



Europass Curriculum Vitae

Personal information



First name(s) / Surname(s) **NICOLAE / PLITEA**

Address(es) 18, Moise Nicoară Str. ,RO-400474, Cluj-Napoca, ROMANIA

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Nationality Romanian

Date of birth February, 12, 1939

Gender male

Occupational field **EDUCATION AND RESEARCH**

Work experience

Dates 1990 – present

Occupation or position held **Full Professor at the Department of Mechanics and Computer Programming, Technical University of Cluj-Napoca**

Main activities and responsibilities Teaching activities in mechanics, research activities in Robotics and Mechanics, Kinematics and dynamics of serial and parallel robots, Mini- and microrobots, Surgical robots, E-learning platforms and simulators for medicine.

Scientific coordinator of the Research Center for Industrial Robots Simulation and Testing - CESTER

Name and address of employer Technical University of Cluj-Napoca, Memorandumului, 28, RO-400114 Cluj-Napoca, Romania, www.utcluj.ro

Type of business or sector Education and research

Dates 1978-1990

Occupation or position held **Associate Professor at the Department of Mechanics, Technical University of Cluj-Napoca**

Main activities and responsibilities Teaching activities in mechanics, research activities in Robotics, Mechanics, Kinematics and dynamics of serial and parallel robots, Mini- and microrobots.

Name and address of employer Technical University of Cluj-Napoca, Daicovicu, 15, RO-400020 Cluj-Napoca, Romania, www.utcluj.ro

Type of business or sector Education and research

Dates 1971-1978
 Occupation or position held **Lecturer, at the Department of Mechanics, Technical University of Cluj-Napoca**
 Main activities and responsibilities Teaching activities in mechanics and material strength, research activities in Robotics, Mechanics, Kinematics and dynamics of serial and parallel robots.
 Name and address of employer Technical University of Cluj-Napoca, Daicoviciu, 15, RO-400020 Cluj-Napoca, Romania, www.utcluj.ro
 Type of business or sector Education and research

Dates 1962-1971
 Occupation or position held **Teaching Assistant at the Department of Mechanics, Technical University of Cluj-Napoca**
 Main activities and responsibilities Teaching activities in mechanics and mechanism theory, research activities in Robotics and Mechanics
 Name and address of employer Technical University of Cluj-Napoca, Daicoviciu, 15, RO-400020 Cluj-Napoca, Romania, www.utcluj.ro
 Type of business or sector Education and research

Education and training

Dates 1971
 Title of qualification awarded PhD
 Principal subjects/occupational skills covered Research in Mechanical Engineering
 PhD thesis title: Contributions to the study of the movements of the material systems with applications at analysis and synthesis of spherical and spatial mechanisms
 Name and type of organisation providing education and training Politehnic Institute of Iași, Romania

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **German
 English
 Russian
 French**

Self-assessment
European level ()*

German
English
Russian
French

Understanding		Speaking		Writing	
Listening	Reading	Spoken interaction	Spoken production		
C2	C2	C2	C2	C2	C2
C1	C1	C1	C1	C1	C1
B2	B2	B2	B2	B2	B2
B2	B2	B2	B2	B2	B2

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences Team spirit, communicative, solidarity, honesty, correctitude, responsibility, dynamism
 Organisational skills and competences Good organiser and manager, education and research abilities, problem-solving-attitude, ability to respect deadlines for project activities
 Technical skills and competences Ability in kinematic and dynamic modelling of robots, developing of new mechanical systems.
 Writing many scientific papers in ISI and BDI journal
 Participation at many international conferences in congresses
 Computer skills and competences C, Fortran, MS Office
 Artistic skills and competences Tennis, swimming

