



## Complete bio, Gabor Stepan

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### Particulars:

Name: Stépán, Gábor  
 Birth data: Budapest, 13 December 1953  
 Workplace: Faculty of Mechanical Engineering, Department of Applied Mechanics,  
 Budapest University of Technology and Economics (BME)  
 (former Technical University of Budapest)  
 Position: Professor  
 Work address: Muegyetem rkp 3, Budapest H-1111 Hungary  
 Phone/Fax: +36 1 463 1369 / +36 1 463 3471  
 E-mail: [stepan\(at\)mm\(dot\)bme\(dot\)hu](mailto:stepan(at)mm(dot)bme(dot)hu)  
 Home Page: <http://www.mm.bme.hu/~stepan/>  
 Nationality: Hungarian

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### Degrees:

1982 PhD in Mechanical Engineering (degree no.: 9454/82)  
 Hungarian Academy of Sciences (HAS)  
 1978 MSc in Mechanical Engineering (degree no.: 194/1978)  
 Technical University of Budapest

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### Qualifications:

2007 Full member of Hungarian Academy of Sciences  
 2001 Corresponding member of Hungarian Academy of Sciences  
 1995 Dr.habil. in Mechanical Engineering (degree no.: H-66/1995)  
 Technical University of Budapest  
 1994 DSc in Mechanical Engineering (degree no.: 3323/94)  
 Hungarian Academy of Sciences

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### Languages:

English advanced level state exam no.: A'052809/1990 (lecturing)  
 Russian intermediate PhD exam, 1982 (reading)  
 German elementary speaking, reading

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### Administrative functions:

2008-2012 Dean of the Faculty of Mechanical Engineering  
 Budapest University of Technology and Economics  
 1995-2018 Head of Department  
 Department of Applied Mechanics  
 Budapest University of Technology and Economics  
 2000-2022 Leader of HAS-BME Research Group on  
 'Dynamics of Machines and Vehicles'  
 Hungarian Academy of Sciences

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### Positions and places of work:

1995- Professor of Applied Mechanics  
 1991-1995 Associate Professor, Department of Applied Mechanics  
 Technical University of Budapest  
 1989-1991 Senior Research Associate, Research Group on Mechanics  
 Hungarian Academy of Sciences  
 1988-1989 Research Fellow, University of Newcastle upon Tyne, UK  
 1981-1987 Research Associate, Research Group on Mechanics  
 Hungarian Academy of Sciences  
 1980-1981 Design Engineer, Machine Tool Factory, Csepel Works

1978-1980	PhD student, Department of Applied Mechanics, Technical University Budapest
1976-1978	Research Assistant, Computer and Automation Research Institute Hungarian Academy of Sciences
1975-1976	Teaching Assistant, Department of Mathematics, Technical University of Budapest
1974-1975	Teaching Assistant, Department of Geometry, Technical University of Budapest
1972-1973	Military service with Hungarian Air Force (18 months)

**Research areas:**

*Analytical mechanics:* stability theory, nonlinear vibrations, equations of motion  
*Differential equations:* bifurcation theory, delay-differential equations, chaos  
*Applications in mechanical engineering:* nonlinear dynamics of wheels, vibration & stability issues of robots, force control, stabilization of unstable equilibria and motions, human and robotic balancing, rehabilitation robotics, machine tool vibrations, traffic dynamics

**Major research achievements** in the analysis and modelling of delayed dynamical systems:

**Micro-chaos** (small-scale chaotic oscillations in delayed digitally controlled systems);  
**Semi-discretization of delay systems** (powerful numerical technique for time-periodic delay systems);  
**Act-and-wait control** (stabilization of delayed systems with time-periodic gains);  
**Delayed Mathieu-equation paradigm** (parametric excitation of delayed oscillator);  
**Period doubling chatter, Flyover effect and Stability islands** (all related directly to machine tool vibrations and manufacturing technology).

