



**Alexandru Vlad
Bănică**

DATE OF BIRTH:

03/02/1994

CONTACT

Nationality: Romanian

Gender: Male



Dimitrie Cantemir str, nr 1, ap
9,
430093 Baia Mare, Romania



alex.v.banica@gmail.com (+40)



0727963970

WORK EXPERIENCE

2019 – CURRENT – Cluj Napoca, Romania

Doctoral Student

Technical University of Cluj Napoca

Medical Robotics: 3D Modeling, Simulation and testing of parallel robotic structures

Field: Mechanical Engineering

2017 – CURRENT – Cluj Napoca, Romania

University research assistant

Technical University of Cluj Napoca

Projects and achievements:

AgeWell - Innovative Approaches Regarding Rehabilitation and Assistive Robotics for Healthy Ageing. Competitiveness Operational Programme 2014-2020, Priority Axis 1 – Research, Technological Development and Innovation (Rd&I) to Support Economic Competitiveness and Business Development. Co-financed through the European Fund for Regional Development Project code: ID P_37_215 MySMIS 2014 Code: 103415. Implementation period: September 2016-August 2020. Project coordinated by the Technical University of Cluj-Napoca (CESTER). Project manager: Prof. Dr. Ing. Carbone GIUSEPPE

InnoHealth - An innovative robotic system for upper limb rehabilitation. Financed by the European Institute of Innovation and Technology (EIT-Health) through InnoStars. Implementation period: August 2019-December 2019. Project coordinated by the Technical University of Cluj-Napoca (CESTER). Project manager: Prof. Dr. Ing. Doina PISLA

NeuroAssist - Innovative Modular Robotic System for the Medical Recovery of Brachial Monoparesis 546PED from 02/11/2020, (PN-III-P2-2.1-PED-2019-3022)

Granted Patent:

Gherman, B., Pislă, D., Plitea, N., Vaida C., Carbone, G., Pislă, A., Banica, A., **Family of robots for the rehabilitation of the upper limb**



PUBLICATIONS

List of Publications

Z. Major, C. Vaida, K. Major, P. Tucan, G. Simori, A. Banica, E. Brusturean, A. Burz, R. Craciunas, I. Ulinici, G. Carbone, B. Gherman, I. Birlescu, D. Pislă: The Impact of Robotic Rehabilitation on the Motor System in Neurological Diseases. A Multimodal Neurophysiological Approach, *Int. Jour. Of Environmental Research and Public Health*, 17(18), 6557, 2020. DOI: 10.3390/ijerph17186557

I. Nadas, B. Gherman, S. Albert, V. Surducănu, N. Pop, G. Carbone, A. Banica, D. Pislă, INNOVATIVE DEVELOPMENT OF A PARALLEL ROBOTIC SYSTEM FOR LOWER LIMB REHABILITATION, *ACTA TECHNICA NAPOCENSIS SERIES-APPLIED MATHEMATICS MECHANICS AND ENGINEERING*, 64, pp. 387-394, 2021,

Tucan, P.; Vaida, C.; Ulinici, I.; Banica, A.; Burz, A.; Pop, N.; Birlescu, I.; Gherman, B.; Plitea, N.; Antal, T.; Carbone, G.; Pislă, D, Optimization of the ASPIRE Spherical Parallel Rehabilitation Robot Based on Its Clinical Evaluation, *Int. J. Environ. Res. Public Health*, 18(6), 3281, 2021. DOI: 10.3390/ijerph18063281

B. Gherman, I. Birlescu, F. Puskas, A. Pislă, G. Carbone, P. Tucan, A. Banica, D. Pislă: A kinematic characterization of a parallel robotic system for lower limb rehabilitation, *EuCoMeS 2018, Mechanisms and Machine Science*, 59, pp. 27-34, 2019. DOI: 10.1007/978-3-319-98020-1_4

N. Plitea, B. Gherman, G. Carbone, M. Ceccarelli, C. Vaida, A. Banica, D. Pislă, A. Pislă, Kinematic analysis of an exoskeleton-based robot for elbow and wrist rehabilitation, *6th International Symposium on Multibody Systems and Mechatronics*, 54, pp 424-433, 2017, DOI: 10.1007/978-3-319-67567-1_40

I. Nadas, B. Gherman, I. Birlescu, R. Bogateanu, A. Banica, G. Carbone, D. Pislă: Dynamic balancing of RECOVER robotic system, *IOP Conf. Ser.: Mater. Sci. Eng.* 997 012083, 2020. DOI: 10.1088/1757-899X/997/1/012083

D. Pislă, C. Vaida, N. Pop, I. Ulinici, A. Banica, I. Birlescu, P. Tucan, G. Carbone, A. Pislă, : Dimensional and Workspace Analysis of RAISE Rehabilitation Robot, *European Conference on Mechanism Science*, 155-165, 2020. DOI: 10.1007/978-3-030-55061-5_19

C. Vaida, I. Ulinici, A. Banica, A. Burz, B. Gherman, P. Tucan, A. Pislă, G. Carbone, D. Pislă, First clinical evaluation of a spherical robotic system for shoulder rehabilitation, 92, *International Workshop on Medical and Service Robots*, pp. 62-70, 2021, DOI:10.1007/978-3-030-58104-6_8

B. Gherman, G. Carbone, N. Plitea, M. Ceccarelli, A. Banica, D. Pislă, Kinematic design of a parallel robot for elbow and wrist rehabilitation, *New Advances in Mechanism and Machine Science*, 57, pp. 147-154, 2018, DOI:10.1007/978-3-319-79111-1_14

EDUCATION AND TRAINING

2009 – 2013 – Baia Mare, Romania



- **Bacalaureat - High School Diploma**
Vasile Lucaciu High School

2013 – 2017 – Cluj Napoca, Romania
- **Bachelor Degreee**
Technical University of Cluj Napoca

2017 – 2019 – Cluj Napoca, Romania
- **Masters Degree**
Technical University of Cluj Napoca

2019 – CURRENT – Cluj Napoca, Romania
- **PhD**
Technical University of Cluj Napoca

LANGUAGE SKILLS

MOTHER TONGUE(S): Romanian

OTHER LANGUAGE(S):

English

Listening
C1

Reading
C1

**Spoken
production**
C1

**Spoken
interaction**
C1

Writing
C1

DIGITAL SKILLS

Internet, E-mail and Social Media / Microsoft Office, Microsoft Word, Microsoft Excel, Outlook, Facebook, Google / Word Powerpoint Excel / Video conferencing experience (Zoom, Skype)