Other skills and competences	<p>1957 – 1962 Bachelor degree at the Technical University of Cluj-Napoca, Faculty of Mechanics, Specialization Technology of Machine Building</p> <p>1953 – 1957 High School “Gheorghe Lazar”</p> <p>1974 – 1975 (14 months) Technische Universitat Braunschweig , Specialization in Spatial Mechanisms, scholarship „Alexander von Humboldt-Stiftung”</p> <p>1992 (2 weeks) University of Central Lancashire – Preston, Anglia</p> <p>1992 (2 weeks) Technische Universitat Braunschweig</p> <p>1993 (1 week) University of Central Lancashire, Preston, Anglia</p> <p>1993 (3 months) Technische Universitat Braunschweig, Germania, scholarship „Alexander von Humboldt Stiftung”.</p>
Driving licence	Driving licence category B
Additional information	<p>Scientific activity (entire career)</p> <p>Published books: 8</p>
Annexes	<p>Published papers in ISI journals, SCI journals, national and international conferences and congresses: over 200</p> <p>National and international research contracts: 50</p>
Annexes:	Relevant publications (only period 2009-2016)
Annexes:	<p>Papers published in ISI and BDI journals and at international and national conferences</p> <ol style="list-style-type: none"> 1. D. Pisla, 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, acceptata la publicare in Current Solutions in Mechanical Engineering, ISBN: 978-3-03835-566-3, Applied Mechanics and Materials Vols. 823, Transh Tech Publications, se va publica in 2016 2. C. Vaida, D. Pisla, P. Tucan, B. Gherman, C. Govor, N. Plitea: "An innovative parallel robotic structure designed for transperineal prostate biopsy", IFToMM Congress, Taipei, Taiwan, 25-30 octombrie 2015 3. D. Pisla, 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 4. D. Pisla, B. Gherman, P. Tucan, C. Vaida, C. Govor, N. Plitea: "On the Kinematics of an Innovative Parallel Robotic System for Transperineal Prostate Biopsy", IFToMM Congress, Taipei, Taiwan, 25-30 octombrie 2015 5. D. Pisla, B. Gherman, F. Girbacia, C. Vaida, S. Butnariu, T. Girbacia, N. Plitea: "Optimal Planning of Needle Insertion for Robotic-Assisted Prostate Biopsy", Advances in Intelligent Systems and Computing, Springer, Vol. 371, pp. 339-346, 2015 6. B. Galdau, N. Plitea, C. Vaida, F. Covaciu, D. Pisla: "Design and control system of a parallel robot for brachytherapy", 2014 IEEE International Conference on Automation, Quality and Testing, Robotics - AQTR 2014, 22-24 Mai 2014, Cluj-Napoca, Romania, ISBN 978-1-4799-3732-5, http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=6857873, (ISI Proceedings) 7. B. Gherman, T. Girbacia, D. Cocorean, C. Vaida, S. Butnariu, N. Plitea, D. Talaba, D. Pisla: "Virtual Planning of Needle Guidance for a Parallel Robot used in Brachytherapy", International Workshop and Summer School on Medical and Service Robotics - MESROB 2014, 10-12 Iulie 2014, EPFL Lausanne, Elvetia 8. N. Plitea, G. Kacso, D. Pisla, C. Vaida, B. Gherman, A. Szilaghyi, D. Cocorean: "Robotic Brachytherapy", Journal of Contemporary Brachytherapy, vol. 6, supplement 1, pp. 56-57, 2014 9. N. Plitea, B. Gherman, D. Cocorean, C. Vaida, D. Pisla: "Inverse Dynamic Modelling of PARA-BRACHYROB Parallel Robotic System for Brachyteharpy", Trimisa spre recenzie la revista Robotica, Cambridge University Press (ISI Factor de impact 0.894, Scor relativ de influenta: 0.41) 10. F. Girbacia, B. Gherman, S. Butnariu, N. Plitea, D. Talaba, D. Pisla: "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) 11. B. Gherman, N. Plitea, D. Pisla, C. Vaida: "Kinematic Modelling of a new 5-DOF (Axis) Parallel

