



Jaroslav Hricko

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WORK EXPERIENCE

SENIOR RESEARCHER – INSTITUTE OF INFORMATICS, SLOVAK ACADEMY OF SCIENCES – 01/04/2021 – Current – BANSKÁ BYSTRICA, SLOVAKIA

Business or Sector: Professional, scientific and technical activities |

Department: Department of Sensor Information Systems and Technologies | **Website:** <https://www.ui.sav.sk/w/en/>

Research and development in the areas of compact compliant mechanisms, sensors, control systems, and robotics. Leading the PhD students in Cybernetics, and Informatics.

RESEARCHER – INSTITUTE OF INFORMATICS, SLOVAK ACADEMY OF SCIENCES – 31/08/2010 – 31/03/2021 – BRATISLAVA, SLOVAKIA

Business or Sector: Professional, scientific and technical activities | **Address:** Dúbravská cesta 9, 84507, Bratislava, Slovakia |

Website: www.ui.sav.sk

Research and development in the areas of compact compliant mechanisms, sensors, control systems, and signal processing.

UNIVERSITY LECTURER – ALEXANDER DUBČEK UNIVERSITY OF TREŇČÍN – 31/08/2005 – 30/08/2010 – TREŇČÍN, SLOVAKIA

Business or Sector: Education | **Address:** Študentská 1, 911 50, Trenčín, Slovakia | **Website:** <https://tnuni.sk/>

Education of students in the study program Mechatronics at FM TnUAD in Trenčín, especially in the areas of modeling and simulation of mechatronic systems, control theory - linear, nonlinear systems, optimization, and adaptive systems. Programming of PLCs and frequency converters from Siemens. Doctoral study in the field of MEMS structures.

EDUCATION AND TRAINING

31/08/2007 – 16/05/2011 Bratislava, Slovakia

PHD. Slovak University of Technology in Bratislava

Main subjects: Micromechatronics, Robotics, Kinematics and dynamics of mechanisms, Modeling and simulation of mechatronics systems

Address Vazovova 5, 812 43, Bratislava, Slovakia | **Website** <https://www.stuba.sk/> | **Field of study** Automatization |

Thesis Analysis, modeling, and optimization of the design of the compliant mechanisms

31/08/2000 – 30/08/2005 Trenčín, Slovakia

ING. Faculty of Mechatronics, TnUAD

Mechatronics - Modeling and simulation of mechatronic devices, Control theory I. II. III., Distributed control systems, Electromechanics, Power electronics and electrical actuators, Servomechanisms, Micromechatronics, Mechanics, Microprocessors technics, Programing

Address Študentská 1, 911 50, Trenčín, Slovakia | **Website** <https://tnuni.sk/> | **Field of study** Mechatronics

Mechatronics - Mechanics, Industrial technologies, Electronics, Electrotechnics, Robotics, Pneumatics and hydraulics

Address Učnovská 5, 040 15 , Košice - Šaca , Slovakia | Field of study Mechatronics

● LANGUAGE SKILLS

Mother tongue(s): SLOVAK

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B1	B2	B2	B1	B2
GERMAN	A2	A2	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● SKILLS

Microsoft Office | Emailinternet

Engineering calculations, design, modeling, and simulation of the mechatronics devices

MATLAB | Comsol Multiphysics | AutoCAD | CorelDraw - advanced user

Industrial Informatics, IT systems administration

Creation of web pages | SIMATIC (STEP7 WinCC) | Step7 MicroWin | MS Windows and Linux administration | Windows | C | OS Linux | Arduino

● PUBLICATIONS

Basic info

Author/co-author of more than 95 publications at international conferences and in journals, including 2 as chapters in monographs and 26/32 publications registered in the WoS/Scopus databases. The number of citations corresponding to research outputs is more than 100. H-index 5/6. Co-inventor of two patents (one pending) and three utility models.
ORCID: 0000-0002-9345-4401
Scopus Author ID: 36447437100
WoS ResearcherID: ABE-7805-2020

● PROJECTS

01/2024 – 06/2026
09I05-03-V02-00041 ENEFS - Novel electrically enhanced wireless method for sensing of mechanical quantities

01/2025 – 03/2026
09I05-03-V03-00022 Pefect AI Sommel - Innovative breakthrough technology in testing the origin, authenticity and health safety of wine

09/2024 – 06/2027
APVV-23-0173 BioStimul - Experimental System for Wireless Stimulation and Monitoring of Selected Biological Properties and Cognitive Abilities of Drosophila melanogaster

01/2023 – 12/2026
VEGA 2/0135/23, Intelligent Sensor Systems and Data Processing

07/2021 – 06/2025

APVV-20-0042, RFMEMS - Microelectromechanical Sensors with Radio Frequency Data Transmission

2018 – 2021

VEGA 2/0155/19 Networked control of heterogeneous multi-agent systems.

06/2015 – 05/2019

APVV-14-0076 MEMS structures based on load cell

2015 – 2018

NFP313011X741 Mikro-electro-mechanical structures and sensors for the automotive industry

12/2015 – 11/2018

VEGA 2/0154/16 Network management of heterogeneous multi-agent systems

2012 – 2014

VEGA 2/0048/13 (Micro) Electro-mechanisms for robotics and extremely work spaces (environments).

2009 – 2011

VEGA 2/0006/10 Construction and control of micro-electro-mechanical elements and devices.

2008 – 2009

KEGA 3/7266/09 Logistics and educational institution of distributed control systems with online access

2006 – 2008

VEGA 2/7099/7 Tools for design, modeling and simulation of micro electro-mechanical systems / MEMS/

2006 – 2008

VEGA 1/4056/07 Analysis and synthesis of mechatronic systems

2005 – 2007

VEGA 1/3144/06, Research of the properties of intelligent actuators systems for mechatronics, with a special focus on propulsion systems for mobile robots, including steps robots

2004 – 2005

APVT-99-P03205, Research and development of systems for cutting materials and handling semi-finished products in the production of car tires

● **ORGANISATIONAL SKILLS**

Leading working groups and individuals

Provided leadership to PhD students on the Cybernetics study programme at FEI STU.

Ability to adapt to a multicultural environment, acquired through participation in various international conferences, study stays and the pedagogical process.

Experience of leading working groups and individuals gained through work at FM TnUAD in Trenčín.

● **COMMUNICATION AND INTERPERSONAL SKILLS**

Team spirit

Good ability to adapt to a multicultural environment acquired during various international conferences or study stays and in the pedagogical process

Communication skills acquired in leading the pedagogical process at FM TnUAD

Work skills

Advanced knowledge of the design of control algorithms for mechatronic systems

Advanced knowledge of modelling and simulation of mechatronic systems

Advanced knowledge of the design of microelectromechanical flexible structures with a focus on development of the wireless sensors of mechanical quantities, precise positioning devices, and utilization of the methods of artificial intelligence in the development of new devices.

Advanced knowledge of working with PLCs, operator panels, and frequency converters from Siemens, basic knowledge of working with devices from other manufacturers of industrial automation

Basic knowledge of the control system of CNC Fanuc machines

Basic knowledge of metalworking - turning, milling

Basic knowledge of electronics