Complete CV of Gabor Stepan

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
Home Page:	http://www.mm.bme.hu/~stepan/
Nationality:	Hungarian

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

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
2017-2022	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, Budapest University of Technology and Economics (BME)
1991-1995	Associate Professor, Department of Applied Mechanics, BME
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 appointments abroad (time period):

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

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

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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 feedback gains);
Delayed Mathieu-equation paradigm (stability of delayed oscillators subjected to parametric excitation);
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):

2021	Delay Systems Life Time Achievements award (Int Fed of Automatic Control, IFAC)
2020	Fellow of International Academy for Production Engineering (CIRP)
2018	Foreign member of Estonian Academy of Sciences
2017	Fellow of Society for Industrial and Applied Mathematics (SIAM)
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)

International commissions of trust:

2019	Review panel member (TU Eindhoven)
2018-2020	Review panel member (Programa Galindo, Ministerio de Universidades, Spain)
2017-2018	Chairman of the ERC Starting Grant Panel PE8 (Technology)
2011-2016	Member of the ERC Starting Grant Panel PE8 (Technology)
2010-2011	Member, recruiting committee for professorship in nonlinear mechanics (ETH Zurich)
2003	Review committee member of Estonian Higher Education Accreditation Centre

National Honours and Awards (name of organization):

2018,2015 and 2012	Excellent Lecturer Award (Students' Union of Budapest University of Technology and Economics)
2017	Denes Gabor Prize (Novofer Foundation)
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 International Engineering Mathematics Competition (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 projects (total cca. 6,800,000 Euro):

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

2020-2021	ERC-2019-PoC/862308 'ProExcer' (European Research Council, Proof of Concept Grant) Projectile exciter for noiseless environment 150,000 Euro
2018-2019	TET-CN-2018-00008 'Biomechanics of Balancing in Aging Societies' (Chinese-Hungarian bilateral project) co-PI: Prof Zaihua Wang Key Laboratory of Control and Vibrations, Nanjing University of Aeronautics and Astronautics, China 16,500 Euro
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 Technolgy BME,
partners: University of Wales at Cardiff, University of Rousse,
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 MAKA 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 research group)

2020-2025 'Simulation and Emulation Framework for Vibration Attenuation of Milling Machines' (NKFIH grant no KKP133846)
950,000 Euro

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, selected list)

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)

Professional services:

***Journals*:**

2014-	Associate Editor, Nonlinear Dynamics
2013-2018	Associate Editor, ASME Journal Nonlinear and Computational Dynamics
2007-2019	Member, Editorial Board, Physica D
2006-	Associate Editor, Mechanism and Machine Theory
2005-2010	Member, Editorial Board, Philosophical Transactions of the Royal Society A: Mathematics, Physical and Engineering Sciences
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

***Editorship in journal Theme issues and Special issues*:**

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

International conferences:

2016-2018	Chairman of the 14th IFAC Workshop on Time Delay Systems (TDS) (Budapest, June 28-30, 2018)
2016-2018	Chairman of the 8th CIRP Workshop on High Performance Cutting (HPC) (Budapest, June 25-27, 2018)
2015-2017	Chairman of the 9th 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

International societies and committees:

2019-2024	Elected Member, EuroMech Council
2012-2020	Elected Member, Executive Committee of IUTAM Congress Committee
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)
2014-2020	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
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 (Gesellshaft für angewandte Mathematik und Mechanik, Germany)

National societies and committees:

2011-2017	Chairman, Section of Engineering Sciences of the Hungarian Academy of Sciences
2010-2021	Chairman, Doctoral Committee of Mechanical Engineering (BME)
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 at Budapest University of Technology and Economics (BME):

2015-2020	Chairman, Scientific Council of BME
2010-2019	Chairman and
1997-	Member, 'Pattantyús' Habilitation and Doctoral Committee for Mechanical Engineering, BME