- Robot used in Brachytherapy", Trimisa spre publicare la conferinta: The VIth International Conference on Robotics - ROBOTICS 2014 (ISI Proceedings)
12. C. Vaida, D. Pisla, A. Szilaghyi, F. Covaciu, D. Cocorean, N. Plitea: "The Control System of a Parallel Robot for Brachytherapy", *New Trends in Mechanism and Machine Science*, Vol. From Fundamentals to Industrial Applications, pp. 563-571, 2015, DOI: 10.1007/978-3-319-09411-3_60
 13. B. Galdau, D. Pisla, G. Kacso, D. Cocorean, C. Vaida, B. Gherman, N. Plitea : "New design of BR-1: An innovative parallel robot for brachytherapy", 2014 International Conference on Production Research - Africa, Europe and Middle East, ISBN: 978-973-662-978-5, Technical University of Cluj-Napoca, 2014 (ISI Proceedings)
 14. N. Plitea, A. Szilaghyi, D. Cocorean, D. Pisla, C. Vaida: "Inverse Dynamics and Simulation of a 5-DOF Modular Parallel Robot Used in Brachytherapy", Acceptata pentru publicare in revista: Proceedings of the Romanian Academy ISI Factor de impact 2013: 1.115, Scor relativ de influenta 2013: 0.114)
 15. D. Cocorean, C. Vaida, N. Plitea, D. Pisla, "MODULAR DESIGN OF A PARALLEL ROBOTIC STRUCTURE FOR BRACHYTHERAPY", *ACTA TECHNICA NAPOCENSIS Series: Applied Mathematics, Mechanics, and Engineering* Vol. 58, Issue II, pp. 245-250, June, 2015
 16. F. Covaciu, B. Gherman, C. Vaida, N. Plitea, D. Pisla, F. Puskas, "Control of a Medical Parallel Robot for Brachytherapy", *Acta Electrotehnica*, ISSN 1224-2497, Nr. 3, pp. 152-156, 2015
 17. B. Gherman, D. Pisla, C. Vaida, N. Plitea, "ON WORKSPACE AND ACCURACY EVALUATION OF A PARALLEL ROBOT FOR NEEDLE PLACEMENT PROCEDURES", acceptat pentru publicare in revista: Proceedings of the Romanian Academy, Series A, 2016
 18. N. Plitea, A. Szilaghyi, D. Cocorean, C. Vaida, D. Pisla, "INVERSE DYNAMICS AND SIMULATION OF A 5-DOF MODULAR PARALLEL ROBOT USED IN BRACHYTHERAPY", acceptat pentru publicare in revista: Proceedings of the Romanian Academy, Series A, 2016
 19. D. Pisla, B. Galdau, F. Covaciu, C. Vaida, D. Popescu, N. Plitea, "Singularity Analysis and Control System of an Innovative Medical Parallel Robot", The 23rd International Conference on Production Research, Manila, Phillipines, 02-05 August 2015, acceptata in revista IJPR; va apare in 2016
 20. C. Vaida, D. Pisla, J. Schadlbauer, M. Husty, N. Plitea, "Kinematic Analysis of an Innovative Medical Parallel Robot using Study parameters", 4th International Workshop on Medical and Service Robots, MESROB 2015, 8-10 July, Nantes, France, acceptat pentru publicare ca si capitol in cartea Springer; va apare in 2016
 21. F. Covaciu, D. Ani, B. Gherman, N. Plitea, D. Pisla, "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
 22. D. Cocorean, N. Plitea, C. Vaida, D. Pisla, "Kinematic Behavior of 2-CRR-CYL-U parallel robot for brachytherapy", 14th World Congress in Mechanism and Machine Science, Taipei, Taiwan, 25-30 October, 2015
 23. B. Gherman, D. Pisla, G. Kacso, N. Plitea, "Kinematic Behavior of a Novel Medical Parallel Robot for Needle Placement", *Advances in Intelligent Systems and Computing*, Springer, Vol. 371, pp. 329-338, 2015
 24. N. Plitea, A. Szilaghyi, D. Pisla: "Kinematic Analysis of a new 5-DOF Modular Parallel Robot for Brachytherapy", *Robotics and Computer Integrated Manufacturing*, 2014
 25. 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.
 26. D. Pisla, D. Cocorean, C. Vaida, B. Gherman, A. Pisla, N. Plitea: "Application Oriented Design and Simulation of an Innovative Parallel Robot for Brachytherapy", Trimisa spre recenzie la conferinta internationala: Proceedings of the ASME 2014 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference - IDETC/CIE 2014, 17 - 20 August 2014, Buffalo, New York, USA
 27. B. Gherman, N. Plitea, B. Galdau, C. Vaida, D. Pisla: "On the Kinematics of an Innovative Parallel Robot for Brachytherapy", Acceptata la conferinta internationala: The 14th International Symposium on Advances in Robot Kinematics - ARK 2014, 29 Iunie - 3 Iulie 2014, Ljubljana, Slovenia
 28. N. Plitea, D. Pisla, C. Vaida, B. Gherman, A. Szilaghyi, B. Galdau, D. Cocorean, F. Covaciu: "On the Kinematics of a New Parallel Robot for Brachytherapy", în Proceedings of the Romanian Academy - series A: Mathematics, Physics, Technical Sciences, Information Science, 2014
 29. N. Plitea, C. Vaida, B. Gherman, A. Szilaghyi, B. Galdau, D. Cocorean, F. Covaciu, D. Pisla: "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.
 30. N. Plitea, A. Szilaghyi, D. Pisla: "Kinematic Analysis of a new 5-DOF Modular Parallel Robot for Brachytherapy", *Robotics and Computer Integrated Manufacturing*, 2014
 31. 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.
32. D. Pisla, D. Cocorean, C. Vaida, B. Gherman, A. Pisla, N. Plitea: "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 - IDETC/CIE 2014*, 17 - 20 August 2014, Buffalo, New York, USA
