

PERSONAL INFORMATION

Ivan Virgala



Sex | Date of birth | Nationality

WORK EXPERIENCE

June 2024 - present

Full Professor

Technical University of Košice / Faculty of mechanical engineering / Letná 9, 042 00 Košice, Slovakia

- Research and pedagogical activity

June 2017 – May 2024

Associate Professor

Technical University of Košice / Faculty of mechanical engineering / Letná 9, 042 00 Košice, Slovakia

- Research and pedagogical activity

October 2012 – May 2017

Researcher

Technical University of Košice / Faculty of mechanical engineering / Letná 9, 042 00 Košice, Slovakia

- Research and pedagogical activity

EDUCATION AND TRAINING

31/08/2009 – 27/08/2012

Philosophiae doctor (PhD.)

Technical University of Košice / Faculty of mechanical engineering / Letná 9, 042 00 Košice, Slovakia

31/08/2004 – 31/05/2009

Mechanical Engineer (Ing.)

Technical University of Košice / Faculty of mechanical engineering / Letná 9, 042 00 Košice, Slovakia

PERSONAL SKILLS

Mother tongue(s)

Slovak

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
German	A1	A1	A1	A1	A1

Digital competence

- MS office, Automation studio, Atmel studio, PyBullet, CoppeliaSim, SolidWorks, MATLAB/SimScape
- Programming: Python, Java, C, C++, MATLAB, Structured text, Ladder diagram, HTML, CSS

Driving licence

- B

Publications

- Mathematical framework for snake robot motion in a confined space, Applied Mathematical Modelling (2024), Elsevier Ltd.
- Sensing of continuum robots: A review, Sensors (2024), MDPI.
- A snake robot for locomotion in a pipe using trapezium-like travelling wave, Mechanism and Machine Theory (2021), Elsevier Ltd.
- Investigation of Snake Robot Locomotion Possibilities in a Pipe, Symmetry (2020), MDPI.
- A novel approach for a inverse kinematics solution of a redundant manipulator, Applied Sciences (2018), MPDI.
- An inspection of pipe by snake robot, International Journal of Advanced Robotic Systems (2016), Sage

Projects

- 008TUKÉ-4/2024 Implementation of machine learning methods in the teaching of industrial automation and robotics (Principal investigator)
- VEGA 1/0436/22 Research and development of modeling methods and control algorithms kinematically redundant mechanisms (Principal investigator)
- KEGA 030TUKÉ-4/2020 Transfer of knowledge from the field of industrial automation and robotics for teaching in the field of Mechatronics (Principal investigator)
- VEGA 1/0389/18 Research and development of kinematically redundant mechanisms (Principal investigator)
- SJF TUKÉ grant project: Design and implementation of a pneumatic handling arm (Principal investigator)
- Tatra bank grant project: ARMatic - development of redundant robotic arm control algorithms (Principal investigator)
- Tatra bank grant project: DidacticBot - Innovation of the teaching process of robotics and mechatronics (Principal investigator)
- Tatra bank grant project: TransBridge inovatívne metódy v navrhovaní robotických mechanizmov (Principal investigator)
- Tatra bank grant project: LocoSnake Motion of robotic mechanisms supported by control software (Principal investigator)
- KEGA 030TUKÉ-4/202 Transfer poznatkov z oblasti priemyselnej automatizácie a robotiky do výučby v odbore Mechatronika (Principal investigator)

Patents

- Alloy-based pipe machine with shape memory, Patent No. 288868 (2021)
- Test equipment for testing actuators, Patent No. 288769 (2020)
- Inertia Stepper Pipe Cleaning Machine, Patent No. 288807 (2020)
- Adaptable linear magnetic displacement sensor, Patent No. 288784 (2020)
- Wheeled pipe machine with automatic wheel span adjustment according to pipe diameter, Patent No. 288789 (2020)
- Pneumatic wrist joint of handling equipment, Patent No. 288691 (2019)
- Inspection pipe robot, Patent No. 288718 (2019)
- Linear solenoid electromagnetic actuator with differential series connected windings and permanent magnet, Patent No. 288550 (2018)

Honours and awards

- Rector's prize for publishing activity in the category "scientific article" published in 2021 (2021)
- Prize for the EMA thematic exhibition at the international engineering fair in Nitra 2016: Pipe inspection robot (2016)
- 2nd place at the international robotics competition "Robotic Day 2013" in Prague in the mini sumo robot category (2013)
- 2nd place in the faculty round of student scientific professional activity (2009)
- Awarded by the Dean of the Faculty of Engineering with the "Outstanding Student" medal (2009)

Memberships

- Applied Sciences (WoS) - Review board
- Sensors (WoS) - Topic board
- Frontiers in Robotics and AI (WoS) - Associate Editor

Databases and digital identifiers

- Web of Science: Researcher ID: AAH-6825-2019, H-index: 12, Publications: 60, Sum of Times Cited: 503
- Scopus: Researcher ID: 43862003700, H-index: 14, Publications: 80, Sum of Times Cited: 746
- Google scholar: H-index: 19, Sum of Times Cited: 1587