



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **CĂLIN / VAIDA**

Address(es) 10/21, Teilor Str., RO-407280, Florești, ROMANIA

Telephone(s) (+40)-264-601684 Mobile: (+40)-746-117788

Fax(es) (+40)-264-601684

E-mail calin.vaida@mep.utcluj.ro

Nationality Romanian

Date of birth March, 1, 1980

Gender male

Position Cercetător Științific II (cod COR 215223)

Employer SPITALUL CLINIC MUNICIPAL CLUJ-NAPOCA
Project "AN INNOVATIVE ROBOTIC SYSTEM FOR UPPER LIMB REHABILITATION-
INNOHEALTH", financing contract 7213/06.08.2019

Occupational field **EDUCATION AND RESEARCH**

Work experience

Dates 2014-present

Occupation or position held Associate professor at the Technical University of Cluj-Napoca, Department of Engineering of Mechanical Systems

Main activities and responsibilities Teaching activities in robotics, computer programming, research activities in Robotics and mechatronics, Computer and simulation techniques, Kinematics and dynamics of parallel robots, Surgical robots, Robotic systems for cancer diagnosis and treatment, Medical rehabilitation

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 2009-2014

Occupation or position held Lecturer at the Technical University of Cluj-Napoca, Department of Engineering of Mechanical Systems

Main activities and responsibilities Teaching activities in robotics, computer programming, research activities in Robotics and mechatronics, Computer and simulation techniques, Kinematics and dynamics of parallel robots, 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	2004
Occupation or position held	Scientific researcher at the Friedrich Alexander Erlangen Nuremberg University, within the department of Quality Management and Manufacturing Metrology, prof. Albert Weckenmann.
Main activities and responsibilities	Research activities in Robotics and mechatronics, Computer and simulation techniques, Kinematics and dynamics of parallel robots for applications in medicine.
Name and address of employer	Friedrich Alexander Erlangen Nuremberg University, Nuremberg, Germany
Type of business or sector	Research
Dates	2003-2016
Occupation or position held	Technical Manager at S.C. MOCSENA Ltd., private company focused on R&D activities
Main activities and responsibilities	Managing the activities in the development of hydraulic systems
Name and address of employer	S.C. MOCSENA Ltd. Alexandru Vlahuta Str., Cluj-Napoca, Romania
Type of business or sector	Research and production
Education and training	
Dates	2019
Principal subjects/occupational skills covered	Mechanical engineering, medical robotic devices
Title of qualification awarded	Habilitation in mechanical engineering , MEN order 4109/28.05.2019
Dates	2010-2013
Principal subjects/occupational skills covered	Postdoctoral scholarship at the Technical University of Cluj-Napoca, Department of Engineering of Mechanical Systems Postdoctoral research topic: Development of intelligent robotic systems with enhanced dexterity with applications in minimally invasive techniques
Dates	2005-2009
Title of qualification awarded	PhD
Principal subjects/occupational skills covered	Research in Robotics and Mechanical Engineering PhD thesis title: Contributions to the Development and Kinematic - Dynamic Modeling of Parallel Robots for Minimally Invasive Surgery
Name and type of organisation providing education and training	Technical University of Cluj-Napoca, Memorandumului, 28, RO-400114, Cluj-Napoca, Romania, www.utcluj.ro
Dates	1998-2003
Title of qualification awarded	Engineer (5 years) – Bachelor and Master, Graduated First in the Class Specialization: Industrial Robots and Flexible Manufacturing Systems in English
University	Technical University of Cluj – Napoca, Romania, Faculty of Machine Building

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

English
French
German

Self-assessment

European level ()*

English

French

German

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
B2		B2		B1		B1		B1	
A2		A2		A1		A1		A1	

(*) [*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

Kinematic and dynamic modelling of robots, programming of robots and mechanical systems, CAD of robots, engineering design, command and control of industrial robots.

