp. 421-429, 2016
8. D. Pislă, B. Gherman, G. Kacso, N. Plitea: "Kinematic Behaviour of a Novel Medical Parallel Robot for Needle Placement", *Advances in Intelligent Systems and Computing*, Springer, Vol. 371, pp. 329-338, 2015
9. D. Pislă, P. Tucan, B. Gherman, N. Crisan, N. Plitea: "Graphical Simulation System for Functional Analysis of a Parallel Robot for Transperineal Prostate Biopsy", *International Conference of Mechanical Engineering, ICOME 2015*, 9-0 October 2015, in *Current Solutions in Mechanical Engineering*, ISBN: 978-3-03835-566-3, Applied Mechanics and Materials Vols. 823, Trans Tech Publications, 2016
10. F. Covaciu, D. Ani, B. Gherman, N. Plitea, D. Pislă, "Design and Control System of a Modular Parallel Robot for Medical Applications", *Robotica & Management*, ISSN: 1453-2069, Vol. 20., Nr.1, pp. 22-27, 2015
11. B. Gherman, N. Plitea, D. Pislă, C. Vaida: "Kinematic Modelling of a new 5-DOF (Axis) Parallel Robot used in Brachytherapy", *The VIth International Conference on Robotics - ROBOTICS 2014 (ISI Proceedings)*
12. F. Gîrbacia, B. Gherman, S. Butnariu, N. Plitea, D. Talaba, D. Pislă: "Virtual Planning Of Needle Trajectories Using A Haptic Interface For A Brachytherapy Parallel Robot: an evaluation study", *lucrare acceptata la publicare la The VIth International Conference on Robotics*, Bucharest, ROBOTICS 2014 (ISI Proceedings)
13. N. Plitea, G. Kacso, D. Pislă, C. Vaida, B. Gherman, A. Szilaghyi, D. Cocorean: "Robotic Brachytherapy", *Journal of Contemporary Brachytherapy*, vol. 6, supplement 1, pp. 56-57, 2014
14. B. Gherman, N. Plitea, B. Galdau, C. Vaida, D. Pislă, On the Kinematics of an Innovative Parallel Robot for Brachytherapy, *The 14th International Symposium on Advances in Robot Kinematics - ARK 2014*, 29 Iunie - 3 Iulie 2014, Ljubljana, Slovenia, Publicat in: *Advances in Robot Kinematics*, pp. 475-483, DOI 10.1007/978-3-319-06698-1_49, Print ISBN 978-3-319-06697-4, Online ISBN 978-3-319-06698-1, 2014
15. N. Plitea, C. Vaida, B. Gherman, A. Szilaghyi, B. Galdau, D. Cocorean, F. Covaciu, D. Pislă, An innovative family of modular parallel robots for brachytherapy, *The 11th IFToMM International Symposium on Science of Mechanisms and Machines - SYROM'2013*, 11-12 November 2013, Brasov, Romania, published in *Mechanisms and Machine Science*, Vol. 18, pp. 69-79, ISBN:978-3-319-01844-7, DOI:10.1007/978-3-319-01845-4_7, 2014.
16. Vaida, C., Gherman, B., Pislă, D., Plitea, N., A Spherical Robotic Arm for Instruments Positioning in Minimally Invasive Medical Applications, (2012), *Asian Initiatives in Mechanism and Machine Science*, Proceedings of the 2nd IFToMM Asian Conference on Mechanism and Machine Science, November 7 -10, 2012, Tokyo, Japan. Kindle Edition, ASIN: B00HDOD3VO, pp. 158-165, 2013
17. Vaida, C., Pislă, D., Plitea, N., Gherman, B., Development of a Voice Control Surgical robot, *NEW TRENDS IN MECHANISM SCIENCE Mechanisms and Machine Science*, 2010, Volume 5, Part 10, 567-574, DOI: 10.1007/978-90-481-9689-0_65
18. Gherman, B., Gîrbacia, T., Cocorean, D., Vaida, C., Butnariu, S., Plitea, N., Talaba, D., Pislă, D. (2016). Virtual Planning of Needle Guidance for a Parallel Robot Used in Brachytherapy. In: Bleuler, H., Bouri, M., Mondada, F., Pislă, D., Rodic, A., Helmer, P. (eds) *New Trends in Medical and Service Robots. Mechanisms and Machine Science*, vol 38. Springer, Cham. https://doi.org/10.1007/978-3-319-23832-6_9
19. Pîslă, D., Gherman, B., Gîrbacia, F., Vaida, C., Butnariu, S., Gîrbacia, T., Plitea, N. (2016). Optimal Planning of Needle Insertion for Robotic-Assisted Prostate Biopsy. In: Borangiu, T. (eds) *Advances in Robot Design and Intelligent Control. Advances in Intelligent*

