József Kázmér Tar

Brief Introduction

József K. Tar PhD, CsC, Physicist
Professor

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H-1081 Budapest
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Educational Activities

- Thermodynamics I (in English) [the course ceased in the spring of 2006]
- Thermodynamics II (in English) [Last examination course in the autumn of 2006]
- Mechanical Engineering Part B (in English)
- Modeling and Control of Robots (in English)
- Basic Practical Knowledge in Information Technology (for part-time students in year 1 semester 1) (in Hungarian)
- Basic Practical Knowledge in Information Technology (for part-time students in year 1 semester 2) (in Hungarian)
- Basic Practical Knowledge – Laboratory in Information Technology (for part-time

students in year 1 semester 2) (in Hungarian)

- Kinematics and Dynamics of Robots I, III, III (in Hungarian);
- Control of Robots I, II (in Hungarian);
- Industrial Robots Systems (in Hungarian);
- Research and Development (participant of the staff of the teachers) (in Hungarian);
- Intelligent Development Tools (in Hungarian)
- Fundamental Mathematical Methods (in English);
- System and Control Theory (from Spring of 2011)

Curriculum Vitae

(including R&D activities and list of publications)

Place of birth: **Eger, Hungary.**

Date of birth: **December 3 1957**

Marital status: **Single;**

Nationality: **Hungarian;**

Citizenship: **Hungarian;**

Education and professional activity:

1972-1976 "Gárdonyi Géza" Secondary School, Eger: (special curriculum with respect to physics)

1976-1981 Loránd Eötvös University, Budapest. Graduated as physicist in 1981. Extended essay: experimental investigation of plasma-wall interaction in the TOKAMAK MT1 of Central Research Institute for Physics (CRIP), Budapest by using Rutherford backscattering

1981: Researcher physicist in the Research Institute of TUNGSRAM Co. Ltd., Budapest.

1981-1984: Participation in the common project by TUNGSRAM and CRIP aiming the development of far infrared CO2 and methanol laser to be used in plasma-diagnostics in TOKAMAKS.

1984: Gaining the degree of university doctorate at Roland Eötvös University, Budapest (atomic and molecular physics, quantum optics)

1984-1986: Researcher physicist in the Research Institute of TUNGSRAM Co. Ltd., Budapest (numerical modeling and simulation, planning a Cylindrical Mirror Analyzer for use in Auger-spectroscopy);

1986: Head of laboratory in the Research Institute of TUNGSRAM Budapest (numerical modeling)

1986-1989: Senior expert in the Centre of Robotics and Automation (CRA) in TUNGSRAM, Budapest. Participation in the work of international association INTERROBOT and in the implementation of the regional UNIDO/UNDP project DP/RER/87/018 "Industrial Robotics Applications" and in the 2nd Subprogram National Medium-Range R&D program (OKKFT)

1989 Gaining the degree of PhD

1989-1992: Deputy director at CRA; Research in robotics (inverse kinematics program, investigation of the possibilities o application of abstract algebraic methods and neural networks in control);

1992-1994: Scientific advisor at the Department of Information Technology and Automation of University of Veszprém.

1993 July: Associate Professor at "Bánki Donát Polytechnic, Department of Information Technology"; participation in the work of CRA which moved to the Polytechnic in the meantime. Education: fundamentals of information technology, neural networks;

1994 Sept.: Extension of educational activity by delivering lectures, leading exercises as the module leader of “Thermofluid Dynamics” in semester 3 (total 4 hours weekly in English) in co-operation with the Nottingham Trent University, UK.

1995 Lecturer of the discipline "Control of Robots " at the Department of Information Technology and Automation of University of Veszprém. Lecturer of the Thermo and Fluid Dynamical part of the module "Mechanical Engineering" in semester 5 at Bánki Donát Polytechnic (in English); Became the "Year Tutor" at semester V at he Integrated Engineering course;

1995 Summer: Participation in a PhD program in cooperation with Department of Process Control of the Technical University of Budapest. Research topics: "New methods for controlling strongly non-linear mechanical systems"

From July 1, 1997: Professor at "Bánki Donát Polytechnic, Department of Information Technology";

In September, 1997: Winner of the “Széchenyi Professorial Scholarship” for four years in Hungary.

From Jan. 1 2000: Professor at Budapest Polytechnic (BP);

From Jan. 1 2000. Deputy director of the Institute of Mathematical and Computational Sciences in the John von Neumann Faculty of Informatics of BP.