 33. B. Gherman, N. Plitea, B. Galdau, C. Vaida, D. Pisla: "On the Kinematics of an Innovative Parallel Robot for Brachytherapy", *Acceptata la conferinta internationala: The 14th International Symposium on Advances in Robot Kinematics - ARK 2014*, 29 Iunie - 3 Iulie 2014, Ljubljana, Slovenia
 34. N. Plitea, D. Pisla, C. Vaida, B. Gherman, A. Szilaghyi, B. Galdau, D. Cocorean, F. Covaciu: "On the Kinematics of a New Parallel Robot for Brachytherapy", in *Proceedings of the Romanian Academy - series A: Mathematics, Physics, Technical Sciences, Information Science*, 2014
 35. N. Plitea, C. Vaida, B. Gherman, A. Szilaghyi, B. Galdau, D. Cocorean, F. Covaciu, D. Pisla: "An innovative family of modular parallel robots for brachytherapy", 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.
 36. D. Pisla, D. Cocorean, C. Vaida, B. Gyurka, A. Pisla, N. Plitea, Kinematic and dynamic simulation of a reconfigurable parallel robot, *Proceedings of the 3rd IFToMM International Symposium on Robotics and Mechatronics (ISRM 2013)* ISBN: 978-981-07-5983-4, Singapore, 2013
 37. Vaida C., Plitea N., Cocorean D., Pisla D.: "Modeling of new spatial parallel structures with constant platform orientation using planar parallel modules", Accepted for publication in: *Proceedings of the Romanian Academy - series A: Mathematics, Physics, Technical Sciences, Information Science*
 38. **Plitea N.**, Vaida C., Gherman B., Szilaghyi A., Galdau B., Cocorean D., Covaciu F., Pisla D.: "Structural Analysis and Synthesis of Parallel Robots for Brachytherapy", *New Trends in Medical and Service Robots, Series: Mechanisms and Machine Science*, Springer, Vol. 16, ISBN 978-3-319-01591-0, 2014.
 39. Pisla, D., Szilaghyi, A., Vaida, C., (c.a.), Plitea, N., Kinematics and workspace modeling of a new hybrid robot used in minimally invasive surgery, (2013) *Robotics and Computer-Integrated Manufacturing* 29(2) pp. 463–474
 40. Pisla, D., Gherman, B., Vaida, C., (c.a.), Suci, M., Plitea, N., An active hybrid parallel robot for minimally invasive surgery, (2013), *Robotics and Computer-Integrated Manufacturing*, 29(4), pp. 203-221
 41. Vaida, C., Plitea, N., Pisla, D., Gherman, B.: Orientation module for surgical instruments—a systematic approach, (2013), *Meccanica*, Vol. 48(1), 145-158, DOI 10.1007/s11012-012-9590-x.
 42. Plitea, N., Lese, D., Pisla, D., Vaida, C., Structural design and kinematics of a new parallel reconfigurable robot, (2013), *Robotics and Computer-Integrated Manufacturing*, 29(1), pp. 219-235
 43. Vaida, C., Gherman, B., Pisla, D., Plitea, N., A Spherical Robotic Arm for Instruments Positioning in Minimally Invasive Medical Applications, (2012), *The 2nd IFToMM Asian Conference on Mechanism and Machine Science*, November 7 -10, 2012, Tokyo, Japan
 44. A. Szilaghyi, A. Stoica, D. Pisla, C. Vaida, N. Plitea, Kinematics Analysis of a Parallel Surgical Robot, (2012), *Latest Advances in Robot Kinematics*, pp. 333-340
 45. Gherman, B., Pisla, D., Vaida, C., Plitea N., Development of Inverse Dynamic Model for a Surgical Hybrid Parallel Robot with Equivalent Lumped Masses, (2012) *Robotics and Computer-Integrated Manufacturing*, 28 (3) , pp. 402-415.
 46. Pisla, D., Gherman, B. Vaida, C., Plitea, N.: Kinematic modeling of a 5 DOF Parallel Hybrid Robot designed for Laparoscopic Surgery, (2012) *Robotica*, Vol. 30(7), pp 1095-1107
 47. C. Vaida, N. Plitea, D. Lese, D. Pisla, A Parallel Reconfigurable Robot with Six Degrees of Freedom, *J. of Applied Mechanics and Materials*, Vol. Mechanisms, Mechanical Transmissions and Robotics, DOI: 10.4028/www.scientific.net/AMM.162.204, pp. 204-213, 2012
 48. R.Dadarlat, N. Plitea, B. Konya, C. Vaida, and D. Pisla, Workspace and Singularities Analysis of a 6-DOF Parallel Mechanism with Two Kinematic Chains for Platform Guidance, *New Trends in Mechanism and Machine Science, Mechanisms and Machine Science Volume 7*, 2013, pp 33-41
 49. B. Konya, N. Plitea, R. Dadarlat, C. Vaida, and D. Pisla, The Kinematics of a New Reconfigurable Parallel Robot with Six Degrees of Freedom, *New Trends in Mechanism and Machine Science, Mechanisms and Machine Science Volume 7*, 2013, pp 43-51
 50. A. Stoica, D. Pisla , A. Szilaghyi, B. Gherman, N. Plitea, Workspace and Singularity Analysis for a parallel robot used in surgical applications, *New Trends in Mechanism and Machine Science, Mechanisms and Machine Science Volume 7*, 2013, pp 149-157
 51. A. Szilaghyi, A. Stoica, D. Pisla, C. Vaida and N. Plitea, Kinematics Analysis of a Parallel Surgical Robot, *Advances in Robot Kinematics Innsbruck, Austria, June 24–28 2012*, published in *Latest Advances in Robot Kinematics*, pp 333-340, DOI: 10.1007/978-94-007-4620-6_42, 2012
 52. D. Pisla, N. Plitea, C. Vaida, et al, Kinematics of New Parallel Structures with 3 and 4 DOF Using New Planar Parallel Modules, *13th World Congress in Mechanism and Machine Science, Guanajuato, México, 19-25 June, 2011*
 53. N. Plitea, J. Hesselbach, D. Pisla, A. Raatz, C. Vaida, B. Prodan, R. Dadarlat, Inverse Dynamics of