- Systems and Computing, vol 371. Springer, Cham. https://doi.org/10.1007/978-3-319-21290-6_34
20. Iuliu Adrian Nadas, Doina Pisla, Calin Vaida, Bogdan George Gherman, Giuseppe Carbone. Towards Cost-Oriented User-Friendly Robotic Systems for Post-Stroke Rehabilitation. Handbook of Research on Biomimetics and Biomedical Robotics, 99-141, 2018, DOI: 10.4018/978-1-5225-2993-4.ch005, ISBN13: 9781522529934
 21. Pisla, D. et al. (2023). Structural Study of a Robotic System for Sils Surgery. In: Tarnita, D., Dumitru, N., Pisla, D., Carbone, G., Geonea, I. (eds) New Trends in Medical and Service Robotics. MESROB 2023. Mechanisms and Machine Science, vol 133. Springer, Cham. https://doi.org/10.1007/978-3-031-32446-8_3
 22. Gabriela, R., Gherman, B., Nae, L., Vaida, C., Pisla, A., Oprea, E., Schonstein, C., Antal, T., Pisla, D. (2023). Fuzzy Logic Systems: From WisdomofAge Mentoring Platform to Medical Robots. In: Tarnita, D., Dumitru, N., Pisla, D., Carbone, G., Geonea, I. (eds) New Trends in Medical and Service Robotics. MESROB 2023. Mechanisms and Machine Science, vol 133. Springer, Cham. https://doi.org/10.1007/978-3-031-32446-8_6
 23. Rus, G., Deriaz, M., Vaida, C., Nae, L., Gherman, B., Oprea, E., Pisla, A., Stulens, D., Pisla, D. (2023). An Experimental Evaluation of the Performance and Key Factors of Intelligent Recommendation System. In: Doroftei, I., Nitulescu, M., Pisla, D., Lovasz, EC. (eds) Proceedings of SYROM 2022 & ROBOTICS 2022. IISSMM 2022. Mechanisms and Machine Science, vol 127. Springer, Cham. https://doi.org/10.1007/978-3-031-25655-4_41
 24. Gherman, B., Horvath, D., Mois, E., Vaida, C., Graur, F., Burz, A., Popa, C., Tucan, P., Al Hajjar, N., Pusca, A., Pisla, D. (2023). Development of a Force Feedback Control for Robotic Assisted Liver Cancer Treatment. In: Doroftei, I., Nitulescu, M., Pisla, D., Lovasz, EC. (eds) Proceedings of SYROM 2022 & ROBOTICS 2022. IISSMM 2022. Mechanisms and Machine Science, vol 127. Springer, Cham. https://doi.org/10.1007/978-3-031-25655-4_25
 25. Nadas, I., Gherman, B., Tucan, P., Carbone, G., Pisla, A., Antal, T., Pisla, D. (2023). Inverse Dynamic Modeling of a Parallel Robot for Lower Limb Rehabilitation. In: Doroftei, I., Nitulescu, M., Pisla, D., Lovasz, EC. (eds) Proceedings of SYROM 2022 & ROBOTICS 2022. IISSMM 2022. Mechanisms and Machine Science, vol 127. Springer, Cham. https://doi.org/10.1007/978-3-031-25655-4_19
 26. Tucan, P., Gherman, B., Andras, I., Vaida, C., Pisla, D. (2022). Kinematic Modelling of a Parallel Robot Used in Single Incision Laparoscopic Surgery. In: Kecskeméthy, A., Parenti-Castelli, V. (eds) ROMANSY 24 - Robot Design, Dynamics and Control. ROMANSY 2022. CISM International Centre for Mechanical Sciences, vol 606. Springer, Cham. https://doi.org/10.1007/978-3-031-06409-8_12
 27. Banica, A. Gherman, B., Tohanean, N., Antal, T., Pisla, A., Abrudan, C., Carbone, G., Pisla, D., (2022). Inverse Dynamic Modeling of a Parallel Elbow Rehabilitation Robot for Spasticity Treatment. In: Müller, A., Brandstötter, M. (eds) Advances in Service and Industrial Robotics. RAAD 2022. Mechanisms and Machine Science, vol 120. Springer, Cham. https://doi.org/10.1007/978-3-031-04870-8_46
 28. Vaida, C. Birlescu, I., Pusca, A., Gherman, B., Tucan, P., Antal, T., Pisla, D. (2022). Geometric Modeling of a New Modular Spherical Robotic System for Single Incision Laparoscopic Surgery. In: Müller, A., Brandstötter, M. (eds) Advances in Service and Industrial Robotics. RAAD 2022. Mechanisms and Machine Science, vol 120. Springer, Cham. https://doi.org/10.1007/978-3-031-04870-8_43
 29. Gherman, B. Tucan, P., Vaida, C., Crisan, N., Rus, G., Birlescu, I., Pisla, D. (2022). On the Kinematics and Dimensional Optimization of a Robotic System for Single Incision Laparoscopic Surgery. In: Müller, A., Brandstötter, M. (eds) Advances in Service and Industrial Robotics. RAAD 2022. Mechanisms and Machine Science, vol 120. Springer, Cham. https://doi.org/10.1007/978-3-031-04870-8_45

30. Rießenberger, K., Misoch, S., Hüsler, S., Hedinger, D., Stulens, L., Gherman, B., Broeder, S. An Attempt to Counter Agism in Gerontechnology Through the Engagement of Older Adults in the Development of Wisdom of Age, Information and Communication Technologies for Aging Well and e-Health, (2023)
31. Tucan, P., Ulinici, I., Pop, N., Puskas, F., Carbone, G., Gherman, B., Luchian, I., Pisla, D. (2021). Ankle Rehabilitation of Stroke Survivors Using Kuka LBR Iiwa. In: Rauter, G., Cattin, P.C., Zam, A., Riener, R., Carbone, G., Pisla, D. (eds) New Trends in Medical and Service Robotics. MESROB 2020. Mechanisms and Machine Science, vol 93. Springer, Cham. https://doi.org/10.1007/978-3-030-58104-6_4
32. Vaida, C., Ulinici, I., Banica, A., Burz, A., Gherman, B., Tucan, P., Pisla, A., Carbone, G., Pisla, D. (2021). First Clinical Evaluation of a Spherical Robotic System for Shoulder Rehabilitation. In: Rauter, G., Cattin, P.C., Zam, A., Riener, R., Carbone, G., Pisla, D. (eds) New Trends in Medical and Service Robotics. MESROB 2020. Mechanisms and Machine Science, vol 93. Springer, Cham. https://doi.org/10.1007/978-3-030-58104-6_8
33. Pisla, D., Pop, N., Gherman, B., Ulinici, I., Luchian, I., Carbone, G. (2021). Efficient FEM Based Optimization of a Parallel Robotic System for Upper Limb Rehabilitation. In: Lovasz, EC., Maniu, I., Doroftei, I., Ivanescu, M., Gruescu, CM. (eds) New Advances in Mechanisms, Mechanical Transmissions and Robotics . MTM&Robotics 2020. Mechanisms and Machine Science, vol 88. Springer, Cham. https://doi.org/10.1007/978-3-030-60076-1_47
34. Gherman, B., Nadas, I., Tucan, P., Carbone, G., Pisla, D. (2021). Design and Simulation of Gait Rehabilitation Parallel Robotic System. In: Lovasz, EC., Maniu, I., Doroftei, I., Ivanescu, M., Gruescu, CM. (eds) New Advances in Mechanisms, Mechanical Transmissions and Robotics . MTM&Robotics 2020. Mechanisms and Machine Science, vol 88. Springer, Cham. https://doi.org/10.1007/978-3-030-60076-1_17
35. Birlescu, I., Husty, M., Vaida, C., Gherman, B., Ulinici, I., Bogateanu, R., Pisla, D. (2021). Motion Parameterization of Parallel Robots Used in Lower Limb Rehabilitation. In: Lenarčič, J., Siciliano, B. (eds) Advances in Robot Kinematics 2020. ARK 2020. Springer Proceedings in Advanced Robotics, vol 15. Springer, Cham. https://doi.org/10.1007/978-3-030-50975-0_8
36. Tucan, P., Plitea, N., Gherman, B., Al Hajjar, N., Radu, C., Vaida, C., Pisla, D. (2021). Experimental Study Regarding Needle Deflection in Robotic Assisted Brachytherapy of Hepatocellular Carcinoma. In: Venture, G., Solis, J., Takeda, Y., Konno, A. (eds) ROMANSY 23 - Robot Design, Dynamics and Control. ROMANSY 2020. CISM International Centre for Mechanical Sciences, vol 601. Springer, Cham. https://doi.org/10.1007/978-3-030-58380-4_19
37. Gherman, B., Birlescu, I., Burz, A., Ulinici, I., Tucan, P., Pisla, D. (2020). Kinematic Analysis of Two Innovative Medical Instruments for the Robotic Assisted Treatment of Non-resectable Liver Tumors. In: Pisla, D., Corves, B., Vaida, C. (eds) New Trends in Mechanism and Machine Science. EuCoMeS 2020. Mechanisms and Machine Science, vol 89. Springer, Cham. https://doi.org/10.1007/978-3-030-55061-5_22
38. Tucan, P., Plitea, N., Vaida, C., Gherman, B., Carbone, G., Luchian, I., Pisla, D. (2020). Inverse Dynamics and Simulation of a Parallel Robot Used in Shoulder Rehabilitation. In: Pisla, D., Corves, B., Vaida, C. (eds) New Trends in Mechanism and Machine Science. EuCoMeS 2020. Mechanisms and Machine Science, vol 89. Springer, Cham. https://doi.org/10.1007/978-3-030-55061-5_39
39. Covaciu, F., Gherman, B., Pisla, A., Carbone, G., Pisla, D. (2020). Rehabilitation System with Integrated Visual Stimulation. In: Pisla, D., Corves, B., Vaida, C. (eds) New Trends in Mechanism and Machine Science. EuCoMeS 2020. Mechanisms and Machine Science, vol 89. Springer, Cham. https://doi.org/10.1007/978-3-030-55061-5_16