2001: Invited Member of the Educational Staff of the Doctoral School of University of Veszprém, Hungary

From Nov. 1 2004 to Aug. 31 2005: Deputy director of the Institute of Intelligent Engineering Systems in the John von Neumann Faculty of Informatics of Budapest Tech Polytechnical Institution.

From Sept. 1 2006 to Dec. 1 2008: Program Manager at the Transportation Informatics and Telematics Knowledge Center of Budapest Tech

From December 1, 2010-September 30 2012: Director at the Transportation Informatics and Telematics Knowledge Center of Óbuda University

From October 2009-April 2011 : Member of the “Scientific Council” of Budapest Tech (duty: to represent the “John von Neumann Faculty of Informatics”)

From Summer of 2010: Associate Professor at Óbuda University

From 2010: project leader at the “Applied Informatics Doctoral School” of Óbuda University

From 2011. September 1: Full Professor at Óbuda University

From 2011. October: member of the “Applied Safety Technology Doctoral School” of Óbuda University

From 2012. May 2: obtaining the level DSc (doctor of the Hungarian Academy of Sciences)

From September 4 to September 3 2016: external member of the “Habilitation Committee and Doctoral Council of Communication Sciences, Vehicles and and Mobile Machines”

From October 1 2012: Director of the “Antal Bejczy Center of Intelligent Robotics” of Óbuda University.

Knowledge of languages:

English (speaks, reads, writes and understands fluently);

Basic level in Russian.

Membership in scientific organizations:

- "Loránd Eötvös" Physical Society (member between ~1981-~1993);
- Hungarian Robotics Association (elected secretary from the beginning of 1993-2001);
- Hungarian Association of Measurement and Automation (MATE) (member, Membership No.: 8384);
- IEEE Hungary Section ("Member Grade", Membership No.: 01633650) Circuits, Systems & Computers Joint Chapter of IEEE HS (member);
- "Industrial Electronics and Robotics & Automation Societies Joint Chapter of IEEE HS" (Secretary from 1997 to 2002, Chairman from 2002);
- IEEE HS Chapter of Neural Networks Society, member, 2002-
- Sub-Committee of Machine Systems of the Committee of Engine Structures of the Hungarian Academy of Sciences (member);
- Hungarian National Scientific Research Fund (OTKA): secretary of the Jury competent in Information Technology and Electronics (ELE).
- Hungarian Fuzzy Association (member);
- EC Expert Evaluateur at DGXII-AG Ref.No. EE19981A25774
- John von Neumann Society of Computer Science (from 2005, membership no.: 91789).
- Computer Technology and Automation Committee of the Department of Technical Science of HAS (2009)

Awards, acknowledgments

"István Széchenyi Award for Professors": 1997.

Award by the Rector of the Budapest Polytechnic in 2002.

"Researcher of the Year" – award established by Budapest Tech in 2005

Award by the Dean of John von Neumann Faculty of Informatics, Óbuda University,

List of publications:

Up-to-date list is available at the server of the Hungarian Academy of Sciences at

http://vm.mtmt.hu/search/slist.php?lang=1&AuthorID=10002758

Invited plenary lectures:

G1) **J.K. Tar**: „Modern Mathematical Tools in Robot Kinematics, Dynamics, and Control”, 7th International Conference on Intelligent Engineering Systems 2003 March 4-6, Assiut – Luxor, Egypt, ISBN 977-246-048-3.

G2) **J.K. Tar:** “Dynamic Nonlinear Control of Mechanical and Analogous Devices/Processes”, Plenary Talk at the 4th IEEE International Conference on Computational Cybernetics, 20-22 August, 2006, Tallinn, Estonia, ISBN 1-4244-0071-6.