**International Honours, Awards and Academy memberships (name of organization):**

2017	Fellow (SIAM Society for Industrial and Applied Mathematics)
2015	Thomas K. Caughey Dynamics Award (ASME Applied Mechanics Division)
2014	Honorary Professor of Nanjing University of Aeronautics and Astronautics (NUAA)
2013	Member of Academia Europaea (The Academy of Europe)
2012	Associate member of International Academy for Production Engineering (CIRP)
2007	Simonyi Engineering Prize (Charles Simonyi Fund for the Arts and Sciences)

**National Honours and Awards (name of organization):**

2016	Prima Award (OTP Bank)
2015	Albert Szentgyorgyi Award of Professors (Ministry of Human Resources)
2013	Best Lecturer of Budapest University of Technology and Econ. (Students' Union)
2012	Leo Szilard Prize (Hungarian Republic)
2011	Szechenyi Prize (Hungarian Republic)
2008	Muttnyanszky Prize (Faculty of Mechanical Engineering, BME)
2012 and 2005-2009	Most Popular Lecturer Award of mechanical engineering students (in 6 different years)
2003	Pro Scientia student supervisor award (Ministry of Education)
2002	Pro Doctorandis award (National Organisation of PhD Students)
2001	Pro Progressio award for supervising students' research
2001	Professional Teacher award (Ministry of Education)
1997-2000	Szechenyi Professors' Scholarship (Ministry of Education and Culture)
2004, 1998 '93, '91, '88	Rector's award for supervising students' research (BME) (in 5 different years)
1987	Research Award (Hungarian Academy of Sciences)
1986	Honorary Associate Professorship of BME
1978	Rényi Kató Award of Bolyai Society
1977	3rd prize at the International Mathematics Competition of Technical Universities (Russe, Bulgaria)
1975-1978	Distinguished scholarship of the Hungarian People's Republic
1972	15th in ranking at the National Mathematics Competition for High School Students

**Research appointments abroad (time period):**

2008	Visiting Professor ( <b>1 month</b> ) Institut des Systemes Intelligents et Robotique Universite Pierre et Marie Curie - Paris 6, France
1996	Visiting Professor ( <b>1 month</b> ) British Scientific and Engineering Research Council Department of Engineering Mathematics, University of Bristol, UK
1994-1995	Visiting Associate and Lecturer ( <b>10 month</b> ) Fulbright scholarship Department of Mechanical Engineering California Institute of Technology, Pasadena, U.S.A.
1993	Visiting Researcher ( <b>1 month</b> ) Research Fund of Delft University of Technology Engineering Mechanics Laboratory Delft University of Technology, The Netherlands
1992	Visiting Researcher ( <b>1 month</b> ) Research Fund of Delft University of Technology Vehicle Research Laboratory Delft University of Technology, The Netherlands
1991	Visiting Researcher ( <b>4 month</b> ) Danish Scientific Research Fund Laboratory of Applied Mathematics and Physics Technical University of Denmark, Lyngby, Denmark
1990	Visiting Researcher ( <b>1 month</b> ) Italian Academy of Sciences Department of Mechanics Politecnico di Milano, Milan, Italy
1988-1989	Research Associate ( <b>18 month</b> ) Science and Engineering Research Council & NEI Parsons Department of Mechanical Engineering University of Newcastle upon Tyne, UK

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**Teaching and tutoring:**
**BSc/MSc level:**

2010-	Lecturer of the course Nonlinear Vibrations (in English) (prerequisite in Mechanical Engineering Modelling, MSc) also given at Nanjing University of Aeronautics and Astronautics in 2016
2009-	Lecturer of the new course Analytical Mechanics (in English) (prerequisite in Mechanical Engineering Modelling, MSc)
2007-	Lecturer of Dynamics (prerequisite in Mechanical Engineering, BSc)
2001-2008	Lecturer of the new course Dynamics of Machines (in English, prerequisite in Integrated Engineering)
1997-2010	Lecturer of the new course Machine Tool Vibrations (elective in Production Technology)
1996-2006	Lecturer of Kinematics and Dynamics (prerequisite in Mechanical Engineering)
1995-	Lecturer of Vibrations (prerequisite in Mechanical Engineering, BSc)
1995	Lecturer of Lagrangian Dynamics (CDS240c, Division of Engineering and Applied Sciences, California Institute of Technology)
1993-	Lecturer of the new course Dynamics of Computer Controlled Machines (elective in Machine Design, prerequisite in Mechanical Development) also given at Nanjing University of Aeronautics and Astronautics in 2014
1993-	Lecturer of Nonlinear Vibrations (elective in Engineering Physics, in Mathematical Engineering, prerequisite in Applied Mechanics)
1992-	Lecturer of Dynamics of Machines (elective in Machine Design, prerequisite in Applied Mechanics, BSc)
1991-	Lecturer of the graduate course Dynamics of Mechanical Systems
1990-1996	Lecturer of the new MSc course Advanced Applied Mechanics in English