1997-2012	Elected Member, Senate, BME
1997-2006	Chairman, Scientific Committee, BME
1996-2007	Member, Educational Committee of Mechanical Engineering, BME
1991-1995	Elected Member, Faculty Council of Mechanical Engineering, BME
1991-1994	Member, Educational Committee and Scientific Committees of Mechanical Engineering, BME
1991-1993	Minute Taker, Faculty Council of Mechanical Engineering, BME

Teaching and tutoring:

Supervised PhD students and reviewed theses:

1989-	Supervisor of 26 PhD students 15 students received PhD at Budapest University of Technology 7 students transferred to US universities and received PhD at CalTech, Cornell, Chicago, Auburn
1983-	Reviewer of 34 PhD/DSc/Dr.habil thesis works, also for 7 foreign universities: *Royal Institute of Technology*, Stockholm (KTH) *University of Bristol,* Bristol (UoB) *Eindhoven University of Technology,* Eindhoven (EUT) *University of British Columbia*, Vancouver (UBC) *Karlsruhe Institute of Technology*, Karlsruhe (KIT) *Université Paris Sud*, Paris (PS) *University of Stuttgart*, Stuttgart (USt)

Successful PhD students:

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 Morgan 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.
Tamas 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
Peter Frank	Part-time student, quit PhD with Absolutorium in 1999, section director of Knorr-Bremse Railway Development Hungary 2008-14, director of Knorr-Bremse R&D Hungary 2015-, Denes Gabor Prize 2016
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 Insperger	received PhD in 2002 at BME under supervision of G Stepan, associate prof since 2008 at BME; 2016 DSc at HAS; 2018- full professor at BME; 2019- member of MTA
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 then UCSB; 2010- tenure track, 2017- tenured associate professor 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- research associate at Mech Eng McGill University (Montreal); 2018- developer at Quanser (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
Denes Takacs	received PhD in 2011; 2009- research assoc at MTA; Junior Prima Prize 2012; 2018- assoc prof at BME

Zoltan Dombovari	received PhD in 2012, supported by EU FP6 project Acroboter in 2007; visiting researcher at Mech Eng in Vancouver in 2008, at Ideko Ltd in Elgoibar in 2009 and 2014-15; assoc prof at BME 2019-
Daniel Bachrathy	received PhD in 2013; supported by EU FP6 project Acroboter in 2007; 2009- assist prof at BME
Ambrus Zelei	received PhD in 2015; supported by EU FP6 project Acroboter in 2007-2009; assist researcher at MTA 2015-
Balint Magyar	received PhD in 2015; supported by EU FP6 project Acroboter in 2009 and by COSMOSYS project in 2011-12; 2015- assist prof at BME 2015-
Giuseppe Habib	received PhD in 2014, co-supervised by Prof Rega, double degree PhD program of BME and Univ of Rome; postdoc at Aerospace & Mech Eng Univ Liege (Belgium); 2014-16, Marie-Curie research fellow at BME 2016-2018
Marta Reith	received PhD in 2016, supported by EU FP7 project Dynxperts in 2011-12 and by ERC Adv Grant SIREN 2014-16; 2017- assist prof at BME
Mate Antali	received PhD in 2017, supported by ERC Adv Grant SIREN 2014-17; assist prof at BME 2017-18; distinguished postdoctoral scholarship of MTA 2018-22

Courses PhD level (international):

2019	Dynamics of Machining: Prediction and Suppression of Undesired Vibrations, course organizer of 30 lectures, presenter of 6 lectures at Int. Centre for Mechanical Sciences (CISM, Udine, Italy)
2018	Time-dependent and nonholonomic systems, 30 lectures at Nanjing University of Aeronautics and Astronautics (Nanjing, China)
2016	Nonlinear Vibrations, 30 lectures at Nanjing University of Aeronautics and Astronautics (Nanjing, China)
2014	Dynamics of Computer Controlled Machines, 30 lectures at Nanjing University of Aeronautics and Astronautics (Nanjing, China)
2011	Delay Equations with Engineering Applications, 5 lectures at Int. 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 (Grenoble, France)
2006	How Delay Equations Arise in Engineering? 5 lectures at Summer School on Delay Differential Equations & Applications (Dobbiaco, Italy)
2006	Delay induced vibrations in engineering, 5 lectures at University of 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 Ultra-Precision Metal Cutting D'Alembert Session, Int. 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)

