PERSONAL INFORMATION   Viorel BOSTAN

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Date of birth 27/08/1972 | Nationality Republic of Moldova

WORK EXPERIENCE

2016 - present   **Rector**
Technical University of Moldova

2014 - present   **Professor**
Department of Software Engineering and Automatics, Technical University of Moldova

2008 - 2015   **Director**
English-taught Honours Program in Computer Science, Department of Computer Science, Informatics and Microelectronics, Technical University of Moldova

2007 - 2014   **Associate Professor**
Department of Mathematics, Technical University of Moldova

2004 - 2007   **Assistant Professor**
Department of Mathematics, Technical University of Moldova

1997 - 1998   **Teaching Assistant**
Department of Mathematics, University of Iowa, Iowa City, USA

1996 - 1997   **Lecturer, „Mathematical Analysis" section,**
State University of Moldova, Chisinau, Republic of Moldova

EDUCATION AND TRAINING

2011 - 2013   **Post PhD studies**
Technical University of Moldova. Doctor Habilitatus Degree in Technical Sciences

2010 (Jul.-Sept.)   **DFG Research stage**
Department of Mechatronics, HTWG Hochschule Konstanz, Konstanz, Germany

2002 (May-Aug.)   **Summer intern**
Safety Research and Development Department, Ford Research Laboratory, Ford Motor Company, Detroit, MI, USA

1998 - 2004   **PhD studies**
Applied Mathematical and Computational Sciences, University of Iowa, USA, PhD degree in Technical Sciences

1995 - 1996   **Master Studies**
Mathematics-Mechanics, University of Bucharest, Romania

1995 - 1996   **Bachelor Studies**
Mathematics-Mechanics, University of Bucharest, Romania

PERSONAL SKILLS

Mother tongue(s)	Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
Russian	C2	C2	C2	C2	C2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Teaching experience	Basic Algebra, Calculus, Multivariable Calculus, Discrete Mathematics, Probability Theory, Operational Research, Optimization Techniques, Numerical Analysis, Finite Element Methods (Master Degree students), Numerical Modelling of the Fluid Flow (Master Degree students), Micro Hydro-power-station (Summer 2009 course for BEST students).
Specialization	Numerical Analysis, Finite Element and Finite Volume Methods, Solid Mechanics and Contact Problems, Computational Fluid Dynamics, Renewable Energy Conversion Systems.
Computer skills	MS Windows, Unix, Linux, C/C++, MATLAB, ANSYS, CFX, ICEM-CFD, HEC-RAS

ADDITIONAL INFORMATION

International projects and grants

- 'Fostering science and innovation impact through organisation in Moldova of European Researchers' Night - MODERNighth-2020', Horizon2020 project no. 955289 (Project coordinator, 2020);
- „TUMnanoSat" CubeSat Deployment from the International Space Station (ISS) Japanese Experiment Module (Kibo) (Participant, 2019-2020);
- DURION Grant „Development of vertical axis wind turbines for the conversion of wind energy into electricity and application in the manufacturing industry" (Participant, 2017-2019);
- Participant in PNUD Grant, "Autonomous integrated irrigation systems based on wind turbines, small hydro and photovoltaic installations", no. 00055003. (2015-2016);
- Black Sea University Network (BSUN) project, Joint Master Degree, Study Program on the Management of Renewable Energy Sources, ARGOS (Participant, 2011-2013);
- Black Sea Economic Council (BSEC) and Hellenic Development Fund (HDF) project, "Technological systems based on the utilization of water kinetic energy for rural consumers", TESUWKERC/BSEC HDF/RES – 02 (Participant, 2011-2013);
- TEMPUS Project JPCR_510952-2010, "Creation of third cycle studies – Doctoral Programme in Renewable Energy and Environmental Technology", CREDO (Participant, 2010-2013);
- SEE HYDROPOWER Project, "Clean Water, Clean Energy". South East, Europe Transnational Programme (Participant, 2010-2012);
- Scientific Co-operation between Eastern Europe and Switzerland, "Conversion of kinetic energy of water: synthesis, theoretical modelling and experimental evaluation", SCOPES Grant IB7320 – 110902/1 (Participant, 2005-2008).