1985-	Lecturer of Analytical Mechanics I,II (prerequisite in Mathematical engineering, elective in Applied mechanics)
1984-1987	Lecturer of the new BSc courses Mechanics I-IV in English
1983-1984	Participant and teacher of the new curriculum in Computer Science
1978-1990	Practice, laboratory work in all the subjects of Mechanics
1985-2009	Supervisor of 52 MSc thesis project works
<b>PhD level:</b>	
2011	Delay Equations with Engineering Applications, 5 lectures at International Winter School on Recent Trends in Nonlinear Science (Barcelona, Spain)
2009	Oscillations in time-delay systems and applications, 5 lectures at International Summer School in Automatic Control of Grenoble (Grenoble, France)
2006	How Delay Equations Arise in Engineering? 5 lectures at Summer School on Delay Differential Equations and Applications (Dobbiaco, Italy)
2006	Delay induced vibrations in engineering, 5 lectures at Seminar series of University of Udine (Udine, Italy)
2004	Theory and Applications of Delay-Differential Equations in Modeling Turning, Drilling and Milling, 6 lectures at Nonlinear Dynamics and Chaos for High-Volume and Ultra-Precision Metal Cutting, D'Alambert Session, International Centre for Mechanical Sciences - CISM (Udine, Italy)
1994	Equations of Motion of Non-Holonomic Systems, 6 lectures at PhD Seminar Series on Locomotion (California Institute of Technology)
1992-	Dynamics of Mechanical Systems (elective for PhD students in Mechanical, Civil and Transportation Engineering at BME)
1989-	Supervisor of 26 PhD students 14 students received PhD at Budapest University of Technology 7 students transferred to US universities and received PhD there
1983-	Reviewer of 33 PhD and DSc thesis works for 6 Hungarian institutions and for 4 foreign universities: <i>Royal Institute of Technology, Stockholm (KTH)</i> <i>University of Bristol (UoB)</i> <i>Eindhoven University of Technology (EUT)</i> <i>University of British Columbia, Vancouver (UBC)</i> <i>Karlsruhe Institute of Technology, Karlsruhe (KIT)</i>

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#### Major contributions to early careers of excellent researchers

George Haller	started PhD with G Stepan in 1989, transferred to Pasadena in 1991 and received PhD in 1994 at CalTech; 2005-2008: full professor in Mech Eng MIT, 2007-2009: Director of Morgen-Stanley Analysis; 2009-2011 Head of Mech Eng at McGill, 2012- full professor at ETH Zurich
Eniko Enikov	started PhD with G Stepan in 1993, transferred to Univ of Illinois at Chicago in 1995, received PhD in 1998 there; 2004- associate professor, 2012- full professor in Mech Eng Univ of Arizona
Zsolt Szabo	received PhD in 2002 at Budapest University of Technologies and Economics (BME) under supervision of G Stepan, associate professor since 2007.
Kalmar-Nagy	started PhD with G Stepan in 1995, transferred to Cornell (NY) in 1996, received PhD in 2001 there; 2002-2005 researcher at United Technologies; 2006-2011 assist prof Aerospace Eng Texas A&M, 2012- Mitsubishi Electric Research, 2016- assoc prof at BME
Laszlo Kollar	received PhD in 2002 at BME under supervision of Gabor Stepan; 2002-2003: postdoc at Dept Math Univ of Texas at Dallas, 2004- researcher at Mech Eng Univ of Quebec; 2012- research fellow at University of Huddersfield; 2015- assoc prof at ELTE; 2016 Dr.habil
T Insuperger	received PhD in 2002 at BME under supervision of G Stepan, associate prof since 2008 at BME; 2016 DSc at HAS
G Csernak	received PhD in 2003 at BME under supervision of G Stepan, associate prof since 2009 at BME

