

| Main activities and responsibilities | Management activities in the scientific filed at the Machine Building Faculty |
| :---: | :---: |
| Name and address of employer | Technical University of Cluj-Napoca, Romania |
| Type of business or sector | Education |
| Dates | 2005-present |
| Occupation or position held | Full Professor at the Department of Mechanical Systems Engineering, Machine Building Faculty, Technical University of Cluj-Napoca <br> 2012-2016 - Vice-Dean Faculty of Machine Building Faculty, Technical University of Cluj-Napoca 2016 - present - Director of the Council of Academic Doctoral Studies, Technical University of ClujNapoca |
| Main activities and responsibilities | Teaching activities in Robotics, Computer programming, Medical Robotics, research activities in Robotics and mechatronics, Kinematics and dynamics of serial and parallel robots, Medical robotics, Mini- and microrobots, Computer and simulation techniques, E-learning platforms and simulators for medicine |
| 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 | 2001-present |
| Occupation or position held | Director "Center for Industrial Robots Simulation and Testing", Technical University of Cluj-Napoca |
| Main activities and responsibilities | Management and Research activities in Robotics and mechatronics, Computer and simulation techniques, Kinematics and dynamics of serial and parallel robots, Mini- and microrobots, Surgical robots, E-learning platforms and simulators for medicine |
| 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 | 2001-2005 |
| Occupation or position held | Associate Professor at the Department of Mechanics and Computer Programming, Technical University of Cluj-Napoca |
| Main activities and responsibilities | Teaching activities in robotics, computer programming, research activities in Robotics and mechatronics, Computer and simulation techniques, Kinematics and dynamics of serial and parallel robots, Mini- and microrobots. |
| Name and address of employer <br> Type of business or sector | Technical University of Cluj-Napoca, Daicoviciu, 15, RO-400020 Cluj-Napoca, Romania, www.utcluj.ro Education and research |
| Type of business or sector |  |
| Dates | 1998-2001 |
| Occupation or position held | Lecturer, Ph.D at the Department of Mechanics and Computer Programming, Technical University of ClujNapoca |
| Main activities and responsibilities | Teaching activities in robotics, computer programming, research activities in Robotics and mechatronics, Computer and simulation techniques, 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 | 1991-1998 |
| Occupation or position held | Teaching Assistant at the Department of Mechanics and Computer Programming, Technical University of Cluj-Napoca |
| Main activities and responsibilities | Teaching activities in robotics, computer programming, research activities in Robotics and mechatronics |
| Name and address of employer | Technical University of Cluj-Napoca, Daicoviciu, 15, RO-400020 Cluj-Napoca, Romania, www.utcluj.ro |
| Page 2/7-Curriculum vitae of Pisla Doina | For more information on Europass go to http://europass.cedefop.europa.eu © European Union, 2004-2016 24082010 |

Type of business or sector
Education and training
Dates
Title of qualification awarded
Principal subjects/occupational skills covered

Name and type of organisation providing education and training

## Personal skills and competences

Mother tongue(s)

Other language(s)

Self-assessment
European level ( ${ }^{*}$ )
English
German

Social skills and competences
Organisational skills and competences

Technical skills and competences

Computer skills and competences

Artistic skills and competences
Other skills and competences

Driving licence
Page 3/7-Curriculum vitae of Pisla Doina

Education and research

1991-1998
PhD
Research in Robotics and Mechanical Engineering
PhD thesis title: Researches regarding the graphical simulation of the behavior of industrial robots based on the cinematic and dynamic study of spatial structures
Technical University of Cluj-Napoca, Daicoviciu, 15, RO-400020 Cluj-Napoca, Romania, www.utcluj.ro

Romanian

English
German

| Understanding |  |  | Speaking |  |  |  | Writing |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Listening |  | Reading |  |  | Spoken interaction |  |  | Spoken production |  |  |
| C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user |  |
| C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user |  |

(*) Common European Framework of Reference for Languages

Team spirit, communicative, solidarity, honesty, correctitude, responsibility, dynamism
Good organiser and manager, education and research abilities, problem-solving-attitude, ability to respect deadlines for project activities