Computer skills and competences

Programming: Matlab ,C, C++, Visual Basic,
CAD/CAM: Siemens package: Solid Edge – Velocity Series , NX, AutoCAD
Office tools: MS Office, Corel DRAW, Latex
Automation: B&R Automation Studio
Easily adapts to new technologies/software

Artistic skills and competences

Fishing, swimming

Other skills, competences and diplomas

2011 - Diploma of graduation of a course in industrial automations, at B&R Automation, Eggelsberg, Austria

2010 – Diploma of graduation in Siemens NX CAD/CAM modules

Driving licence

Driving licence category B since 2000

Additional information

Scientific activity (entire career)

Published books: 4

Editor: 1 book in Springer

Published papers in ISI journals, SCI journals, national and international conferences and congresses: over 100

Member in national and international research grants: over 20

Research grants coordinator: 7

Publications Papers published in ISI and BDI journals and at international and national conferences (10 relevant publications)

1. **Vaida, C.**, Birlescu, I., Pisla, A., Ulinici I., Tarinita, D., Carbone, G., Pisla, D.: *Systematic Design of a Parallel Robotic System for Lower Limb Rehabilitation*, IEEE ACCESS, vol. 8, 34522(15), 2020
2. Pisla, D., **Vaida, C. (c.a.)**, Birlescu, I., Hajjar, N.A., Gherman, B., Plitea, N.: *Risk Management for the Reliability of Robotic Assisted Treatment of Non-resectable Liver Tumors*, Applied Sciences, vol. 10(1), 52, 2020
3. Birlescu, I., Husty, M., **Vaida, C.**, Plitea, N., Nayak, A., Pisla, D.: *Complete Geometric Analysis Using the Study SE (3) Parameters for a Novel, Minimally Invasive Robot Used in Liver Cancer Treatment*, Symmetry, vol. 11(12), 2019
4. Husty, M., Birlescu, I., Tucan, P., Vaida, C., Pisla, D.: An algebraic parameterization approach for parallel robots analysis, Mechanism and Machine Theory, vol. 140, pp. 245-257, 2019
5. Tucan, P., **Vaida, C.**, Plitea, N., Pisla, A., Carbone, G., Pisla, D.: *Risk-Based Assessment Engineering of a Parallel Robot Used in Post-Stroke Upper Limb Rehabilitation*, Sustainability, vol. 11(10), 2893, 2019
6. Pisla, D., Galdau, B., Covaciu, F., **Vaida, C. (c.a.)**, Popescu, D., Plitea, N, Safety issues in the development of the experimental model for an innovative medical parallel robot used in brachytherapy, Int. J. of Production Research, 55(3), 2017, pp. 684-699
7. Pisla, D., Tucan, P., Gherman, B., Crisan, N., Andras, I., **Vaida, C.(c.a.)**, and Plitea, N.: Development of a parallel robotic system for transperineal biopsy of the prostate, Mech. Sci., 8, 195-213, <https://doi.org/10.5194/ms-8-195-2017>, 2017.
8. **Vaida, C.**, Plitea, N., Cocorean, D., Pisla, D., Modeling of new spatial parallel structures with constant platform orientation using planar parallel modules, Proc. of the Romanian Academy, Series A, 15(1), 2014, pp. 43-51
9. 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
10. **Vaida, C.**, Plitea, N., Pisla, D., Gherman, B.: „Orientation module for surgical instruments—a systematical approach”, Meccanica, Vol. 48(1), pp. 145-158, 2013, DOI 10.1007/s11012-012-9590-x.

International Research projects (excerpt)

1. Manipulation Systems for Sample Handling in a Sample Receiving Facility”, TASUK /16/11305/NBO/1424, ESA-European Space Agency, 2018-2019, Position: technical coordinator
2. Development of innovative kinematic and dynamic models for parallel robots in surgical applications - PROINS, International Grant, 2011-2013, Registration Nr.: 12547/31.05.2012, Position: member
3. Simulation and control techniques for robots used in minimally invasive surgery – SIMCOSURG, International Grant, 2011-2013, Registration Nr.: 12546/31.05.2012, Position: Coordinator
4. 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, Position: Member
5. 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

National Research Grants (excerpt)