Gabor Orosz	received MSc in 2002 at BME under supervision of Gabor Stepan; after many joint publications with Stepan he received PhD in 2006 at Eng Math Univ Bristol; 2005-2010: postdoc at Univ. Exeter and UCSB; 2010- tenure track in Mech Eng Univ Michigan (Ann Arbor)
L Kovacs	received PhD in 2007 at BME under supervision of G Stepan, supported by EU FP5 project RehaRob in 2001-2004, 2010- researcher at Mech Eng McGill University (Montreal)
Robert Szalai	received PhD in 2006 at BME under the supervision of Gabor Stepan; 2004-2005: Fulbright Scholar at Mech Eng MIT; 2007-2010 postdoc, 2010- lecturer at Eng Math Univ Bristol
D Takacs	received PhD in 2011 at BME under supervision of G Stepan, research fellow at Hungarian Academy of Sciences since 2010, Junior Prima prize in 2011.
Z Dombovari	received PhD in 2012 under supervision of Stepan, supported by EU FP6 project Acroboter in 2007, visiting researcher at Mech Eng in Vancouver in 2008, at Ideko Ltd in Elgoibar in 2009, lecturer at BME 2010-, assistant prof at BME 2013-
G Habib	joint PhD under supervision of Gabor Stepan and Giuseppe Rega (Univ Rome), received PhD in 2013, 2013-16 postdoc at Mech Eng Univ Liege; 2016- Marie Curie postdoctoral scholar at BME
D Bachrathy	received PhD in 2013 under supervision of G Stepan, visiting researcher at Univ Hannover in 2011, assist prof at BME since 2014

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**Research projects** (total cca. 6,600,000 Euro):

**International:** (PI or co-PI)

2014-2019	ERC-2013-AdG/340889 'SIREN' (European Research Council, Advanced Grant) Stability Islands: Performance Revolution in Machining 2,573,000 Euro
2016-2018	H2020-MSCA/704133-PIEZOMACH 'Piezoelectric Vibration Absorber for Machining Applications' Marie Sklodowska-Curie Individual Fellowship for Dr Giuseppe Habib 146,239 Euro
2016-2017	MCMS-0116K01 'Constant and Periodic Delays in Control of Mechanical Systems' Research Fund of the State Key Laboratory of Mechanics and Control of Mechanical Structures (Nanjing University of Aeronautics and Astronautics) 20,000 Euro
2013-2015	TET_12_CN_1-2012-0012 'Control of Unstable Elastic Structures' (Chinese-Hungarian bilateral project) co-PI: Prof Zaihua Wang Key Laboratory of Control and Vibrations, Nanjing University of Aeronautics and Astronautics, China 25,300 Euro
2011-2013	FP7-NMP-ICT-Fof-260073 'Dynxperts' (EU FP7 leader of Hungarian group, project leader: JP Bilbatua, IDEKO Spain partners: FIDIA Italy, CNRS Nice France, RWTH-Aachen Germany) 245,000 Euro
2010-2012	TET_08_SG_STAR 'COSMOSYS' (Hungarian-Singaporean project) Cognitive Stroke Movement Therapy Systems through Integration of Wearable Haptic Interfaces, co-PI with Prof I-Ming Nanyang University 169,000 Euro
2008-2012	EU-US-2008-1767/001-001 CPT USMOBI (Atlantis, Excellence in Higher Education Exchange, co-PI with Prof Enikov, Arizona, partners: University of Arizona, University of New Mexico, Technical University of Bratislava) 180,000 Euro
2007-2009	FP6-IST-2006-045530 'Autonomous Collaborative Robots to Swing and Work in Everyday Environment - ACROBOTER' (EU FP6 Principal Investigator, partners: Department of Production Technology BME, Lund University, Fraunhofer IPK Germany, Democritus University of Thrace Greece, ROBOSOFT SA France, University of Reading England, ROBOTNIC Spain) 2,313,000 Euro