40. Tucan, P., Vaida, C., Carbone, G., Pisla, A., Puskas, F., Gherman, B., Pisla, D.: A kinematic model and dynamic simulation of a parallel robotic structure for lower limb rehabilitation, IFToMM World Congress on Mechanism and Machine Science, pp. 2751-2760, 2019
41. Gherman B., Carbone, G., Plitea, N., Ceccarelli, M., Banica, A., Pisla, D. Kinematic Design of a Parallel Robot for Elbow and Wrist Rehabilitation Mechanisms and Machine Science vol.57, pp.147-154, 2018
42. Plitea, N., Gherman, B., Carbone, G., Ceccarelli, M., Vaida, C., Banica, A, Pisla, D., Pisla, A. Kinematic analysis of an exoskeleton-based robot for elbow and wrist rehabilitation Mechanisms and Machine Science vol.54, pp.424-433, 2018
43. Gherman, B., Birlescu, I., Puskas, F., Pisla, A., Carbone, G., Tucan, P., Banica, A., Pisla, D. A kinematic characterization of a parallel robotic system for lower limb rehabilitation Mechanisms and Machine Science, vol 59, pp 27-34, 2019
44. Gherman, B., Plitea, N., Pisla, D. An innovative parallel robotic system for transperineal prostate biopsy Mechanisms and Machine Science vol.43, pp.421-429, 2017
45. Gherman, B., Vaida, C., Plitea, N., Gyurka, B., Pisla, D. The experimental model of an active parallel surgical robot Quality - Access to Success, vol. 13(5), pp. 361-366, 2012
46. Pisla D., Plitea N., Gherman B, Vaida C, Suci M., Kinematics and design of a 5 DOF parallel robot used in minimally invasive surgery, Advances in Robot Kinematics, Motion in man and machine, vol.2, pp.99-106, 2010
47. D. Pisla, N. Plitea, B. Galdau, C. Vaida, B. Gherman. Innovative Approaches Regarding Robots for Brachytherapy, New Trends in Medical and Service Robots, Mechanisms and Machine Science, vol.20, pp.63-77, 2014

3. ISI Indexed papers published in journals

1. Pisla D, Crisan N, Gherman B, Andras I, Tucan P, Radu C, Pusca A, Vaida C, Al Hajjar N. Safety Issues in the Development of an Innovative Medical Parallel Robot Used in Renal Single-Incision Laparoscopic Surgery. J Clin Med. 2023 Jul 11;12(14):4617. doi: 10.3390/jcm12144617. PMID: 37510731; PMCID: PMC10380956.
2. Rus G, Andras I, Vaida C, Crisan N, Gherman B, Radu C, Tucan P, Iakab S, Hajjar NA, Pisla D. Artificial Intelligence-Based Hazard Detection in Robotic-Assisted Single-Incision Oncologic Surgery. Cancers (Basel). 2023 Jun 28;15(13):3387. doi: 10.3390/cancers15133387. PMID: 37444497; PMCID: PMC10340313.
3. Covaciu F, Crisan N, Vaida C, Andras I, Pusca A, Gherman B, Radu C, Tucan P, Al Hajjar N, Pisla D. Integration of Virtual Reality in the Control System of an Innovative Medical Robot for Single-Incision Laparoscopic Surgery. Sensors (Basel). 2023 Jun 7;23(12):5400. doi: 10.3390/s23125400. PMID: 37420568; PMCID: PMC10301646.
4. Tohanean N, Tucan P, Vanta OM, Abrudan C, Pintea S, Gherman B, Burz A, Banica A, Vaida C, Neguran DA, Ordog A, Tarnita D, Pisla D. The Efficacy of the NeuroAssist Robotic System for Motor Rehabilitation of the Upper Limb-Promising Results from a Pilot Study. J Clin Med. 2023 Jan 4;12(2):425. doi: 10.3390/jcm12020425. PMID: 36675354; PMCID: PMC9866490.
5. ucan P, Vaida C, Horvath D, Caprariu A, Burz A, Gherman B, Iakab S, Pisla D. Design and Experimental Setup of a Robotic Medical Instrument for Brachytherapy in Non-Resectable Liver Tumors. Cancers (Basel). 2022 Nov 26;14(23):5841. doi: 10.3390/cancers14235841. PMID: 36497325; PMCID: PMC9736203.
6. Pisla D, Birlescu I, Crisan N, Pusca A, Andras I, Tucan P, Radu C, Gherman B, Vaida C. Singularity Analysis and Geometric Optimization of a 6-DOF Parallel Robot for SILS. Machines. 2022; 10(9):764. <https://doi.org/10.3390/machines10090764>