- a 5-DOF Reconfigurable Parallel Robot, 13th World Congress in Mechanism and Machine Science, Guanajuato, México, 19-25 June, 2011
54. D. Pisla, B. Gherman, **N. Plitea**, B. Gyurka, C. Vaida, L. Vlad, F. Graur, C. Radu, M. Suciuc, A. Szilaghy, A. Stoica, PARASURG hybrid parallel robot for minimally invasive surgery, *Chirurgia* 106(5), 2011, pp. 619-625
 55. M. Suciuc, B. Gherman, C. Vaida, N. Plitea, D. Pisla, On the Kinematics of a Hybrid Parallel Robot used in Minimally Invasive Surgery – plenary lecture, *Mechanisms and Machine Science*, 2012, Volume 3, Part 4, 255-262, DOI: 10.1007/978-94-007-2727-4_23
 56. C. Vaida, N. Plitea, D. Pisla, B. Gherman, M. Suciuc, Design and Analysis of an Orientation Module for Instruments used in Minimally Invasive Procedures, In *Acta Tehnica Napocensis*, 54(1), 2011
 57. Furcea, L., Graur, F., Scurtu, L., Gherman, B., Plitea, N., Pislă, D., Vaida, C., Deteșan, O., Szilaghy, A., Neagoș, H., Mureșan, A., Vlad, L.: Avantajele implementării unei platforme de e-learning pentru chirurgia laparoscopică hepatică asistată robotic, *Chirurgia* 106(6), 2011, pp. 799-806
 58. 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, <http://dx.doi.org/10.1016/j.rcim.2011.11.003>
 59. Pislă, D., B. Gherman, N. Plitea, B. Gyurka, C. Vaida, L. Vlad, F. Graur, C. Radu, M. Suciuc, A. Szilaghy, A. Stoica: PARASURG Hybrid Parallel Robot for Minimally Invasive Surgery, *Chirurgia* (Bucur), 106(5), pp. 619-625, 2011.
 60. Plitea, N. Hesselbach, J., Vaida, C., Raatz, A., Pislă, D., Gyurka, B., Gherman, B., Design and Control of a Parallel Robot for Laparoscopic Surgery, The 1st Joint International Conference on Multibody System Dynamics, May 25-27, 2010, Lappeenranta, Finland, 2010.
 61. Vaida, C., Pislă, D., Plitea, N., Gherman, B., Development of a Voice Control Surgical robot, *New Trends in Mechanism Science. Analysis and Design*, pp. 567-574, 2010.
 62. Pislă, D., B.G. Gherman, N. Plitea, M. Suciuc, C. Vaida, On the Dynamics of a 5 DOF Parallel Hybrid Robot used in Minimally Invasive Surgery, *New Trends in Mechanism Science. Analysis and Design*, pp. 691-699, 2010.
 63. Pislă, D., Plitea, N., Gherman, B., Vaida, C., Suciuc, M., 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, pp. 99-106, Springer, 2010.
 64. Pislă, D., Plitea, N., Vaida, C., Hesselbach, J., Raatz, A., Vlad, L., Graur, F., PARAMIS Parallel Robot for Laparoscopic Surgery, *Chirurgia* 105(5), pp. 677-683, 2010.
 65. D. Pislă, N. Plitea, B. Gherman, A. Pislă, C. Vaida, Kinematical Analysis and Design of a New Surgical Parallel Robot. In *Proceedings of CK Workshop 2009*, Springer Verlag, 2009, pp.273-282
 66. C. Vaida, D. Pislă, N. Plitea, B. Gherman, B. Gyurka, E. Stancel, J. Hesselbach, A. Raatz, L. Vlad, F. Graur, 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 MediTech 2009*, Cluj-Napoca, 23 – 26 Septembrie, Romania
 67. N., Plitea, A. Vidrean, D., Pislă, C., Vaida, B., Gyurka, Workspace and Singularity Analysis for a Reconfigurable Parallel Robot, The 10th IFToMM International Symposium on Science of Mechanisms and Machines SYROM 2009 Brasov, 12 – 15 octombrie, Romania
 68. N., Plitea, D., Pislă, A. Vidrean, B. Prodan, B. Gherman, D. Lese, Kinematics and Design for Two Variants of a Reconfigurable Parallel Robot, Proc of the IEEE/ASME International Conference on Reconfigurable Mechanisms and Robots ReMAR 2009, June 22-24, 2009, London, United Kingdom
 69. Plitea, N., Pislă, D., Vidrean, A., Vaida, A., Gyurka, B., Workspace and Singularity Analysis for a Reconfigurable Parallel Robot, SYROM 2009, Springer Verlag, Seite 563-576, 2009.
 70. Pislă, D., Furcea, L., Vlad, L., **Plitea, N.**, Scurtu, L., Vaida C., Virtual Medicine - an update, Proc. of 21th Int.Conf. of the Soc. for Medical Innovation and Technology, Sinaia, 2009.
 71. Graur, F., Plitea, N., Vlad, L., Pislă, D., Furcea, L., Voice-controlled parallel robot for minimally invasive surgery, European Association of Endoscopic Surgery, Proc. of EAES 2009, Prague, 2009.
 72. Pislă, D., Plitea Nicolae, Vidrean Anneline, Prodan Bogdan, Gherman, Bogdan, Lese Dorin, Kinematics and Design of Two Variants of a Reconfigurable Parallel Robot, ASME/IFTToMM International Conference on Reconfigurable Mechanisms and Robots (ReMAR 2009), Seite 565-572978-88-89007-37-2, IEEE Catalog Number: CFP0943G-PRT.
 73. Graur, F., Pislă, D., Scurtu, L., Plitea, N., Cote, A., Furcea, L., Muresan, A., Neagos, H., Iancu, C., Vlad, L., Comparison of the Methods of Tridimensional Reconstruction of the Liver to develop a Laparoscopic Liver Surgery Simulator, *Chirurgia* 104(2), ISSN 1221-9118, 2009.
 74. Pislă, D., Plitea Nicolae, Gherman Bogdan, Pislă, Adrian, Vaida Calin, Kinematical Analysis and Design of a New Surgical Parallel Robot, *Computational Kinematics 2009*, Seite 273-282, Springer
 75. 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, Vibromechanika*, 2009, Ausgabe 11 / 2, Seite 215-225.
 76. D. Pislă, **N. Plitea**, B. Gherman, A. Pislă, C. Vaida, *Kinematical Analysis and Design of a New Surgical Parallel Robot*, the 4th Workshop on Computational Kinematics CK 2009, May 6-8, 2009