- 2007-2008 SPA 05/2006 'Dynamic investigation of high-speed milling processes' with Tekniker Foundation (Spanish-Hungarian Joint Fund for Research in Technology) 20,000 Euro
- 2004-2006 CAN 01/2003 'Control of Mechanical Systems' with Department of Mechanical Engineering, McGill University (Canadian-Hungarian Joint Fund for Research in Technology) 28,000 Euro
- 2003-2012 EU Erasmus student exchange program with University of Karlsruhe
- 2001-2002 SLO 20/2000 'Nonlinear and Stochastic Dynamics of Cutting Processes' with Laboratory of Technical Physics, University of Ljubljana (Slovenian-Hungarian Joint Fund for Research in Technology) 15,000 Euro
- 2000-2003 EU 5 IST-1999-13109 'Supporting Rehabilitation of Disabled Using Industrial Robots for Upper Limb Motion Therapy' (EU FP5, REHAROB project project leader: Prof. G. Arz, Department of Production Technology BME, partners: University of Wales at Cardiff, University of Rouse, Zebris Medizintechnik GmbH, Hungarian Medical Rehabilitation Institute) 450,000 Euro
- 2000-2017 EU Erasmus student exchange program with Bristol University
- 1999 'PhD student exchange program' with Department of Mechanical Engineering, Michigan State University (TeT US-Hungarian Joint Fund for Technology)
- 1998-2001 COST P4 Action Group on 'Nonlinear dynamics in mechanical processing' PI of Working Group 2 (European Commission COST Action, Chairman: I. Grabec, Slovenia)
- 1997-1999 GR 22/96 'Design Methods of Vehicle Suspension Systems' with Mechanical Engineering Department, Aristotle University of Thessaloniki (TeT Hungarian-Greek Joint Fund for Technology)
- 1997-1999 PH 2.04-194 Seismic Assessment and Qualification in NPP (subtask in the PHARE project led by Westinghouse Energy Systems Europe)
- 1994-1997 MAK A J.F.No.336 'Machine Dynamics and Control' with Department of Mechanical Engineering, Auburn University (TeT US-Hungarian Joint Fund for Technology)
- National:** (principal investigator or leader of the departmental research group)
- 2017-2022 'Dynamics of Vehicles and Machines' (MTA-BME grant no TKI04113) 400,000 Euro
- 2012-2016 'Safety improvements in transportation' (MTA-BME grant no 2011TKI395) 420,000 Euro
- 2012-2015 Contact parameter identification of machines based on nonlinear dynamical experiments (OTKA K101714) 56,000 Euro
- 2007-2011 Vibration reduction of machines via constraining forces (OTKA K68910) 40,000 Euro
- 2005-2011 V2.3.3-1 'Development of Units for New Nuclear Energy Technologies' (NKTH NAP project led by Dr. Sandor Zoletnik KFKI-RMKI, partners: KFKI-AEKI, Institute of nuclear Techniques BME, FZK Karlsruhe, linked to the EU ITER fusion reactor project) 317,000 Euro
- 2003-2006 Stability and nonlinear vibrations of coupled discrete and continuous dynamical systems (OTKA T043368) 37,000 Euro
- 2001 Development of multichannel dynamic measurement system (Infrastructure Program of Hungarian Scientific Research Fund)
- 1999-2003 OTKA T030762 Dynamic contact problems (Hungarian Scientific Research Fund)
- 1998-1999 PFP 2702/98 Computer aided vibration measurement (Ministry of Education and Culture)

- 1998 Multichannel dynamic measurement system  
(Infrastructure Program of Hungarian Scientific Research Fund)
- 1997-2000 FKFP 0380/97 Nonlinear vibration theory for machine design  
(Ministry of Education and Culture)
- 1997 PFP 3390/97 Computer aided measurement laboratory  
(Ministry of Education and Culture)
- 1995-1998 OTKA T017622 Nonlinear vibrations of machines  
(Hungarian Scientific Research Fund)
- 1995-1996 FEFA Nonlinear dynamics educational network  
(joint project with the Institute of Physics)
- 1991-1995 OTKA 732 (5-328) Dynamics of computer controlled machines  
(Hungarian Scientific Research Fund)
- 1988-1991 OTKA 1114 (5-207) Nonlinear dynamic systems  
(Hungarian Scientific Research Fund)

**Industrial:** (principal investigator)

- 2011 Vibration elimination of strollers (undisclosed EU company)
- 2009 Checking the flywheel of main pump (Paks Nuclear Power Station)
- 2004 Vibration analysis of servo steering (Knorr-Bremse)
- 2004 Wind induced oscillations of plates (BME Dept. of Fluid Mechanics)
- 2003 Force sensor calibration for car steering bar (Thyssen Krupp Prod. Systems)
- 2002 Free and forced vibrations of heat exchanger piping (IFT Hungary)
- 2001-2003 Dynamics of brake systems (Knorr-Bremse)
- 2000 Vibration analysis of the windscreen wiper motor (Bakony Works)
- 2000 Vibration measurements at 2 MW turbogenerator (Dorog Power Station)
- 2000 Vibration analysis of the switchboard room (WESTEL)
- 1999 Dynamics of punching bags (Intersoft)
- 1998 Vibration analysis of the switchboard room (Pannon GSM)
- 1997 Dynamic analysis of 400 kJ hammer fracture (RÁBA)
- 1993 Vibration analysis of 215 MW Láng-BBC turbogenerators  
(Százhalombatta Power Station)
- 1986 Vibration measurements in coal sorters (Tatabánya Coal Mines)
- 1982 Regenerative vibrations of CriDan machine tool (Csepel Works)
- 1981-1987 Joint consultancy projects with Departments of Production Technology,  
Fluid Mechanics, and Textile Technology
- 1981 Checking of 28 mm built-in cable end (Crane Rental Company)