7. Burz, A., Tucan, P., Tohanean, N., Gherman, B., Vaida, C., Pisla, A., Antal, T., Carbone, G., Abrudan, C., Pisla, D. Patient oriented control system of a modular parallel robot for elbow rehabilitation, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 65 2S, 2022, 277-284.
8. Pusca, A., Rus, G., Birlescu, I., Vaida, C., Pisla, A., Schonstein, C., Gherman, B., Tucan, P., Pisla, D. Workspace analysis of two innovative parallel robots for single incision laparoscopic surgery, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 65 1S, 2022, 470-414
9. Ulinici, I., Vaida, C., Gherman, B., Antal, T., Tucan, P., Pisla, D. Kinematics and workspace simulation of a new parallel robot for SILS, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 65 1S, 2022, 505-514
10. Tarnita D, Geonea ID, Pisla D, Carbone G, Gherman B, Tohanean N, Tucan P, Abrudan C, Tarnita DN. Analysis of Dynamic Behavior of ParReEx Robot Used in Upper Limb Rehabilitation. *Applied Sciences*. 2022; 12(15):7907. <https://doi.org/10.3390/app12157907>
11. Pisla, D., Birlescu, I., Pusca, A., Tucan, P., Gherman, B., Pisla, A., Antal, T., Vaida, C. Kinematics and workspace analysis of an innovative 6-dof parallel robot for SILS, *Proceedings Of The Romanian Academy Series A-Mathematics Physics Technical Sciences Information Science*, vol. 23(3), 277-286, 2023
12. Gherman B, Hajjar NA, Tucan P, Radu C, Vaida C, Mois E, Burz A, Pisla D. Risk Assessment-Oriented Design of a Needle Insertion Robotic System for Non-Resectable Liver Tumors. *Healthcare (Basel)*. 2022 Feb 18;10(2):389. doi: 10.3390/healthcare10020389. PMID: 35207006; PMCID: PMC8872014.
13. Vaida, C., Nae, L., Deriaz, M., Pisla, A., Oprea, E., Gherman, B., Mircea, A., Stulens, L., Pisla, D. User needs and requirements analysis for a seniors dedicated ai driven knowledge transfer platform, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 64 (4), 2021, 813-820
14. Gherman, B., Puskas, F., Tucan, P., Roman, C., Pisla, A., Vaida, C., Birlescu, I., Pisla, D. A robotic-assisted sputum collection booth, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 64 (4), 2021, 539-546
15. Pisla D, Nadas I, Tucan P, Albert S, Carbone G, Antal T, Banica A, Gherman B. Development of a Control System and Functional Validation of a Parallel Robot for Lower Limb Rehabilitation. *Actuators*. 2021; 10(10):277. <https://doi.org/10.3390/act10100277>
16. Major ZZ, Vaida C, Major KA, Tucan P, Brusturean E, Gherman B, Birlescu I, Craciunaş R, Ulinici I, Simori G, et al. Comparative Assessment of Robotic versus Classical Physical Therapy Using Muscle Strength and Ranges of Motion Testing in Neurological Diseases. *Journal of Personalized Medicine*. 2021; 11(10):953. <https://doi.org/10.3390/jpm11100953>
17. Pisla, D., Nae, L., Vaida, C., Oprea, E., Pisla, A., Gherman, B., Antal, T., Riessenberger, K., Plitea, N. Development of a learning management system for knowledge transfer in engineering, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 64 (3), 2021, 361-368
18. Tucan P, Vaida C, Ulinici I, Banica A, Burz A, Pop N, Birlescu I, Gherman B, Plitea N, Antal T, Carbone G, Pisla D. Optimization of the ASPIRE Spherical Parallel Rehabilitation Robot Based on Its Clinical Evaluation. *Int J Environ Res Public Health*. 2021 Mar 22;18(6):3281. doi: 10.3390/ijerph18063281. PMID: 33810042; PMCID: PMC8004699.
19. Nadas, I., Gherman, B., Albert, S., Surducun, V., Pop, N., Carbone, G., Banica, A., Pisla, D. Innovative development of a parallel robotic system for lower limb rehabilitation, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 64 (S2), 2021, 387-394

20. Pisla, D., Birlescu, I., Mois, E., Tucan, P., Radu, C., Burz, A., Gherman, B., Antal, T., Vaida, C., Al Hajjar, N. Simulation and control of an innovative medical parallel robot used for hcc treatment procedure, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 64 (S2), 2021, 405-416
21. Major ZZ, Vaida C, Major KA, Tucan P, Simori G, Banica A, Brusturean E, Burz A, Craciunas R, Ulinici I, Carbone G, Gherman B, Birlescu I, Pisla D. The Impact of Robotic Rehabilitation on the Motor System in Neurological Diseases. A Multimodal Neurophysiological Approach. *Int J Environ Res Public Health*. 2020 Sep 9;17(18):6557. doi: 10.3390/ijerph17186557. PMID: 32916890; PMCID: PMC7557539.
22. Birlescu I, Husty M, Vaida C, Gherman B, Tucan P, Pisla D. Joint-Space Characterization of a Medical Parallel Robot Based on a Dual Quaternion Representation of SE(3). *Mathematics*. 2020; 8(7):1086. <https://doi.org/10.3390/math8071086>
23. Vaida, C., Plitea, N., Al Hajjar, N., Burz, A., Graur, F., Gherman, B., Pisla, D. A new robotic system for minimally invasive treatment of liver tumours, *Proceedings Of The Romanian Academy Series A-Mathematics Physics Technical Sciences Information Science*, vol. 21(3), 273-280, 2020
24. Tucan P, Gherman B, Major K, Vaida C, Major Z, Plitea N, Carbone G, Pisla D. Fuzzy Logic-Based Risk Assessment of a Parallel Robot for Elbow and Wrist Rehabilitation. *International Journal of Environmental Research and Public Health*. 2020; 17(2):654. <https://doi.org/10.3390/ijerph17020654>
25. Pisla D, Calin V, Birlescu I, Hajjar NA, Gherman B, Radu C, Plitea N. Risk Management for the Reliability of Robotic Assisted Treatment of Non-resectable Liver Tumors. *Applied Sciences*. 2020; 10(1):52. <https://doi.org/10.3390/app10010052>
26. Gherman, B., Al Hajjar, N., Burz, A., Birlescu, I., Tucan, P., Graur, F., Pisla, D. *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 62 (4), 2019, 557-562
27. Gherman, B., Birlescu, I., Plitea, N., Carbone, G., Tarnita, D., Pisla, D., On the singularity-free workspace of a parallel robot for lower-limb rehabilitation. *Proceedings Of The Romanian Academy, Series A*, 2019, 20(4), pp. 383–391
28. Gherman, B., Burz, A., Jucan, D., Bara, F., Carbone, G., Pisla, D. *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, vol. 62 (2), 2019, 323-330
29. Pisla, D., Birlescu, I., Vaida, C., Tucan, P., Pisla, A., Gherman, B., Crisan, N., Plitea, N., algebraic modeling of kinematics and singularities for a prostate biopsy parallel robot, *Proceedings Of The Romanian Academy Series A-Mathematics Physics Technical Sciences Information Science*, Vol. 19, nr. 3, pp 489-497, 2018
30. Birlescu, Iosif; Craciun, Florin; VAIDA, Călin; Gherman, Bogdan; Pisla, Doina; an innovative automated instrument for robotically assisted brachytherapy used in cancer treatment, *Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering*, Vol. 60, Nr. 4, 2017
31. Pisla, Doina; Tucan, Paul; Gherman, Bogdan; Crisan, Nicolae; Andras, Iulia; Vaida, Calin; Plitea, Nicolae; Development of a parallel robotic system for transperineal biopsy of the prostate, *Mechanical Sciences*, Vol. 8, Nr. 1, pp 195-213, 2017
32. Plitea, Nicolae; Gherman, Bogdan; Cocorean, Dragos; Vaida, Calin; Pisla, Doina; inverse dynamic modelling of a parallel robotic system for brachytherapy, *Proceedings Of The Romanian Academy Series A-Mathematics Physics Technical Sciences Information Science*, Vol. 18, Nr. 1, pp 55-63, 2017
33. Gherman, Bogdan; Pisla, Doina; Vaida, Calin; Plitea, Nicolae; On workspace and accuracy evaluation of a parallel robot for needle placement procedures, *Proceedings of the Romanian Academy, Series A*, vol. 17, pp. 344-351, 2016