Annexes: Seminars and Workshops (excerpt)

1. Graur, F., **Plitea, N.**, Vlad, L., Pisla, D., Furcea, L., *Voice-controlled parallel robot for minimally invasive surgery*, European Association of Endoscopic Surgery, Proc. of EAES 2009, Prague, 2009.
2. **Plitea, N.**, Pisla, D., Vidrean, A., Vaida, A., Gyurka, B., *Workspace and Singularity Analysis for a Reconfigurable Parallel Robot*, SYROM 2009, Springer Verlag, Seite 563-576, 2009.
3. **Plitea, N.**, Prodan, P., Pisla, D., Bela Gyurka, *Kinematic Modeling and Workspace Analysis of a 5-DOF Reconfigurable Parallel Robot*, 18th International Workshop on Robotics in Alpe-Adria-Danube Region, May 25-27, 2009, Brasov, Romania, 2009.
4. Pisla, D., **Plitea N.**, Pisla A., Stoian I., Stancel E., Gyurka B. Z., Tepeş Alina, *A Simulation Control Interface for Robotic Structures used as Flight Simulators*, AQTR 2008 (THETA16) IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, May 22-25, 2008, Cluj-Napoca, Romania, CD.
5. **Plitea N.**, Pisla A., Pisla, D., Prodan B., *Dynamic Modeling of a 6-Dof Parallel Structure Destinated to Helicopter Flight Simulation*, ICINCO 2008, Fifth International Conference on Informatics in Control, Automation and Robotics, Funchal, Madeira, Portugal, May 11 – 15, 2008, Volume RA-2, ISBN: 978-989-8111-31-9.

International Research projects (excerpt)

1. Creative Alliance in Research and Education focused on Medical and Service Robotics, IZ74Z0_13736, Scopes International IP Grant, Prof. Univ. Dr.-Ing. Doina, Pisla 2011-2014, http://www.snf.ch/SiteCollectionDocuments/int_sco_pro_romania0912.pdf Position: Scientific coordinator
2. Mathematische Modellierung und experimentelle Untersuchungen eines modular aufgebauten Parallelroboters in der minimal invasiven Chirurgie – *Mathematical modeling and experimental researches for the development of a modular parallel robot for minimally invasive surgery*. Duration: 2006-2011, Financed by: Alexander von Humboldt Foundation, Position: Director
3. *The setup of a laboratory for microrobots and micro grippers using advanced materials within the Center for Industrial Robots Simulation and Testing*. Duration: 2004-2005, Financed by: DAAD, Position: Director

National Research Grants (excerpt)