National projects

- "Development and launch of the series of nanosatellites with research missions on the International Space Station, their monitoring, post operation and promotion of space technologies", no. 20.80009.5007.09 (Project coordinator, 2020-2023);
- "Planetary precessional transmissions and cinematic power: constructive development, industrial manufacturing technologies and materials", no. 15.817.02.20F (Participant, 2015-2019);
- „Micro Satellite of Republic Moldova" (Participant, 2010-2013);
- "The analysis of the aero-hydrodynamic processes in wind and hydraulic turbines, and elaboration of the blades with increased efficiency of energy conversion" (Project coordinator, 2011-2012);
- "Elaboration and fabrication of the industrial prototype of a micro hydro-power-station with horizontal axis and hydrodynamic profiles for conversion of river kinetic energy" (Project coordinator, 2009-2010);
- „Elaboration, fabrication and experimental research of horizontal axis turbines with hydrodynamic NACA profiles for hydraulic energy conversion systems" (Project coordinator, 2007-2008).

Honours and awards	• Award of the Romanian Academy of Technical Sciences "Constantin C. Teodorescu" 2017, Technical Mechanics section, for the work "MATHEMATICAL MODELS IN ENGINEERING. Contact problems. Numerical modelling and simulations in aero-hydrodynamics", (2017); • Laureate of the "Academician Constantin Sibirschi" Award, Institute of Mathematics and Informatics (2017); • Nomination "Man of the Year 2016" in the category "Education, Science and Education" (2016); • Award of the Academy of Sciences of Moldova „Best Researcher" (2014); • Award of the Senate of Technical University of Moldova "Best Teacher of the Year" (2014); • Award of the Academy of Sciences of Moldova "Young Scientist" (2013); • Award of the Senate of Technical University of Moldova "Best researcher" (2013); • Award of the Senate of Technical University of Moldova for best researchers (2008); • Award of the Academy of Sciences of Moldova for young researchers (2006); • Conference Fellowship for Outstanding Research, Massachusetts Institute of Technology, USA (2003).

Memberships	• Member of the Scientific Division for exact and engineering sciences (2018-present); • Member of the Economic Council of the Prime-minister of the Republic of Moldova (2017); • Member of the State Commission for National Prize in science (2016); • Honorific Member of the Technical Academy of Romania (2015); • Member of the Assembly of the scientific division „Engineering and Technology Sciences", Academy of Sciences of Moldova, 2009.

Publications	• Monographs and Textbooks	6
	• Papers, articles, published in speciality journals, presented at national and international sessions	165
	• Patents	22
	• International exhibition's participation	68

Selected publications	• Ion BOSTAN, TRANSMISII PRECESIONALE, Volumul 1, *Sinteză, Cinematică și elemente de calcul* - Chișinău: S.n., 2019. Tipogr. ("Bons Offices"). ISBN 978-9975-87-495-3, ISBN 978-9975-87-496-0, scientific editor: Viorel BOSTAN, 477 p. • Ion BOSTAN, TRANSMISII PRECESIONALE, Volumul 2, *Geometria contactului, Generarea suprafețelor și Aplicații* - Chișinău: S.n., 2019. Tipogr.("Bons Offices"). ISBN 978-9975-87-495-3, ISBN 978-9975-87-525-7, scientific editor: Viorel BOSTAN, 639 p. • Viorel Bostan, Ion Bostan, Valeriu Dulgheru ş. a. *Sistem autonom de irigare integrat cu instalaţii de conversie a energiilor regenerabile: eoliană, solară, hidraulică (cu monitorizare şi comandă la distanţă)* // - Ch. "Bons Offices. 2017. – 80 p. - ISBN 978-9975-87-321-5. • Bostan V., *Modele matematice în inginerie: Probleme de contact; Modelări și simulări numerice în aero-hidrodinamică*, BonsOffices, Chișinău, 2014, 470p. • Bostan I., Gheorghe A., Dulgheru V., Sobor I., Bostan V., Sochirean A., *Resilent Energy Systems. Renewable: Wind, Solar, Hydro.* Topics in Safety, Risk, Reliability and Quality. Springer, 2013, 507 p. • Bostan V., *Computational analysis of hydrodynamic effects in hydraulic flow turbines (part 1,* Annals Univ. Craiova, Electrical Eng. series, 35, 2011, Craiova, Romania, p.83-92. • Bostan V., *Numerical modelling of hydrodynamic blades and floating stability of micro hydropower station (part 2),* Annals Univ. Craiova, Electrical Eng. Series, 35, 2011, Craiova, Romania, p. 93-102. • Bostan V., Guţu M., *Optimisation of the strength structure for 10 kW wind turbine blades,* Environmental Eng. and Management J., Sustainable energy (1), Univ. Transilvania din Braşov, România, 10-12 Nov., 2011, p.1221-1224. • Bostan V., Sobor I. et al., *Horizontal axis wind turbines with power of 10 kW,* Environmental Eng. and Management J., Sustainable energy. "Gheorghe Asachi" Technical Univ.Iaşi, August 2011, Vol. 10, 8, p.1041-1045. • Bostan V., Zarea I., Nicoara A., *A modular approach to designing Satellite simulations.* Proceeding 7-th International Conference on Microelectronics and Computer Science. Chișinău, Republica Moldova, September 22-24, 2011, p.411-412. • Bostan I., Gheorghe A., Dulgheru V., Bostan V., Sochireanu A., Dicusară I., *Conversion of Renewable Kinetic Energy of Water: Synthesis, Theoretical Modelling, and Experimental Evaluation,* Energy Security: International and Local Issues, Theoretical Perspectives, and Critical Energy Infrastructures (NATO Science for Peace and Security Series C: Environmental Security), Springer, 2010, p.125-177.