**Granted patents:**

- 2011 WO2011/012916  
Payload suspension system  
Stepan G, Kovacs LL, Wohlfart R , Jurak M, Bachrathy D, Toth A,
- 2011 WO2011/012915  
Suspended payload platform thrust by fluid mass flow generators  
Stepan G, Kovacs LL, Wohlfart R , Jurak M, Bachrathy D, Toth A,

**Activities in scientific and/or higher educational organizations:****Journals:**

- 2014- Associate Editor, Nonlinear Dynamics
- 2013-2018 Associate Editor, ASME Journal Nonlinear and Computational Dynamics
- 2007- Member, Editorial Board, Physica D
- 2006- Associate Editor, Mechanism and Machine Theory
- 2005-2010 Member, Editorial Board, Philosophical Transactions of the Royal Society  
(established in 1665, A: Mathematics, Physical and Engineering Sciences)
- 2000-2005 Member, Editorial Board, Journal of Computational and Applied Mechanics
- 1998-2012 Member, Editorial Board, Meccanica
- 1995-2017 Member, Editorial Board, Journal of Nonlinear Science
- 1994-2014 Member, Editorial Board, Journal of Vibration and Control
- 1993-1994 Chief Editor, Periodica Polytechnica
- 1992- Member, Editorial Board in Mechanical Engineering, Periodica Polytechnica

**Theme issues and Special issues editor in journals:**

- 2014 Thematic Issue on *Time-delay Systems in Engineering I-II* (11+10 articles)

Guest Editors: Tamas Insperger and Gabor Stepan  
International Journal of Dynamics and Control  
Volume 2, Issues 1 and 2, March and June 2014

- 2010 Theme Issue on *Traffic jams: dynamics and control* (10 articles)  
Editors: Gabor Orosz, R. Eddie Wilson and Gabor Stepan  
Philosophical Transactions of the Royal Society – A **368** (1928) October 2010
- 2010 Special Issue on *Time Delay Systems* (15 articles)  
Edited by: Tamás Kalmar-Nagy, Nejat Olgac and Gabor Stepan  
Journal of Vibration and Control Vol. **16** (7-8) June/July 2010
- 2009 Theme Issue on *Delay effects in brain dynamics* (11 articles)  
Editor: Gabor Stepan  
Philosophical Transactions of the Royal Society – A **367** (1891) March 2009
- 2009 Special Issue *In Memoriam Miklos Farkas* (15 articles)  
Editor: Jocirei Dias Ferreira and Gabor Stepan  
Differential Equations and Dynamical Systems Vol. **17** (1,2) January & April 2009