1. High accuracy innovative approach for the robotic assisted intraoperative treatment of hepatic tumors based on imagistic-molecular diagnosis – IMPROVE, PCCDI49, 2018-2020, Position: Scientific coordinator project 1
2. Innovative Approaches Regarding Rehabilitation and Assistive Robotics for Healthy Ageing – AgeWell, POC, 20/01.09.2016, 2016-2020, Position: Member
3. A multi-purpose needle insertion device for the diagnosis and treatment of cancer – ACCURATE, PN-II-RU-TE-2014-4-0992, 2015-2017, Position: Coordinator
4. Diagnosis and therapy system for spine related diseases (SPINE), PN-II-PT-PCCA-2013-4-1596, National grant: PCCA, Position: Partner Responsible
5. Robotic assisted prostate biopsy, a high accuracy innovative method, PN-II-PT-PCCA-2013-4-0647 (ROBOCORE), Director: Prof. dr. Ing. Doina PISLA, 2014-2016, Position Key Member
6. Robotic assisted brachytherapy, an innovative approach of inoperable cancers (CHANCE), National grant: PCCA TIP 2, Project Nr.: PN-II-PT-PCCA-2011-3.2-0414, Director: Prof. Univ. Dr.-Ing. Nicolae PLITEA, 2012-2015, Position: Key member
7. New Trends in Medical and Service Robots, Exploratory workshop, Project Code PN-II-ID-WE-2012-4-018, 2012, Position: Coordinator
8. MMKR 2012- International Summer School on Models and Methods in Kinematics and Robotics, Project Code: PN-II-ID-SSA-2012-2-001, 2012, Position: Member
9. *Excellence doctoral scholarship awarded by the National Council of Scientific Research*, Duration 2006 – 2008, Financed by: National Council of Scientific Research in Higher Education – BD, Position: Director
10. *Research Projects for Young scientists: Contributions to the Development and Kinematic - Dynamic Modeling of Parallel Robots for Minimally Invasive Surgery*, Duration 2007 – 2008, Financed by: National Council of Scientific Research in Higher Education – TD, Position: Director

Patents and patent applications

1. Plitea, N., Pisla, D., **Vaida, C.**, Gherman, B.: Surgical Robot. RO-126271, Romania (2012).
2. Vaida, C., Plitea, N., Pisla, D., Gherman, B., Suci, M.: Orientation module with modular structure and multiple bends, RO-129923, Romania (2019).
3. **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**
4. Carbone, G., Pisla, D., **Vaida, C.**, Nadas, I., Inovative cable system for the rehabilitation of the upper limb, A/00558/31.07.2018
5. Cafolla, D., Chaparro-Rico B., Russo, M., Carbone, G., Pisla, D., **Vaida, C.**, Nadas, I., Portable cable based rehabilitation device, A/00559/31.07.2018
6. **Vaida, C.**, Plitea, N., Pisla, D., Carbone, G., Gherman, B., Ulinici, I., Spherical robot for the rehabilitation of the proximal area of the upper limb, Patent pending, A00374/14.06.2017
7. Gherman, B., Pisla, D., Plitea, N., **Vaida C.**, Carbone, G., Pisla, A., Banica, A., Family of robots for the rehabilitation of the upper limb, Patent pending A00375/14.06.2017

Awards, Distinctions, Invited lectures

Research Excellence Distinction, Technical University of Cluj-Napoca, 2015

The **Prize of the National Education Ministry** for the Invention Parallel robot for brachytherapy with two kinematic guiding chains of the platform (the needle) type CYL-U, 2014

The **Special Prize of STATE OFFICE FOR INVENTIONS AND TRADEMARKS – OSIM**, for the invention Surgical robot, 2014

The Grand prize of the Romanian Inventors Forum – PROINVENT 2019, Cluj-Napoca;
The Grand prize of the Technical University of Cluj-Napoca – PROINVENT 2019, Cluj-Napoca;
WIIPA Special Award – IPITEx 2019 Bangkok, Thailand;
TISIAS Special Honour of Innovation – IPITEx 2019 Bangkok, Thailand;
Certificate of Appreciation from the Indian Inovators Association – IPITEx 2019 Bangkok, Thailand;
Gold Medal from the National Research Council of Tailand – IPITEx 2019 Bangkok, Thailand.

Invited lecturer at the conference **Innovative Ideas in Science**, Baia Mare, Romania, 2018, (ed. 4) on the topic **Innovative Approaches in Medical Robotics**

Professional Associations

Member of the Romanian Association of Mechanism and Machine Science -ARoTMM

Member of International Federation for the Promotion of Mechanism and Machine Science -IFTToMM

Member of International Association of Applied Mathematics and Mechanics – GAMM

I hereby certify that the above statements are true.

Date 20.02.2020

Dr.-Ing. Calin VAIDA