Ability in kinematic and dynamic modelling of robots, programming of robots and mechanical systems, CAD of robots, advanced robot control.
Writing many scientific papers in ISI and BDI journals
Participation at many international well known conferences and congresses
Coordination of international conferences and workshops
C++, Matlab, Fortran, MSC Adams, MathCAD, Solid Edge, NX, AutoCAD, Corel DRAW, MS Office, Latex, control programming languages etc.
Easily adapts to new technologies/software
Tennis, skiing, swimming
June - July 1999 Visiting researcher at "Institut für Werkzeugmaschinen und Fertigungstechnik", Technische Universität "Carolo Wilhelmina" zu Braunschweig, Germany (postdoc stage)
March - June 1996 Visiting researcher at "Institut für Werkzeugmaschinen und Fertigungstechnik", Technische Universität "Carolo Wilhelmina" zu Braunschweig, Germany
Oct. 1993 -Sept. 1994 Visiting researcher at "Institut für Werkzeugmaschinen und Fertigungstechnik", Technische Universität "Carolo Wilhelmina" zu Braunschweig, Germany
August 1994 Training seminar "Zielorientierte Projektplanung" (Task oriented Planing design) Lingen, Germany
1993 Specialisation in UNIX, Cluj-Napoca
1992 Specialisation in Computer Networks, Cluj-Napoca
Graduate Faculty of Machine Building, Technical University of Cluj-Napoca (ranked first out of 200 graduates)

Driving licence category B since 1991
For more information on Europass go to http://europass.cedefop.europa.eu
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## Annexes

Membership

Scientific activity (entire career)
H Index: 10 (Web of Science), 13 (Scopus), 15 (Google Scholar)
She fulfills the minimal CNATCDU criteria for Mechanical Engineering - 3104\% (3538 points with respect with the minimum 114 points (each criteria and subcriteria are fulfilled).

CNATCDU Member 2016-2020 - Mechanical Engineering and Mechatronics and Robotics commission Member of the Romanian Society of Robotics since 2002
Member of GAMM - International Association of Applied Mathematics and Mechanics (Gesellschaft für Angewandte Mathematik und Mechanik) since 1995
Member of the Romanian Association of Machine and Mechanism Theory (AroTMM)
Member of International Federation for the Promotion of Mechanism and Machine Science (IFToMM) since 1998
Member of the Technical Comittee "Computational Kinematics" of the international organization IFTOMM since 2007
Member of the Technical Comittee „Biomechanical Engineering" of the international organization IFTOMM since 2007
Coordinator of the Technical Comittee „Computational Kinematics" of the international organization IFTOMM, 2009-2016
Member of EURobotics, http://eu-robotics.net
Vice-president of AroTMM since 2013
International expert for Research Evaluation in Italy since 2016
International reviewer in the PhD Defense Comittee of PhD. Student David Mauricio Alba Lucero within the CARLOS III University, Madrid, Spain, thesis entitled Kinematic and Dynamic Analysis for Biped Robots Design (2011)
Chair of the "European Conference on Mechanism Science-EUCOMES 2010, Cluj-Napoca, 2010 (110 participants 60\% from abroad).
Co-Chair of "International Workshop in Medical and Service robots-MESROB 2012, Cluj-Napoca, 2012
Chair and organizer of „International Summer School on Models and Methods in Kinematics and
Robotics", July 2012, Cluj-Napoca (over 45 PhD students from all over the world)
Co-Chair of "International Workshop in Medical and Service robots-MESROB 2013, Belgard, July 2013
Co-Chair of "International Workshop in Medical and Service robots-MESROB 2014, Lausanne, July2014,
President of the Award Committee EUCOMES 2016, http://eucomes2016.irccyn.ecnantes.fr/committees.php
Co-Chair of the 12th IFToMM International Symposium on Science of Mechanisms and Machines SYROM'2017
Chair of the "European Conference on Mechanism Science-EUCOMES 2020, Cluj-Napoca, 2020

## Special Prizes and honors

Invited / Keynote Lecturer
Multiple gold medals and awards during national and international invention fairs for the patents in the field of medical robotics

Many invited and keynotes lectures within international conferences and congresses
Excerpt (5 most relevant ones)

1. Pisla, D., Innovative Approaches in Surgical Robotics - Past, Present and Future , The 2nd IFToMM Asian Conference on Mechanism and Machine Science, Tokyo, Japan, 2012, http://www.jc-

## Publications

iftomm.org/Asian-MMS2012/
2. Pisla, D., Research Challenges in Robotic Assisted Brachytherapy, MESROB 2014, Lausanne, Switzerland, 2014, http://mesrob.epfl.ch/page-104220-en.html
3. Pisla, D., Trends And Technological Innovations In Surgical Robotics, VIth International Conference on Robotics, Robotics 2014, Bucharest, Romania, 2014, http://www.cester.utcluj.ro/chance/realizari/robotics_2014.pdf
4. Pisla, D., Innovative Approaches in Medical Robotics, ICOME 2015, Craiova, 2015
5. Pisla, D., Innovative Approaches in Medical Robotics, 7th IFTOMM International Workshop on Computational Kinematics, CK 2017, Futuroscope-Poitiers, France

