Yury M. Vetyukov

Curriculum vitae

Personal Data

Date of Birth:	August, 3rd, 1977
Place of Birth:	Leningrad (now St. Petersburg), Russia
Parents:	Mikhail M. Vetyukov (Professor of Mechanics, St. Petersburg State Polytechnical University); Olga P. Vetyukova (Engineer, retired)
Marital status:	Married, two daughters, two sons
Nationality:	Russian Federation
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Languages:	English, German (C1), Russian

Education

2017	TU Wien, Vienna, Habilitation (venia docendi) in Applied Mechanics
2004	St. Petersburg State Polytechnical University, Ph.D. in Mechanics
2000	St. Petersburg State Polytechnical University, Master of Science in Applied Mechanics, with honors
1998	St. Petersburg State Polytechnical University, Bachelor of Science in Mechanics
1994	Entered St. Petersburg State Polytechnical University, Dept. of Mechanics and Control

Career and research history

2021 – now	Full university professor for Mechanics of Solids, TU Wien, Vienna, Austria
2020 – now	Head of Division “Mechanics of Solids” at the Institute of Mechanics and Mechatronics, TU Wien, Vienna, Austria.
2017	Defended Habilitation thesis “Deformable Rods, Plates and Shells: from Basic Theory to Applications” at TU Wien and fulfilled the requirements of venia docendi (teaching permission) in the field of Applied Mechanics.
2015 – 2021	University assistant (later Senior Scientist) at the Institute of Mechanics and Mechatronics, TU Wien. Teaching, industrial projects, basic research in the field of mathematical modelling in mechanics of solids and structures.
2013 – 2014	Senior Scientist at the Institute of Technical Mechanics, Johannes Kepler University Linz, Austria. Teaching, industrial projects, working on the book “Nonlinear Mechanics of Thin-Walled Structures”, published at Springer.

2010 – 2012 Senior Researcher at Linz Center of Mechatronics GmbH.
Working on industrial research and development projects. Taking part in the development of a flexible multibody system dynamics freeware code “HotInt”.

2008 – 2010 Post-doctoral research assistant at the Johannes Kepler University Linz.
Working in the FWF (Austrian Science Fund) Translational Project L441-N14 "Sensor Systems for Structural and Health Monitoring".

2007 Research visit at the Institute of Mechanics and Ocean Engineering, Hamburg University of Technology, Germany.

2004 – 2008 Assistant professor at St. Petersburg State Polytechnical University, Department of Computer Technologies in Engineering.
Teaching, industrial projects, basic research in nonlinear mechanics of thin-walled structures (elastic shells, rods and thin-walled rods).

2004 Defended the Ph.D. dissertation “Coupled axial-torsional vibrations of a drillstring with a bit of the drag type” at St. Petersburg State Polytechnical University. Novel numerical and analytical methods for assessment of stability of the stationary drilling regime as well as approaches for modeling essentially nonlinear self-oscillations of the drillstring were suggested and analyzed.

2002 – 2004 Research assistant at the Johannes Kepler University University Linz. Working in the FWF Research Project P15195 “3D Dynamics of Elasto-Plastic Robots”. Investigated dynamics of flexible multibody systems including various constraint conditions and possible material and geometric nonlinearities.

2000 – 2002 Working in an industrial safety expert center in St. Petersburg.

2000 Defended the Master thesis: "Finite deformations of rod systems" (developed a finite element scheme for geometrically nonlinear spatial rod structures).

1998 Working on the Bachelor thesis concerning systems with multiple pairs of dry friction and a problem of vibro-impact damping.

1996 First place at the Russian national student olympiad in Strength of Materials.

Industrial research cooperation (long term projects)

2017 – 2020 Project coordinator and leader of a research group within an industrial project “Modelling and simulation of lateral dynamics for an endless metal process belt”, funded by Austrian Research Promotion Agency (FFG), project partner: Berndorf Band GmbH, Berndorf, Austria.

2013 – 2017 “New design of complete systems and machines for processing thin sheet metal”, project partner: Salvagnini GmbH, Ennsdorf, Austria.

2013 – 2016 “Modelling of the Sheet Run and Control for Hot Roll Mills“, project partner: Primetals Technologies GmbH (former Siemens VAI Metals Technologies), Erlangen, Germany.

2005 – 2007 Developing numerical simulation tool “PipeSim” for studying vibrations in hydraulic systems, project partner: LuK GmbH (Schaeffler Group), Bühl, Germany.

Teaching

Held various courses at St. Petersburg State Polytechnical University; Johannes Kepler University Linz; TU Wien, Vienna. Obtained Best Distance Learning Award 2020 and entered a shortlist for the Best Teacher Award 2020 at the TU Wien.

Supervised 4 Bachelor, 8 Master and 3 PhD students, reviewed 3 doctoral theses.

Research Interests: Classical mechanics, theory of elasticity, mathematical modelling, flexible multibody dynamics, contact, friction, plasticity, time integration, finite elements, thin-walled structures, asymptotic analysis, analytical mechanics, rotor dynamics, electromechanical coupling, geometric nonlinearity, parameter identification, model-based controller design, axially moving structures, Eulerian description

Talks: 37 talks at int. conferences (including plenary lectures at ACE-X 2017 in Vienna, Austria and APM 2020 in St. Petersburg, Russia), seminars and workshops; organized 5 special sessions at intl. conferences

Editorial Board member: Acta Mechanica; editor of a special issue on slender structures

Reviews of Journal papers: Acta Mechanica; Journal of Sound and Vibration; Journal of Applied Mathematics and Mechanics (ZAMM); Archive of Applied Mechanics; Applied Mathematical Modelling; Journal of Computational and Nonlinear Dynamics; Engineering Structures; International Journal of Non-Linear Mechanics; Proceedings of the Royal Society A; Journal of Vibration and Control; Continuum Mechanics and Thermodynamics; Nonlinear Dynamics; Composite Structures; Multibody System Dynamics; Communications in Nonlinear Science and Numerical Simulation; Applied Mathematics Letters; Mechanism and Machine Theory; Applied Sciences; Mathematical Problems in Engineering; Smart Structures and Systems; Sensors; Journal of Theoretical, Computational and Applied Mechanics; Nanomaterials

Software skills: Long-term experience in scientific software development using C++, C#, F#; 3D visualization tools; Wolfram Mathematica; ABAQUS; LaTeX