1. International grant SCOPES, financed de SNF (Swiss National Foundation): Creative Alliance in Research and Education focused on Medical and Service Robotics, IZ74Z0_13736, Scopes International IP Grant, Position: Scientific coordinator
2. Exploratory Workshop, PN-II-ID-WE-2012-4-018: New Trends in Medical and Service Robots – MeSRob, 29-30 Iunie 2012 Position: Scientific coordinator
3. Grant National tip Parteneriate - PN-II-PT-PCCA-2011-3.2-0414 Robotic assisted brachytherapy, an innovative approach of inoperable cancers (CHANCE) Position: Coordinator
4. Grant National tip Parteneriate PN-II-PT-PCCA-2013-4-0647, Robotic assisted prostate biopsy, a high precision innovative method (ROBOCORE) Position: Scientific coordinator
5. Grant National tip Parteneriate PN-II-PT-PCCA-2013-4-1596, Diagnosis and therapy system for spin disorders – SPINE, Position: Scientific coordinator
6. *Multidisciplinary development of surgical robots based on parallel structures – PARMIS*, Duration: 2007-2010, 11016/2007 Financed by: National Authority for Scientific Research, Position: Scientific coordinator
7. *Innovative development of an innovative virtual system for e-learning in hepatic surgery – HEPSIM*, Duration: 2008-2011, Financed by: National Authority for Scientific Research, Position: Scientific coordinator
8. *Promotion of researches and participation in European programmes in the field of parallel robots for surgery – PARASURG*, Duration: 2006-2008, 184/2006 Financed by: National Authority for Scientific Research, Position: Scientific coordinator
9. *Structural, geometrical, kinematic and dynamic researches for the development of a flight simulator adapted to special requirements – ASKOT*, Duration: 2006-2008, 120/2006, Financed by: National Authority for Scientific Research, Position: Scientific Coordinator
10. *Structural, geometrical, kinematic and dynamic researches of new structures of parallel robots using elastic hinges*, Duration: 2006-2008, Financed by: National Council of Scientific Research in Higher Education, Position: Director
11. *Analysis and development of microrobots with parallel kinematics and implementation of testing algorithms for the evaluation of their performances*, Duration: 2005-2007, Financed by: National Council of Scientific Research in Higher Education, Position: Scientific coordinator
12. *Development of a performant dynamic simulation system for parallel structures*, Duration: 2003-2004, Financed by: National Council of Scientific Research in Higher Education, Position: Scientific coordinator

Annexes: International Patents

1. **Plitea, N.**, Hesselbach, I., Kusiek, A., Frindt, M., Bewegungsvorrichtung mit Parallelstruktur. Patentschrift DE 197.57.133.C1, Deutsches Patent-und Markenamt, Bundesrepublik Deutschland, Aktenzeichen: 197.57.133.6-33, Anmeldetag: 20.12.97, Offenlegungstag: -, Veröffentlichungstag der Patenterteilung: 29.07.99. **Invenție aplicată și premiată** cu Premiul de transfer tehnologic al Camerei de Industrie și Comerț, Braunschweig pe anul 2001 (12 nov.2001) (în Germania 0,5% din invențiile brevetate sunt aplicate)
2. Hesselbach, I., **Plitea, N.**, Kerle, H., Thoben, R., Manipulator mit Parallelstruktur, Patentschrift DE 197.10.171.C2, Deutsches Patent-und Markenamt, Bundesrepublik Deutschland, Aktenzeichen: 197.10.171.2-15, Anmeldetag: 12.03.1997, Offenlegungstag: 17.09.1998, Veröffentlichungstag der Patenterteilung: 7.02.2002.
3. Hesselbach, J., **Plitea, N.**, Kerle, H., Frindt, M., Patentschrift DE 198.40.886.C2, Deutsches Patent-und Markenamt, Bundesrepublik Deutschland, Aktenzeichen: 198.40.886.2-12, Anmeldetag: 8.09.1998, Offenlegungstag: 23.03.2000, Veröffentlichungstag der Patenterteilung: 13.03.2003.
4. Kerle, H., Krefft, M., Hesselbach, J., **Plitea, N.**, Vorschubeinrichtung für Werkzeugmaschinen, Deutsches Patentschrift DE 102 30 287 B3/08.01.2004, Anmeldetag: 05.07.2002, Veröffentlichungstag der Patenterteilung: 08.01.2004 (Patent Nr. 102.287.1-14)