## Books (author or co-author): 12

1.Carbone, G., Ceccarelli, M., Pisla, D. (Eds.), New Trends in Medical and Service Robotics. Advances in Theory and Practice, Springer, 2019.
2.Doroftei, I., Oprisan, C., Pisla, D., Lovasz, E.-C. (Eds.), New Advances in Mechanism and Machine Science, Proceedings of The 12th IFToMM International Symposium on Science of Mechanisms and Machines (SYROM 2017), Springer, 2019
3.Wenger, P., Chevallereau, C., Pisla, D., Bleuler, H., Rodić, A. (Eds.), New Trends in Medical and Service Robots, Human Centered Analysis, Control and Design, Springer, 2016, 310 pp.
4.Bleuler, H., Bouri, M., Mondada, F., Pisla, D., Rodić, A., Helmer, P. (Eds.), New Trends in Medical and Service Robots, Assistive, Surgical and Educational Robotics, Springer, 2016, 254 pp.
5.Rodić, A., Pisla, D., Bleuler, H. (Eds.), New Trends in Medical and Service Robots, Challenges and Solutions, Springer, 2014, 384 pp.
6.Pisla, D., Bleuler, H., Rodić, A., Vaida, C., Pisla, A. (Eds.), New Trends in Medical and Service Robots, Theory and Integrated Applications, Springer, 2014, 238 pp.
7.Pisla D., Ceccarelli, M., Husty, M., Corves, B., (Eds.), New Trends in Mechanism Science, Analysis and Design, Springer, 2010, 708 pages.
8.Vaida C., Gherman, B,, Pisla, D., MATLAB programming for engineers, Vol. 3, under the Series "Computer programming", Coordinator Doina Pisla, Mediamira, 2014, 380 pp.
9.Gherman B., Vaida C., Pisla D., Programming in C with applications in engineering Vol 2, under the Series "Computer programming", Coordinator Doina Pîsla, Mediamira, 2013, 308 pp.
10. Vaida C., Pisla, D., Basic Computer skills. Applications. Vol. 1, under the Series "Computer programming", Coordinator Doina Pîsla, Mediamira, 2009, 250 pp.
11. Pisla, D., Kinematic and dynamic modeling of parallel robots, Dacia, 2005, 207 pp.
12. Pisla, D., Graphical Simulation of Industrial Robots, Todesco, 2001

Scientific publications (over 170 indexed papers published in journals, conferences and congresses )