- Bostan I., Dulgheru V., Bostan V., Ciupercă R., *Anthology of inventions. Systems for renewable energy conversion: theoretical foundations, constructive concepts, technology aspects, inventions* (in Romanian), Technical University of Moldova, Chişinău, 2009.
- Bostan V., Han W., *Adaptive finite element solution of variational inequalities with application in contact problems*, Advances in Applied Mathematics and Global Optimization. In Honour of Gilbert Strang, Series: Advances in Mechanics and Mathematics, Vol. 17, Gao, David Y.; Sherali, Hanif D. (Eds.), Springer, 2009, p.25-106.
- Bostan V., Tambur M., Burleai E., *Numerical Simulations of floods on Nistru river,* Academos, nr.3 (14), 10/2009, Academy of Sciences of Moldova, Chişinău, 2009, p.92-98.
- Bostan I., Dulgheru V., Sobor I., Bostan V., Sochirean A., *Conversion systems for renewable energies* (in Romanian), Univ.Tehn. a Moldovei, Chişinău, Ed.Tehnica-Info, 2008, 665 p.
- Bostan I., Dulgheru V., Bostan V., *Conceptual design of the electrical micro-hydro-power station for the conversion of flowing water kinetic energy into mechanical and electrical energy,* Analele Universităţii "Dunărea de Jos" din Galaţi, Fascicola XIV. Inginerie Mecanică. Anul XII, 2006, p.34-38.
- Bostan I., Bostan V., Dulgheru V., *Numerical modelling and simulation of the fluid flow action on rotor blades of the micro-hydropower station*, Ovidius University Annals of Mechanical Engineering, Vol. VIII, Tom I, 2006, p.70-78.
- Bostan V., Han W., *A posteriori error analysis for finite element solutions of a frictional contact problem,* Computer Methods in Applied Mechanics and Engineering, Volume 195, Issues 9-12, February 2006, p.1252-1274.
- Bostan V., Han W., Reddy B.D., *A posteriori error estimation and adaptive solution of elliptic variational inequalities of the second kind*, Applied Numerical Mathematics, Volume 52, Issue 1, January 2005, p.13-38.
- Bostan V., Han W., *Recovery-based error estimation and adaptive solution of elliptic variational inequalities of the second kind,* Comm. Math. Sci. 2 (2004), p.1-18.
- V. Bostan, W. Han and B.D. Reddy, *A posteriori error analysis for elliptic variational inequalities of the second kind,* in Computational Fluid and Solid Mechanics 2003, Proc. 2nd MIT Conf. Computational Fluid and Solid Mechanics, June 17–20, 2003, ed. K.J. Bathe, p.1867-1870.
- V. Bostan and S. Wu, *Feasibility studies of adaptive finite element method for crash simulation using LS-DYNA,* Ford Technical Journal, 5, No.1, 2002.