34. Pisla, D.; Gherman, B.; Plitea, N.; Gyurka, B.; Vaida, C.; Vlad, L.; Graur, F.; Radu, C.; Suci, M.; Szilaghi, A.; Stoica, A. PARASURG hybrid parallel robot for minimally invasive surgery CHIRURGIA, vol. 106(5), pp.619-625, 2011
35. Pisla, D.; Plitea, N.; Vaida, C.; Hesselbach, J.; Raatz, A.; Vlad, L.; Graur, F.; Gyurka, B.; Gherman, B.; Suci, M. PARAMIS parallel robot for laparoscopic surgery CHIRURGIA, vol. 105(5), pp. 677-683, 2010
36. Plitea, N., Pislă, D., Vaida, C., Gherman, B., Szilaghyi, A., Galdau, B., Cocorean, D., Covaciu, F. On the kinematics of a new parallel robot for brachytherapy, Proceedings of the Romanian Academy, Series A, vol. 15, pp. 354-361, 2014
37. Pislă, D., Gherman, B., Vaida, C., Suci, M., Plitea, N. An active hybrid parallel robot for minimally invasive surgery, Robotics and Computer-Integrated Manufacturing, vol. 29 (4), pp. 203-221, 2013
38. Vaida, C., Plitea, N., Pislă, D., Gherman B. Orientation module for surgical instruments—a systematic approach. Meccanica 48, 145–158 (2013). <https://doi.org/10.1007/s11012-012-9590-x>
39. Pislă, D., Gherman, B., Vaida, C., & Plitea, N. (2012). Kinematic modelling of a 5-DOF hybrid parallel robot for laparoscopic surgery. Robotica, 30(7), 1095-1107. doi:10.1017/S0263574711001299
40. Gherman, B., Pislă, D., Vaida, C., Plitea, N. Development of inverse dynamic model for a surgical hybrid parallel robot with equivalent lumped masses, Robotics and Computer-Integrated Manufacturing, vol. 28(3), pp. 402-415, 2012
41. Stoica, A., Gherman, B., Vaida, C., Pislă, D., Plitea, N. Inverse dynamic model of a new parallel robot used in minimally invasive surgery, Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering, vol. 55 (3), 2012, 543-548
42. Vaida, C., Plitea, N., Pislă, D., Gherman, B., Suci, M. Design and analysis of an orientation module for instrument used in minimally invasive procedures, Acta Technica Napocensis Series-Applied Mathematics Mechanics And Engineering, vol. 54 (2), 2010, 353-358
43. Plitea, N.; Hesselbach, J.; Pislă, D.; Raatz, A.; Gherman, B.; Vaida, C. Dynamic analysis and design of a surgical parallel robot used in laparoscopy JOURNAL OF VIBROENGINEERING, vol.11(2), pp.215-225, 2009

4. ISI/SCOPUS indexed papers published in conference proceedings

1. B. Gherman, A. Caprariu, F. Puskas, A. Pislă, T. Antal and D. Pislă, "Evaluation and selection of a collaborative robot for a tuberculosis sample collection isolated booth," 2021 25th International Conference on System Theory, Control and Computing (ICSTCC), Iasi, Romania, 2021, pp. 553-558, doi: 10.1109/ICSTCC52150.2021.9607252
2. Rus, G., Nae, L., Gherman, B., Vaida, C., Deriaz, M., Oprea, E., Pislă, D. (2023). An Innovative Recommendation System for a Knowledge Transfer Matchmaking Platform. In: Papadopoulos, G.A., Achilleos, A., Pissaloux, E., Velázquez, R. (eds) ICT for Health, Accessibility and Wellbeing. IHAW 2022. Communications in Computer and Information Science, vol 1799. Springer, Cham. https://doi.org/10.1007/978-3-031-29548-5_11
3. Pîslă, A., Nae, L., Vaida, C., Oprea, E., Gherman, B., Deriaz, M., Pislă, D. (2023). Modern Project Approaches in Shortening the Lead Time in Innovation for Young Emerging Companies Based on the Experienced Seniors Knowledge. In: von Leipzig, K., Sacks, N., Mc Clelland, M. (eds) Smart, Sustainable Manufacturing in an Ever-Changing World. Lecture Notes in Production Engineering. Springer, Cham. https://doi.org/10.1007/978-3-031-15602-1_18
4. Pislă, D, Gherman, B, Tucan, P, Birlescu, I, Pusca, A, Rus, G, Pislă, A, & Vaida, C. "Application Oriented Modelling and Simulation of an Innovative Parallel Robot for