### Conferences:

- 2016-2018 Chairman of the 14th IFAC Workshop on Time Delay Systems  
(Budapest, end of June 28-30, 2018)
- 2016-2018 Chairman of the CIRP Workshop on High Performance Cutting (ENOC)  
(Budapest, June 25-27, 2018)
- 2015-2017 Chairman of the 9<sup>th</sup> European Nonlinear Dynamics Conference (ENOC)  
(Budapest, June 25-30, 2017)
- 2014-2015 Organiser of the Featured Mini-Symposium MS10 “Dynamics modeling with transformations between partial- and delay differential equations”  
2015 SIAM Conference on Dynamical Systems (Snowbird, Utah)
- 2012-2013 Organiser of the Featured Mini-Symposium MS98 “Delayed Oscillators”  
2013 SIAM Conference on Dynamical Systems (Snowbird, Utah)
- 2011-2012 Organiser of the Pre-Nominated Session on Mechanics of Material Processing  
at the 23rd International Congress of Theoretical and Applied Mechanics  
(Beijing, China, August 19-24, 2012) (FSM9)
- 2009-2010 Organiser of the Mini-Symposium MS56 “Dynamics of Networks with Time Delay”  
(co-organiser: Gabor Orosz)  
2009 SIAM Conference on Dynamical Systems (Snowbird, Utah)
- 2009-2010 Chairman of IUTAM Symposium on Dynamics Modeling and Interaction  
Control in Virtual and Real Environments (Budapest, June 07-11, 2010)
- 2008-2009 Proposer and organiser of the BIRS Workshop on Noise, time delays  
and balance control (Banff, Canada, Nov 08-13, 2009)
- 2007-2008 Organiser of the Pre-Nominated Session on Mechanics of Material Processing  
at the 22nd International Congress of Theoretical and Applied Mechanics  
(Adelaide, Australia, August 24-30, 2008) (FSM6)
- 2004-2006 Chairman of the European Solid Mechanics Conference (ESMC)  
(Budapest, Aug 28 – Sept 01, 2006)
- 2003-2005 Member of the International Scientific Committee  
IUTAM Symposium on Vibration Control of Nonlinear Mechanisms and  
and Structures (Munich, 2005)
- 2003-2004 Member of the International Program Committee  
37th CIRP International Seminar on Manufacturing Systems  
(Budapest, 2004)
- 2002-2003 Chairman of the Ninth Hungarian Conference on Mechanics  
IX. MAMEK (Miskolc, 2003)
- 2002-2003 Member of the International Scientific Committee  
IUTAM Symposium on Chaotic Dynamics and Control of Systems and  
Processes in Mechanics (Roma, 2003)
- 2001-2002 Member of the International Advisory Committee  
5th International Conference on Vibration Engineering  
(Nanjing, China, 2002)
- 2001 International Representative of the Advisory Board  
ASME International Design Engineering Technical Conferences



- (Pittsburgh, 2001)
- 2000-2001 Co-organiser of the Symposium on Nonlinear Dynamics and Control of Engineering Systems at the 18th Biennial Conference on Mechanical Vibration and Noise (Pittsburgh, 2001)
- 2001 Chairman of the COST P4 Workshop on Dynamics and Control of Material Processing (Budapest, 2001), Co-Editor of the Proceedings
- 2000-2001 Chairman of the 3rd Finno-Ugric Days of Mechanics (Ráckeve, 2001)
- 2000-2001 Chairman of the National Student Research Conference on Technology (Budapest, 2001)
- 2000 Member of the International Program Committee  
2nd International Symposium on Impact and Friction of Solids, Structures and Intelligent Machines (Montreal, 2000)
- 2000 Member of the Scientific Committee of the Eighth International Conference on Theory of Machines and Mechanisms (Liberec, 2000)
- 1998-1999 International Representative of the Advisory Board  
ASME International Design Engineering Technical Conferences (Las Vegas, 1999)
- 1999 Chairman of the COST P4 Workshop on Dynamics and Control of Material Processing (Budapest, 1999), Co-Editor of the Proceedings
- 1998-1999 Chairman of the Eighth Hungarian Conference on Mechanics VIII. MAMEK (Miskolc, 1999)
- 1997-1998 Co-Chairman of the 2nd Finno-Ugric Days of Mechanics (Ráckeve, 1998)
- 1997-1998 Member of the Organizing Committee  
Numerical Methods and Computational Mechanics (Miskolc, 1998)
- 1995-1997 Member of the Scientific Committee  
IUTAM Symposium on Nonlinear and Chaotic Dynamics (Ithaca NY, 1997)
- 1995-1997 Member of the Scientific Committee  
IAVSD Symposium on Dynamics of Vehicles (Budapest, 1997)
- 1986-1987 Member of the Organizing Committee,  
XI. International Conference on Nonlinear Oscillations (Budapest, 1987), Co-Editor of the Proceedings