## ISI journal papers with impact factor (Excerpt 15 relevant ones)

1. Vaida, C., Birlescu, I., Pisla, A., Ulinici I., Tarinita, D., Carbone, G., Pisla, D. (corresponding author): Systematic Design of a Parallel Robotic System for Lower Limb Rehabilitation, IEEE ACCESS, vol. 8, 34522(15), 2020 (Impact factor: 4.098)
2. Tucan P., Gherman B., Major K., Vaida C., Major Z., Plitea N., Carbone G., Pisla D. (corresponding author):: Fuzzy Logic-Based Risk Assessment of a Parallel Robot for Elbow and Wrist Rehabilitation, Int. J. Environ. Res. Public Health, 17(2), 654, 2020 (Impact Factor: 2.468)
3. Pisla D., Vaida, C., Birlescu I., Nadim, A.H., Gherman, B., ,Corina Radu, Plitea N.: Risk Management for the Reliability of Robotic Assisted Treatment of Non-resectable Liver Tumors, Appl. Sci., 10(1), 52, 2020, (Impact Factor: 2.217)
4. Birlescu I., Manfred, H., Vaida C., Plitea N., Nayak A., Pisla, D. (corresponding author):: Complete Geometric Analysis Using the Study SE(3) Parameters for a Novel, Minimally Invasive Robot Used in Liver Cancer Treatment, Symmetry, 11(12), 1491, 2019 (Impact factor: 2.143)
5. Tucan P., Vaida C., Plitea N., Pisla A., Carbone G., Pisla D. (corresponding author):: Risk-Based Assessment Engineering of a Parallel Robot Used in Post-Stroke Upper Limb Rehabilitation, Sustainability 11(10), 2893, 2019, (Impact factor: 2.075)
6. Gherman, B., Birlescu, I., Plitea, N., Carbone, G., Tarnita, D., Pisla, D. (corresponding author):: On the singularity-free workspace of a parallel robot for lower-limb rehabilitation, Proceedings Of The Romanian Academy, Series A,Of The Romanian Academy, 20(4), pp. 383-391. 2019 (Impact factor: 1.402)
7. Tucan, P.; Vaida, C.; Plitea, N.; Pisla, A.; Carbone, G.; Pisla, D. (corresponding author): Risk-Based Assessment Engineering of a Parallel Robot Used in Post-Stroke Upper Limb Rehabilitation. Sustainability 2019, 11, 2893. (ISI Journal, Impact Factor: 2.075)
8. D. Pisla, P. Tucan, B. Gherman, N. Crisan, I. Andras, C. Vaida, N. Plitea "Development of a parallel robotic system for transperineal biopsy of the prostate", Mech. Sci., 8, 195-213, 2017 (ISI Journal, Impact Factor: 1.211)
9. D. Pisla, B. Galdau, F. Covaciu, C. Vaida (c.a.), D. Popescu, N.Plitea, "Safety Issues in the Development of the Experimental Model for an Innovative Medical Parallel Robot used in Brachytherapy", International Journal of Production Research, Vol. 55(3), pp. 684-699, 2016 (ISI Journal, Impact Factor: 2.325)
10. Plitea N., Szilaghyi A., Cocorean D., Covaciu F., Vaida C., Pisla D (corresponding author)..: Inverse dynamics and simulation of a 5-dof modular parallel robot used in brachytherapy, Proceedings of the Romanian Academy, Series A., Vol. 17(1), pp. 67-75, 2016, (ISI Journal, Impact Factor: 1.658)
11. Plitea N., Szilaghyi A., Cocorean D., Covaciu F., Vaida C., Pisla D. (corresponding author):: Inverse dynamics and simulation of a 5-dof modular parallel robot used in brachytherapy, Proceedings of the Romanian Academy, Series A., Vol. 17(1), pp. 67-75, 2016
12. Plitea N., Szilaghyi A., Pisla D. (corresponding author):: "Kinematic Analysis of a new 5-DOF Modular Parallel Robot for Brachytherapy", Robotics and Computer Integrated Manufacturing, vol. 31, pp: 70-80, 2015 (ISI Journal, Impact Factor: 2.305)
13. Pisla, D., Gherman, B., Vaida, C., Suciu, M., Plitea, N.: "An active hybrid parallel robot for minimally invasive surgery", RCIM, 2013, 29 (4), 203-221, DOI: 10.1016/j.rcim.2012.12.004
14. Vaida, C., Plitea, N., Pisla, D., Gherman, B., Orientation module for surgical instruments - a systematical approach, Meccanica, 48(1), 2013, pp. 145-158, DOI: 10.1007/s11012-012-9590-x
15. Pisla, D., Gherman, B., Vaida, C., Plitea, N.: „Kinematic modeling of a 5 DOF Parallel Hybrid Robot designed for Laparoscopic Surgery", Robotica, 2012, 30 (07), 1095-1107, DOI: 10.1017/S0263574711001299
16. Gherman, B., Pisla, D., Vaida, C., Plitea N., "Development of Inverse Dynamic Model for a Surgical Hybrid Parallel Robot with Equivalent Lumped Masses", RCIM, 2012, 28 (3), 402-415, DOI: 10.1016/j.rcim.2011.11.003

## Papers published at international and national conferences (excerpt 5 relevant ones)

1. Birlescu, I., Pisla, D., Gherman, B., Vaida, C., Carbone, G., Plitea, N., On the Singularities of a Parallel Robotic System Used for Elbow and Wrist Rehabilitation, Advances in Robot Kinematics, Springer, 2018, pp. 203-211
2. C. Vaida, P. Tucan, N. Plitea, V. Lazar, N. Al Hajjar, D. Pisla: Kinematic analysis of a new parallel robotic system for minimally invasive therapy of non-resecable hepatic tumor, IFToMM WC 2019 : The 15th IFToMM World Congress, 30 June - 4 July 2019, Krakow, Polonia
3. D. Pisla, D. Ani, C. Vaida, B. Gherman, P. Tucan, N. Plitea:"BIO-PROS-2: a parallel robotic structure for transperineal prostate biopsy", International Conference on Automation, Quality and Testing, Robotics AQTR, May 19-21 2016.
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 October 2015
5. 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. 329338, 2015
6. 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