- Single Incision Laparoscopic Surgery." Proceedings of the ASME 2022 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. Volume 7: 46th Mechanisms and Robotics Conference (MR). St. Louis, Missouri, USA. August 14–17, 2022. V007T07A032. ASME. <https://doi.org/10.1115/DETC2022-89968>
5. Ulinici, I., Puskas, F., Gherman, B., Roman, C., Birlescu, I., Pisla, D. (2022). On the Design of an Isolated Booth for Tuberculosis Sample Collection. In: Vlad, S., Roman, N.M. (eds) 7th International Conference on Advancements of Medicine and Health Care through Technology. MEDITECH 2020. IFMBE Proceedings, vol 88. Springer, Cham. https://doi.org/10.1007/978-3-030-93564-1_41
 6. A. Burz, P. Tucan; N. Tohanean; B. Gherman; C. Vaida; C. Abrudan; G. Carbone; D. Pisla, "HRI Based Command System of a Modular Parallel Robot for Brachial Monoparesis," 2022 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), Cluj-Napoca, Romania, 2022, pp. 1-6, doi: 10.1109/AQTR55203.2022.9802034.
 7. Gherman, B., Tucan, P., Vaida, C., Carbone, G., Pisla, D. (2022). Novel Design of the ParReEx-Elbow Parallel Robot for the Rehabilitation of Brachial Monoparesis. In: Rauter, G., Carbone, G., Cattin, P.C., Zam, A., Pisla, D., Riener, R. (eds) New Trends in Medical and Service Robotics. MESROB 2021. Mechanisms and Machine Science, vol 106. Springer, Cham. https://doi.org/10.1007/978-3-030-76147-9_5
 8. I. Birlescu, F. Graur, C. Vaida, C. Radu, P. Tucan, B. Gherman, A. Pisla, N. Al Hajjar, D. Pisla, Experimental Testing and Implementation of a Force–Torque Sensor in Automated Percutaneous Needle Insertion Instruments, 2021 International Conference on e-Health and Bioengineering (EHB), 1-6 DOI: 10.1109/EHB52898.2021.9657712
 9. Gherman, B., Nae, L., Pisla, A., Oprea, E., Vaida, C., Pisla, D. (2021). WisdomOfAge: Designing a Platform for Active and Healthy Ageing of Senior Experts in Engineering. In: Pissaloux, E., Papadopoulos, G.A., Achilleos, A., Velázquez, R. (eds) ICT for Health, Accessibility and Wellbeing. IHAW 2021. Communications in Computer and Information Science, vol 1538. Springer, Cham. https://doi.org/10.1007/978-3-030-94209-0_2
 10. B. Gherman, A. Banica, P. Tucan, C. Vaida, T. Antal and D. Pisla, "Inverse dynamic modeling of a parallel wrist rehabilitation robot towards an assistive control modality," 2021 25th International Conference on System Theory, Control and Computing (ICSTCC), Iasi, Romania, 2021, pp. 284-289, doi: 10.1109/ICSTCC52150.2021.9607164.
 11. I. Nadas, B. Gherman, I. Bîrlescu, R. Bogateanu, A. Banica, G. Carbone and D. Pisla, Dynamic balancing of RECOVER robotic system, 2020 IOP Conf. Ser.: Mater. Sci. Eng. 997 012083, 10.1088/1757-899X/997/1/012083.
 12. F. Covaciu, A. Pisla, C. Vaida, B. Gherman and D. Pisla, "Development of a Virtual Reality Simulator for a Lower Limb Rehabilitation Robot," 2020 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), Cluj-Napoca, Romania, 2020, pp. 1-6, doi: 10.1109/AQTR49680.2020.9129981.
 13. Vaida, C. Birlescu, I., Pisla, A., Plitea, N., Ulinici, I., Gherman, B., Tucan P., Pisla, D. (2019). RAISE - An Innovative Parallel Robotic System for Lower Limb Rehabilitation. In: Carbone, G., Ceccarelli, M., Pisla, D. (eds) New Trends in Medical and Service Robotics. Mechanisms and Machine Science, vol 65. Springer, Cham. https://doi.org/10.1007/978-3-030-00329-6_33.
 14. Birlescu, I., Pisla, D., Gherman, B., Pisla, A., Vaida, C., Carbone, G., Plitea, N. (2019). On the Singularities of a Parallel Robotic System Used for Elbow and Wrist Rehabilitation. In: Lenarcic, J., Parenti-Castelli, V. (eds) Advances in Robot Kinematics 2018. ARK 2018. Springer Proceedings in Advanced Robotics, vol 8. Springer, Cham. https://doi.org/10.1007/978-3-319-93188-3_24.
 15. Gherman, B., Birlescu, I., Puskas, F., Pisla, A., Carbone, G., Tucan, P., Banica, A., Pisla, D. (2019). A Kinematic Characterization of a Parallel Robotic System for Lower Limb

- Rehabilitation. In: Corves, B., Wenger, P., Hüsing, M. (eds) EuCoMeS 2018 . EuCoMeS 2018. Mechanisms and Machine Science, vol 59. Springer, Cham. https://doi.org/10.1007/978-3-319-98020-1_4
16. Nadas, I., Pisla, D., Ceccarelli, M., Vaida, C., Gherman, B., Tucan, P., Carbone, G. (2019). Design of Dual-Arm Exoskeleton for Mirrored Upper Limb Rehabilitation. In: Carbone, G., Ceccarelli, M., Pisla, D. (eds) New Trends in Medical and Service Robotics. Mechanisms and Machine Science, vol 65. Springer, Cham. https://doi.org/10.1007/978-3-030-00329-6_34.
 17. Gherman B., Vaida, C., Birlescu, I., Pisla, A., Tucan, P., Pisla, D. Modelling and simulation of a robotic system for lower limb rehabilitation ASME 2018 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE 2018; Quebec City; Canada; vol 5B, 2018.
 18. Birlescu, Iosif; Tucan, Paul; Gherman, Bogdan; Vaida, Calin; Crisan, Nicolae; Radu, Corina; Plitea, Nicolae; Pisla, Doina; Kinematic Analysis for a Prostate Biopsy Parallel Robot Using Study Parameters, Computational Kinematics, 135-142, 2018
 19. Carbone, Giuseppe; Gherman, Bogdan; Ulinici, Ionut; Vaida, Calin; Pisla, Doina Design Issues for an Inherently Safe Robotic Rehabilitation Device ADVANCES IN SERVICE AND INDUSTRIAL ROBOTICS, vol.49, pp.1025-1032, 2018.
 20. Tucan, P.; Vaida, C.; Gherman, B.; Craciun, F.; Plitea, N.; Birlescu, I.; Jucan, D.; Pisla, D. Control System of a Medical Parallel Robot for Transperineal Prostate Biopsy 2017 21ST INTERNATIONAL CONFERENCE ON SYSTEM THEORY, CONTROL AND COMPUTING (ICSTCC), pp.206-211, 2017
 21. P. Tucan, F. Craciun; C. Vaida; B. Gherman; D. Pisla; C. Radu; N. Crisan, "Development of a Control System for an Innovative Parallel Robot Used in Prostate Biopsy," 2017 21st International Conference on Control Systems and Computer Science (CSCS), Bucharest, Romania, 2017, pp. 76-83, doi: 10.1109/CSCS.2017.17.
 22. D. Pisla, N. Plitea, A. Vidrean, B. Prodan, B. Gherman and D. Lese, "Kinematics and design of two variants of a reconfigurable parallel robot," 2009 ASME/IFTOMM International Conference on Reconfigurable Mechanisms and Robots, London, UK, 2009, pp. 624-631.
 23. Nadas, I.; Vaida, C.; Gherman, B.; Pisla, D.; Carbone, G. Considerations for Designing Robotic Upper Limb Rehabilitation Devices 11TH INTERNATIONAL CONFERENCE OF PROCESSES IN ISOTOPES AND MOLECULES (PIM 2017), vol. 1917, pp.3005, 2017
 24. Girbacia, F.; Pisla, D.; Butnariu, S.; Gherman, B.; Girbacia, T.; Plitea, N. An Evolutionary Computational Algorithm for Trajectory Planning of an Innovative Parallel Robot for Brachytherapy NEW ADVANCES IN MECHANISMS, MECHANICAL TRANSMISSIONS AND ROBOTICS, vol.46, pp. 427-435, 2017
 25. Pisla, D., Birlescu, I., Vaida, C., Tucan, P., Gherman, B., Popescu, D., Plitea, N., Towards a Fail-Safe Prostate Biopsy Parallel Robot Using Algebraic Geometry, DEStech Transactions on Engineering and Technology Research, pp. 422-427, 2017
 26. Girbacia, Florin; Boboc, Razvan; Gherman, Bogdan; Girbacia, Teodora; Pisla, Doina Planning of Needle Insertion for Robotic-Assisted Prostate Biopsy in Augmented Reality Using RGB-D Camera ADVANCES IN ROBOT DESIGN AND INTELLIGENT CONTROL , vol.540, pp.515-522, 2017
 27. D. Pisla, D. Ani, C. Vaida, B. Gherman, P. Tucan and N. Plitea, "BIO-PROS-2: An innovative parallel robotic structure for transperineal prostate biopsy," 2016 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), Cluj-Napoca, Romania, 2016, pp. 1-6, doi: 10.1109/AQTR.2016.7501308.
 28. Vaida, Calin; Pisla, Doina; Covaciu, Florin; Gherman, Bogdan; Pisla, Adrian; Plitea, Nicolae Development of a Control System for a HEXA Parallel Robot PROCEEDING OF 2016 IEEE INTERNATIONAL CONFERENCE ON AUTOMATION, QUALITY AND TESTING, ROBOTICS (AQTR) , pp.213-218, 2016