**Societies and Committees** (international):

- 2012-2020 Elected Member, Executive Committee of IUTAM Congress Committee
- 2012-2016 Member of the ERC Starting Grant Panel 8
- 2014-2015 Member of Jürgen Moser Prize Committee, Society of Industrial and Applied Mathematics (SIAM) Dynamical Systems Activity Group
- 2013- Member, American Society of Mechanical Engineers (ASME)
- 2012- Member representing Hungary, General Assembly of the International Union of Theoretical and Applied Mechanics (IUTAM)
- 2014-2017 Member, European Nonlinear Dynamics Conference Committee
- 2010-2012 Elected Member, Congress Committee of IUTAM
- 2007-2014 Member, Symposium Panel for Solid Mechanics, IUTAM
- 2004-2009 Member, European Solid Mechanics Conference Committee
- 2004-2006 Founder and first Chairman, Hungarian Biomechanics Society
- 2003 Member, Review Committee of Mechanics Research in Estonia, Estonian Higher Education Accreditation Centre
- 2001-2021 Member, Scientific Council of International Centre for Mechanical Sciences, CISM, Udine, Italy
- 2002-2006 Chairman, Technical Committee on Nonlinear Oscillations of IFToMM
- 1995-2003 Elected Member, Executive Council of IFToMM,  
International Federation on Theory of Machines and Mechanisms
- 1998-2001 Chairman, Permanent Committee on Conferences of IFToMM
- 1992- Member, SIAM (Society of Industrial and Applied Mathematics, USA)
- 1990- Member, GaMM (Gesellschaft für angewandte Mathematik und Mechanik, Germany)

**Societies and Committees** (national):

- 2011-2017 Chairman, Section of Engineering Sciences of the Hungarian Academy of Sciences
- 2012- Member, advisory board of Rosztoczy Foundation

- 2006- Member of the Hungarian Academy of Engineering  
 2005-2011 Vice Chairman, Section of Engineering Sciences of the Hungarian Academy of Sciences  
 2001-2007 Member, Doctoral Committee Hungarian Academy of Sciences  
 2000-2005 Chairman, Machine Structures Committee of the Hungarian Academy of Sciences  
 1998-2001 Member, Mechanical Engineering Subcommittee of the Hungarian Scientific Research Fund  
 1998-2000 Member, Natural Sciences Committee of the Hungarian Scientific Research Fund  
 1997-2000 Member, Engineering I Committee, of the Higher Education Research Program (FKFP)  
 1993-2005 Member, Machine Structures Committee of the Hungarian Academy of Sciences  
 1993-2000 Member, Scientific Qualification Subcommittee of Mechanical Engineering, Doctoral Council of the Hungarian Academy of Sciences  
 1992-2002 Member, National Committees of IFToMM and GaMM  
 1992-1993 Participant, Tempus project committee, Technical University of Budapest  
 1991-2011 Secretary, Hungarian National Committee of IUTAM (International Union of Theoretical and Applied Mechanics)  
 1985-2014 Member, Committee on Theoretical and Applied Mechanics, Hungarian Academy of Sciences  
 1986- Member, Bolyai Mathematics Society  
 1983-1988 Member, Vibration and Noise Committee of Association on Mechanical Engineering Science (GTE)

**Committees and Councils** (university level):

- 2010-2019 Chairman,  
 1997- Member, 'Pattantyús' Habilitation and Doctoral Committee for Mechanical Engineering, Budapest University of Technology and Economics  
 1997-2012 Elected Member, Senate, Budapest University of Technology and Economics  
 1997-2006 Chairman, Scientific Committee, Budapest University of Technology and Economics  
 1996-2007 Member, Educational Committee of Mechanical Engineering, Budapest University of Technology and Economics  
 1991-1995 Elected Member, Faculty Council of Mechanical Engineering, Technical University of Budapest  
 1991-1994 Member, Educational Committee and Scientific Committees of Mechanical Engineering, Technical University of Budapest  
 1991-1993 Minute Taker, Faculty Council of Mechanical Engineering, Technical University of Budapest

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**Reviewed PhD/DSc/Dr.habil theses**

- 8 international (Stockholm, Eindhoven, Bristol – 3, Vancouver, Paris, Karlsruhe)  
 29 national

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**Scientometrics:**

**Publications**

- 2 Book (Longman/Wiley, Springer)  
 4 Proceedings editor  
 5 Theme issue editor  
 21 Book chapter  
 175 Paper in Web of Science Core Collection, from which

**Citations Web of Science**

- 3153 Papers times cited  
 2712 Papers times cited without self-citations  
 1664 Citing Articles  
 1531 Citing Articles without self-citations  
 31 Hirsh-index  
 611 Book times cited (Longman/Wiley 1989)

130 Book times cited (Springer 2011 with T Insperger)

**Citations Scopus**

4190 Papers times cited after 1995  
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