## Relevant projects (over 50 national and international projects)

## International Research projects (excerpt - 5 most relevant ones)

1.An innovative robotic system for upper limb rehabilitation - InnoHealth, RIS 2019 Innovation Call, https://cester.utclui.ro/innohealth/en/home_en.html, 21540/07.08.2019, EIT-Health, PositionL : Director, 2019.
2. Manipulation Systems for Sample Handling in a Sample Receiving Facility, TASUK/16/11305/NBO/1424, ESA European Space Agency, Position: Coordinator, Duration: 20152018
3. Creative Alliance in Research and Education focused on Medical and Service Robotics, IZ74Z0_13736, Scopes International IP Grant:, http://www.snf.ch/SiteCollectionDocuments lint_sco_pro_romania0912.pdf Position: Coordinator, Romania, Duration : 2011-2014
4. 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: Member
5. 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 - 5 most relevant ones)

1. National Complex Project for Research, Development and Innovation, financed by the Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) no. 59/01.03.2018, code: PN-III-P1-1.2-PCCDI2017-0221, High accuracy innovative approach for the robotic assisted intraoperatory treatment of hepatic tumours based on imagistic-molecular diagnosis (IMPROVE) (2017-2020) Position: Coordinator
2. Research Grant within Competitiveness Operational Programme 2014-2020-ID P_37_215, No. 20/01.09.2016, Innovative Approaches Regarding Rehabilitation and Assistive Robotics for Healthy Ageing (AgeWell) (2016-2020)
Position: Vice-Manager and Scientific Coordinator
3. Robotic assisted prostate biopsy, a high precision innovative method - ROBOCORE, no. 247/2014, code PN-II-PT-PCCA-2013-4-0647 financed by UEFISCDI, 2014-2017, Position: Project coordinator
4. Diagnosis and therapy system for spin disorders- SPINE, no. 227-2014, code PN-II-PT-PCCA-2013-4-1596 financed by UEFISCDI, 2014-2017, Position: Partner scientific responsible
5. Robotic assisted brachytherapy an innovative approach of inoperable cancers - CHANCE, Project no. 173/2012, code PN-II-PTPCCA-2011-3.2-0414, financed by UEFISCDI, 2012-2015, Position: Scientific coordinator

## Patents (excerpt 10 most relevant ones from different research areas)

1. Vaida, C., Plitea, N., Pisla, D., Carbone, G., Gherman, B., Ulinici, I., Pisla, A., Spherical robot for medical rehabilitation of proximal area of upper limb, RO-132233 (2020)
2. Gherman, B., Pisla, D., Plitea, N., Vaida, C., Carbone, G., Pisla A., Parallel robotic system for medical rehabilitation of upper limb, RO-132234 (2020)
3. Vaida, C., Plitea, N., Pisla, D., Gherman, B., Suciu, M.: Orientation module with multiple curvatures, Patent RO-129923 B1 (2019)
4. Plitea, N., Pisla, D., Vaida, C., Gherman, B.: Surgical Robot. RO-126271, Romania (2012).
5. Birlescu, I., Gherman, B., Burz, A., Pisla, D., Automated medical instrument with multiple parallel needles for the intersitital brachytherapy. patent pending A00710/06.11.2019
6. Vaida, C., Plitea, N., Pisla, D., Carbone, G., Gherman, B., Ulinici. I., Robot sferico per il recupero riabilitativo della spalla MSE (Ministero dello Sviluppo Economico, Italia) 102018000006216/12.06.2018
7. Carbone, G., Pisla, D., Vaida, C., Nadas, I., Inovative cable system for the rehabilitation of the upper limb, Patent pending A/00558/31.07.2018
8. Cafolla, D., Chaparro-Rico B., Russo, M., Carbone, G., Pisla, D., Vaida, C., Nadas, I., Portable cable based rehabilitation device, Patent pending A/00559/31.07.2018
9. Plitea, N., Pisla, D., Vaida, C., Gherman, B., Tucan, P. PRoHep-LCT- Parallel robot for the minimally invasive treatment of hepatic carcinoma, Patent pending A1017/03.12.2018
10. Vaida, C., Pisla, D., Plitea, N., Gherman, B., Tucan, P. Parallel modular robotic system for the ultrasound intraoperatory probe guidance and the manipulation of instruments for the treatment of hepatic tumors, Patent pending A01143/24.12.2018.

Professional Associations

| 1994 | Member of Gesellschaft für Angewandte Mathematik und Mechanik (GAAM)- <br>  <br> 1996 |
| :--- | :--- |
| 1998 | Mermany |
| 2002 | Member of of AGIR (General Society of Romanian Engineers) |
| 2007 | Member of Romanian Society of Robotics |
| 2009-present | Member of IFTOMM Technical Committee „Computational Kinematics" |
| 2012-present | Member of Technical Committee „Biomechanical Engineering" |

## I hereby certify that the above statements are true.

Date
Prof. Dr. Ing. Doina PISLA
20.04.2020