29. Gherman, B., Pîslă, D., Kacso, G., Plitea, N. (2016). Kinematic Behaviour of a Novel Medical Parallel Robot for Needle Placement. In: Borangiu, T. (eds) Advances in Robot Design and Intelligent Control. Advances in Intelligent Systems and Computing, vol 371. Springer, Cham. https://doi.org/10.1007/978-3-319-21290-6_33
30. Gherman, B. et al. (2016). Virtual Planning of Needle Guidance for a Parallel Robot Used in Brachytherapy. In: Bleuler, H., Bouri, M., Mondada, F., Pisla, D., Rodic, A., Helmer, P. (eds) New Trends in Medical and Service Robots. Mechanisms and Machine Science, vol 38. Springer, Cham. https://doi.org/10.1007/978-3-319-23832-6_9
31. Itul, T.; Gherman, B.; Cocorean, D.; Pisla, D. Inverse Dynamics of 2-DOF Parallel Mechanism Used for Orientation NEW TRENDS IN MECHANISM AND MACHINE SCIENCE: FROM FUNDAMENTALS TO INDUSTRIAL APPLICATIONS, vol.24, pp.455-462, 2015
32. Pisla, D., Gherman, B., Tucan, P., Vaida, C., Govor, C., Plitea, N., On the kinematics of an innovative parallel robotic system for transperineal prostate biopsy, 2015 IFToMM World Congress Proceedings, IFToMM 2015
33. Vaida, C., Pisla, D., Tucan, P., Gherman, B., Govor, C., Plitea, N. An innovative parallel robotic structure designed for transperineal prostate biopsy IFToMM World Congress Proceedings, IFToMM 2015, 2015
34. Pisla, D, Cocorean, D, Vaida, C, Gherman, B, Pisla, A, & Plitea, N. "Application Oriented Design and Simulation of an Innovative Parallel Robot for Brachytherapy." Proceedings of the ASME 2014 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. Volume 5B: 38th Mechanisms and Robotics Conference. Buffalo, New York, USA. August 17–20, 2014. V05BT08A012. ASME. <https://doi.org/10.1115/DETC2014-35047>
35. N. Plitea, C. Vaida, B. Gherman, A. Szilaghyi, B. Galdau, D. Cocorean, F. Covaciu, D. Pisla: "Structural Analysis and Synthesis of Parallel Robots for Brachytherapy", New Trends in Medical and Service Robots - Theory and Integrated Applications, Series: Mechanisms and Machine Science, Vol. 16, ISBN 978-3-319-01591-0, DOI 10.1007/978-3-319-01592-7, 2014
36. D. Pisla, N. Plitea, B. Galdau, C. Vaida, B. Gherman: Innovative Approaches Regarding Robots for Brachytherapy, New Trends in Medical and Service Robots, Mechanisms and Machine Science, Vol. 20, pp. 63-78, ISBN: 978-3-319-05430-8, 2014
37. Galdau, B.; Pisla, D.; Kacso, G.; Cocorean, D.; Vaida, C.; Gherman, B.; Plitea, N. NEW DESIGN OF BR-1: AN INNOVATIVE PARALLEL ROBOT FOR BRACHYTHERAPY 2014 INTERNATIONAL CONFERENCE ON PRODUCTION RESEARCH - REGIONAL CONFERENCE AFRICA, EUROPE AND THE MIDDLE EAST AND 3RD INTERNATIONAL CONFERENCE ON QUALITY AND INNOVATION IN ENGINEERING AND MANAGEMENT (ICPR-AEM 2014), pp.206-211, 2014
38. Itul, T., Gherman, B., Pîslă, Comparative study of two 2-DOF parallel mechanisms used for orientation Mechanisms and Machine Science ,vol.14, pp.148-157, 2014
39. Vaida, Calin; Gherman, Bogdan; Pisla, Doina; Plitea, Nicolae ,A CT-scan compatible robotic device for needle placement in medical applications INTERDISCIPLINARY RESEARCH IN ENGINEERING: STEPS TOWARDS BREAKTHROUGH INNOVATION FOR SUSTAINABLE DEVELOPMENT, vol.8-9, pp. 574-583, 2013
40. Stoica, A., Pisla, D., Andras, S. et al. Kinematic, workspace and singularity analysis of a new parallel robot used in minimally invasive surgery. Front. Mech. Eng. 8, 70–79 (2013). <https://doi.org/10.1007/s11465-013-0365-4>
41. Gyurka, B., Gherman, B., Vaida, C., Kovacs, I., Pisla, D. Optimal control for reducing the energy consumption of a reconfigurable parallel robot, IFAC Proceedings Volumes (IFAC-PapersOnline) Volume 2, Issue PART 1, 2013, Pages 143-148 IFAC Proceedings Volumes (IFAC-PapersOnline), vol.2, pp.143-148, 2013