National Patents

1. **PLITEA, N.**, PISLA, D., VAIDA, C., GHERMAN, B., Surgical Robot, RO126271-A2, Romania
2. **Plitea, N.**, Pisla, D., Vaida, C., Vidrean, A., Glogoveanu, M. Lese, D., Parallel Robot family with four degrees of freedom, Patent pending no. A10022/30.09.2010, Romania (2010).
3. Vaida C., Plitea, N., Pisla, D., Gherman, B., Suciu, M.: Orientation module with modular structure and multiple bends, Patent pending no. A10113/2001, Romania (2011)
4. **Plitea N.**, Pisla D., Vaida C., Gherman B., Szilaghyi A., Galdau B., Cocorean D.: Parallel robot for brachytherapy with two kinematic guiding chains of the platform (the needle) type 2CRRU and CRU, Patent pending, A/10004/2013
5. **Plitea N.**, Pisla D., Vaida C., Gherman B., Szilaghyi A., Galdau B., Cocorean D.: Parallel robot for brachytherapy with two kinematic guiding chains of the platform (the needle) type 2CRRU and CYL-U, Patent pending, A/10005/2013
6. **Plitea N.**, Pisla D., Vaida C., Gherman B., Szilaghyi A., Galdau B., Cocorean D.: Parallel robot for brachytherapy with two kinematic guiding chains of the platform (the needle) type CYL-U, Patent pending, A/10006/2013
7. **Plitea N.**, Pisla D., Vaida C., Gherman B., Szilaghyi A., Galdau B., Cocorean D.: Parallel robot for brachytherapy with two parallel modules, one for positioning and one for orientation, Patent pending, A/10007/2013
8. **N. Plitea**, D. Pisla, C. Vaida, B. Gherman, P. Tucan, C. Govor, F. Covaciu: Parallel robots family for the transperineal prostate biopsy, Patent pending: A/00191/13.03.2015;
9. C. Vaida, D. Pisla, P. Tucan, **N. Plitea**, B. Gherman: Parallel robot for transperineal prostate biopsy. Patent pending: 00761/26.10.2015

Annexes: National awards and prizes

1. Plitea, N., Exquisit Professor, in 1988, awarded for the winning of 27 medals in 5 years by participating with different student teams at the national professional competition Traian Lalescu in Theoretical Mechanics.
2. Plitea, N. Honorary diploma of the Technical University of Cluj-Napoca, for outstanding contributions in scientific activity, 2004
3. Plitea, N., The Order „Education Merit” in commander degree given by the Romanian presidency for abnegation and dedication in the service of Romanian education and for the outstanding contribution to the development and promotion of scientific research of our country, awarded on the Romanian National Day Festivities, Bucuresti 10.12.2014. Presidential decree no. 1097 on 10.12.2004, Published in the Official Monitor Part I no. 1181 on 13.10.2004, regarding the Order and Medal Education Merit
4. Plitea, N., I.D. LĂZĂRESCU excellence prize in scientific research for outstanding results in scientific research and international promotion of the university, awarded by the Senate of the Technical University of Cluj-Napoca, 15.01.2007
5. Plitea, N., Distinctive award, for outstanding results in science, awarded by the Ministry of Education, 2009
6. Plitea, N., Pisla, D., Vaida, C., Gherman, B., Robot Chirurgical. Special prize of the Premiul Special XVIII-th International Exhibition of Research, Innovation and Technological Transfer,

- INVENTICA 2014, given by the Stat Office of Patents and Trademarks (OSIM), 2014
7. Plitea, N., et al, Parallel robot for brachytherapy with two kinematic guiding chains of the platform (the needle) type CYL-U, Gold medal during the The XVIII-th International Exhibition of Research, Innovation and Technological Transfer, Inventica 2014, Iasi, Romania, 2-4 iulie 2014
 8. Vaida, C., Plitea, N., Pisla, D., Gherman, B., Orientation module with multiple bends, Gold medal during the The XVIII-th International Exhibition of Research, Innovation and Technological Transfer, Inventica 2014, Iasi, Romania, 2-4 iulie 2014
 9. Plitea, N., Pisla, D., Vaida, C., Gherman, B., Szilaghyi Andras, Galdau bogdan, Cocorean Dragos, The Special Prize of the Romanian Ministry of Education and Research, for the patent Parallel robot for brachytherapy with two kinematic guiding chains of the platform (the needle) type CYL-U, INVENTIKA 2014

International Awards

Plitea, N., Hesselbach, J., Frindt, M, Soetebier, S., Technological Transfer Prize 2001, of the Braunschweig Chamber of Commerce and Industry, Germany for: Cutting tool for spherical glass caps (for rear view mirrors in automotive industry) based on a parallel hybrid structure - Technologietransferpreis 2001 der Industrie- und Handelskammer (IHK) Braunschweig, für das Thema: Glaskalotenschneidanlage auf Basis einer hybriden Parallelstruktur- (vezi internet: <http://www.braunschweig.ihk.de> sau <http://www.iwf.ing.tu.bs.de>) Remark: This award is conferred annually since 30 years ago and it was awarded for the first time to the Institute of Machine Tools and Production Technology from the Technical University of Braunschweig, Germany, where prof. Plitea was invited professor and researcher.

Professional Associations

2002 – 2016	Member of AGIR (General Society of Romanian Engineers)
1980 – 2016	Member of IFTOMM
1980 – 2016	Member of Romanian Society of Robotics

I hereby certify that the above statements are true.

Date 04.03.2016

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