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)
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-	Lecturer of Dynamics (prerequisite in Mechanical Engineering, BSc)
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

1993-2010	Lecturer of Nonlinear Vibrations (elective in Engineering Physics, in Mathematical Engineering, prerequisite in Applied Mechanics)
1985-2018	Lecturer of Dynamics of Machines (elective in Machine Design, prerequisite in Applied Mechanics, BSc)
2008-2015	Lecturer of the graduate course Dynamics of Mechanical Systems
1990-1996	Lecturer of the new MSc course Advanced Applied Mechanics in English
1985-2015	Lecturer of Analytical Mechanics I,II (prerequisite in Mathematical engineering, elective in Applied mechanics)
1984-1987	Lecturer of the first BSc courses Mechanics I-IV in English at BME
1983-1984	Participant and teacher of the new curriculum in Computer Science
1978-1990	Practice, laboratory work in all the subjects of Mechanics
1985-2018	Supervisor of 63 BSc/MSc thesis projects

Scientometrics:

Publications

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

***Citations* Web of Science**

5304	Papers times cited
4733	Papers times cited without self-citations
2766	Citing Articles
2625	Citing Articles without self-citations
38	Hirsh-index
560	Book times cited (Longman/Wiley 1989)
251	Book times cited (Springer 2011 with T Insperger)

***Citations* Scopus**

6814	Papers times cited
5307	Papers times cited without self-citations
44	Hirsh-index
37	Hirsh-index without self-citations

***Citations* Google Scholar**

13703	All known
6074	All known since 2016
58	Hirsh-index
37	Hirsh-index since 2016
1302	Book times cited (Longman/Wiley 1989)
548	Book times cited (Springer 2011 with T Insperger)

***Citations* MTMT** (https://m2.mtmt.hu)

9692	All known
7858	All known without self-citations

Publication list

Researcher-ID	www.researcherid.com/rid/B-4224-2011
Publons	publons.com/researcher/2810310/gabor-stepan/
MTMT	m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=10000019&view=pubTable

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Keynote lectures:

2006	plenary lecture, 5th Nonlinear Dynamics Conference (EUROMECH, Eindhoven)
2009	closing lecture, 19th Biennial Congress of the Italian Association of Theoretical and Applied Mechanics (AIMETA, Ancona)
2013	plenary lecture, Conference on Applied Dynamical Systems (SIAM, Snowbird)
2013	opening lecture, 11th Biennial Int Conf on Vibration Problems (ICOVP, Lisbon)
2014	plenary lecture, 4th International Conference on Dynamics, Vibration and Control (ICDVC, Shanghai)
2015	Caughey prize lecture, International Mechanical Engineering Congress & Exposition (ASME IMECE, Houston)

2016 keynote lecture, Conference on Open Problems in Nonsmooth Dynamics (Centre de Recerca Matemàtica, Barcelona)
2016 opening lecture, 7th Int Conf on High Speed Machining (ICHSM, Xian)
2018 plenary lecture, The 20th European Conference on Mathematics for Industry (ECMI, Budapest)
2018 opening lecture, 5th International Conference on Dynamics, Vibration and Control (ICDVC, Shijiazhuang)
2019 plenary lecture, Multibody Dynamics Conference (ECCOMAS, Duisburg)
2019 keynote lecture, 15th International Conference on High-Speed Machining (CIRP, Prague)

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 thrusted by fluid mass flow
Stepan G, Kovacs LL, Wohlfart R, Jurak M, Bachrathy D, Toth A,

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Last updated: January, 2022