42. Stoica, A., Pisla, D., Szilaghyi, A., Gherman, B., Plitea, N. Workspace and singularity analysis for a parallel robot used in surgical applications *Mechanisms and Machine Science*, vol.7, pp. 149-157, 2013
43. Gyurka, B.; Pisla, D.; Stancel, E.; Vaida, C.; Kovacs, I.; Gherman, B.; Balogh, Sz.; Plitea, N. Integrated Control Techniques for PARASURG 9M Parallel Robot 2012 IEEE INTERNATIONAL CONFERENCE ON AUTOMATION, QUALITY AND TESTING, ROBOTICS, THETA 18TH EDITION, pp. 461-466, 2012
44. Vaida, C.; Pisla, D.; Plitea, N.; Gherman, B.; Gyurka, B.; Graur, F.; Vlad, L. Development of a Voice Controlled Surgical Robot *NEW TRENDS IN MECHANISM SCIENCE: ANALYSIS AND DESIGN*, vol. 5 , pp.567-574, 2010
45. D. Pisla, B.G. Gherman, M. Suciuc, C. Vaida, D. Lese, C. Sabou and N. Plitea, On the Dynamics of a 5 DOF Parallel Hybrid Robot Used in Minimally Invasive Surgery, *NEW TRENDS IN MECHANISM SCIENCE Mechanisms and Machine Science*, 2010, Volume 5, Part 12, 691-699, DOI: 10.1007/978-90-481-9689-0_79
46. Gherman, B.; Vaida, C.; Pisla, D.; Plitea, N.; Gyurka, B.; Lese, D.; Glogoveanu, M. Singularities and Workspace Analysis for a Parallel Robot for Minimally Invasive Surgery *PROCEEDINGS OF 2010 IEEE INTERNATIONAL CONFERENCE ON AUTOMATION, QUALITY AND TESTING, ROBOTICS (AQTR 2010)*, VOLS. 1-3, pp. 319-324, 2010
47. Gyurka, B.; Pisla, D.; Stancel, E.; Vaida, C.; Gherman, B.; Lese, D.; Suciuc, M.; Plitea, N. The Control of the PARAMIS Parallel Robot using a Haptic Device *PROCEEDINGS OF 2010 IEEE INTERNATIONAL CONFERENCE ON AUTOMATION, QUALITY AND TESTING, ROBOTICS (AQTR 2010)*, VOLS. 1-3, pp. 354-359, 2010
48. D. Pisla, N. Plitea, B.G. Gherman, C. Vaida, A. Pisla, M. Suciuc, Kinematics and Design of a 5-DOF Parallel Robot used in Minimally Invasive Surgery, *ADVANCES IN ROBOT KINEMATICS: MOTION IN MAN AND MACHINE 2010*, Part 2, 99-106, DOI: 10.1007/978-90-481-9262-5_11
49. Pisla, D.L., Itul, T.P., Pisla, A., Gherman, B. (2010). Dynamics of a Parallel Platform for Helicopter Flight Simulation Considering Friction. In: Visa, I. (eds) *SYROM 2009*. Springer, Dordrecht. https://doi.org/10.1007/978-90-481-3522-6_29
50. B. Gyurka D. Pisla; E. Stancel; C. Vaida; B. Gherman; D. Lese; M. Suciuc; N. Plitea., "The control of the PARAMIS parallel robot using a haptic device," 2010 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR), Cluj-Napoca, Romania, 2010, pp. 1-6, doi: 10.1109/AQTR.2010.5520857.
51. Plitea, N.; Pisla, D.; Vaida, C.; Gherman, B.; Pisla, A. Dynamic Modeling of a Parallel Robot Used in Minimally Invasive Surgery *PROCEEDINGS OF EUCOMES 08, THE SECOND EUROPEAN CONFERENCE ON MECHANISM SCIENCE*, pp.595-602, 2009
52. Pisla D., Plitea N., **Gherman B**, Vaida C, Pisla A., Kinematical Analysis and Design of a New Surgical Parallel Robot, *Computational kinematics*, vol.1, pp.273-282, 2009
53. Vaida, C.; Pisla, D.; Plitea, N.; Gherman, B.; Gyurka, B.; Stancel, E.; Hesselbach, J.; Raatz, A.; Vlad, L.; Graur, F. Development of a Control System for a Parallel Robot Used in Minimally Invasive Surgery *INTERNATIONAL CONFERENCE ON ADVANCEMENTS OF MEDICINE AND HEALTH CARE THROUGH TECHNOLOGY*, vol. 26, pp. 171-176, 2009

5. BDI Indexed papers published in journals and conference proceedings

1. Vaida, C., Rus, G., Gherman, B., Pusca, A., Tucan, P., Ulinici, I., Pisla, D. Development of an augmented reality simulator for a robotic system used in single incision laparoscopic surgery, *The Romanian Journal of Technical Sciences. Applied Mechanics*, Vol. 68 No. 1 (2023).

2. Nadas, I., Tucan, P., Gherman, B., Banica, P., Rednic, V., Carbone, G., Pîsla, D. On the design and validation of a parallel robot for lower limb rehabilitation. The Romanian Journal of Technical Sciences. Applied Mechanics. 2022, 67(2) pp. 177-195
3. Pîsla, D., Carami, D., Gherman, B., Soletî, G., Ulinici, I., Vaida, C. A novel control architecture for robotic-assisted single incision laparoscopic surgery. The Romanian Journal of Technical Sciences. Applied Mechanics, Vol. 66 No. 2 (2021)
4. N. Pop, A. Demea, B. Gherman, D. Pîsla and R. Holonec, "Virtual Instrument used for the Evaluation of Extraocular Motility," 2019 E-Health and Bioengineering Conference (EHB), Iasi, Romania, 2019, pp. 1-4, doi: 10.1109/EHB47216.2019.8969909.
5. Vrublevskis, J; Duncan, S; Berthoud, L; Bowman, P; Hills, R; McCulloch, Y; Pîsla, D; Vaida, C; Gherman, B; Hofbaur, M; Description of European Space Agency (ESA) Remote Manipulator (RM) System Breadboard Currently Under Development for Demonstration of Critical Technology Foreseen to be Used in the Mars Sample Receiving Facility (MSRF), Second International Mars Sample Return, Vol. 2071, 2018
6. Major, K.A., Major, Z.Z., Carbone, G., Pîsla, A., Vaida, C., Gherman, B., Pîsla, D.L. Ranges of motion as basis for robot-assisted poststroke Human and Veterinary Medicine vol.8(4), pp.192-196, 2016
7. Carbone G., Gherman B.G., Ceccarelli M., Pîsla D., Itul T.P., A Robotization for Packaging of Horticulture Products, The International Journal Robotica & Management, vol.12, pp.13-20, 2007
8. F. Covaciu, B. Gherman, C. Vaida, N. Plitea, D. Pîsla, F. Puskas, "Control of a Medical Parallel Robot for Brachytherapy", Acta Electrotehnica, ISSN 1224-2497, Nr. 3, pp. 152-156, 2015

5. Granted patents

1. Plitea, N., Pîslă, D., Vaida, C., Gherman, B.: Surgical robot. RO-126271, Romania (2012)
2. Vaida, C., Plitea, N., Pîslă, D., Gherman, B., Suci, M.: Orientation module with multiple curvatures, Pending patent A10112/2011, (2011)
3. Spherical robot for medical recovery of the proximal area in the upper limb, Vaida, C., Plitea, N., Pîsla, D., Gherman, B., Ulinici, I., Pîsla, A., Carbone, G., Patent number OSIM: RO132233/30.03.2020 and also Italian patent no. 102018000006216 from 12.06.2018
4. Parallel robotic system for upper limb medical recovery, Gherman Bogdan George, Pîslă Doina Liana, Plitea Nicolae, Vaida Liviu Călin, Carbone Giuseppe, Pîslă Adrian, Banică Alexandru Vlad, Patent number OSIM: RO132234/30.03.2020
5. Innovative parallel robot for medical rehabilitation of the lower limb, Pîsla, D., Birlescu, I., Vaida, C., Gherman, B., Tucan P., Plitea, N., Patent number OSIM:RO- RO-133814/29.10.2021
6. Parallel robot for mobility rehabilitation of the lower limb, Pîsla, D., Gherman, B., Nadas, I., Pop, N., Craciun, F., Tucan, P., Vaida, C., Carbone, G, Birlescu, I., Plitea, N., Patent number OSIM :RO133815/29.10.2021