G3) **József K. Tar**, Imre J. Rudas: “Geometric Approach to Nonlinear Adaptive Control” -- Tutorial, in the Proc. of the 4th International Symposium on Applied Computational Intelligence and Informatics (SACI 2007), May 17-18, 2007, Timişoara, Romania, pp. 9-23, ISBN 1-4244-1234-X, IEEE Catalog Number:07EX1788. OTKA K063405, T048756

G4) **József K. Tar**: „Fixed Point Transformations as Simple Geometric Alternatives in Adaptive Control”, in the Proc. of the 5th IEEE International Conference on Computational Cybernetics, October 19-21, 2007, Gammarth, Tunis, ISBN 1-4244-1146-7, pp. 19-34

G5) **József K. Tar**: “Application of Local Deformations in Adaptive Control - A Comparative Survey”, invited plenary lecture, Proc of the 7th IEEE International Conference on Computational Cybernetics (ICCC 2009), Palma de Mallorca, Spain, November 26-29, 2009, ISBN: 978-1-4244-5311-5, IEEE Catalog Number: CFP09575-CDR, Library of Congress: 2009936140, pp. 25-38

G6) **József K. Tar**: “Towards Replacing Lyapunov’s “Direct” Method in Adaptive Control of Nonlinear Systems”, invited lecture at “Mathematical Methods in Engineering International Symposium, (MME’2010)”, Instituto Politécnico de Coimbra, Coimbra, Portugal, 21-24 October, 2010 Paper # 11, pp. 1-10.

H: Lecture Notes:

H1) J.F. Bitó, **J.K. Tar**: "Control of robots", University of Veszprém, Department of Information Technology and Automation (1993) (With Physical and Mathematical addendum, in Hungarian).

H2) **J.K. Tar**: "*Mechanical Engineering 3 -- Noise, Thermo- and Fluid Dynamics*", issued by Bánki Donát Polytechnic, Budapest, 1996 (in English).

H3) **J.K. Tar**: “*Lecture Notes on Thermofluid Dynamics for NGV/Semester 3*”, 1997. (Made with the Support by the Hungarian Ministry of Culture and Education within the frames of the Project PFP-BDMF-2022-7/97.)

H4) **J.K. Tar**: “*Lecture Notes on Fluid Mechanics for NGV/Semester 3*”, 1997. (Made with the Support by the Hungarian Ministry of Culture and Education within the frames of the Project PFP-BDMF-2022-7/97.)

H5) J**ózsef K. Tar**, László Nádai, Imre J. Rudas: System and Control Theory with Especial Emphasis on Nonlinear Systems, TYPOTEX, Budapest, 2013

Major Study Project leader in the last academic year students:

More than 50 BSc and MSc students from 1995.

Project lead within the “Applied Informatics Doctoral School of Óbuda University”:

Teréz Anna Várkonyi: “Comparative Analyzis of Task-oriented Near Optimal Parameter Tuning Methods in Novel Adaptive Control of Nonlinear Systems” (obtained the PhD

degree in 2013);

Krisztián Kósi: New Design Methods for the Stabilization of Model-Independent Adaptive Controllers (from 2012)

Adrienn Dineva: Novel, Non-conventional Adaptive Data Representation and Control Methods (co-leader: Annamária R. Várkonyi-Kóczy) (from 2013)

Participation in National Research and Development Projects:

[1] PFP-BDMF-2022-7/97 project for curricula development at the Bánki Donát Polytechnic, run by the Hungarian Ministry of Culture and Education (project leader);

[2] OTKA T04046 (1992-1994, lead by János Bitó and later on by József **Tar**) “Robot Control Supported by Novel Abstract Algebraic Tools", completed with 14 international publications.

[3] OTKA T019032 (1996-1998) 2409.- thousand HUF / participant: "Application of Modern Mathematical Methods in Robot Control".: Related smaller projects were:

[4] AMFK 223/95 (1996) 250.- thousand HUF /participant: "Elaboration of New Adaptive Methods for the Control of Partially and Imprecisely Known Mechanical Systems Under Unmodeled Environmental Interaction"

[5] AMFK 319/96 (1997) 500.- thousand HUF / participant: "Integrated Application of Soft Computing Techniques in Strongly Coupled Non-Linear Systems of Multiple Parameters"

[6] MKM 152 (1996-1997) 1240.- thousand HUF / project leader: "The Novel Methods of Classical Mechanics and Soft Computing Techniques in the New adaptive Control for Non-linear Systems"

[7] OTKA T034561 (2001-2004) 12151 thousand HUF / participant, "Elaboration of novel robot control strategies on the basis of uniform structures and procedures”.

[8] OTKA T034212 (2001-2004) 12161 thousand HUF / project leader, "Reduction of Fuzzy Control Systems".

[9] OTKA T048756 (2005-2008, 16000 thousand HUF), “Applications of Fuzzy Operators in Intelligent Road Vehicle Information Systems” participant;

[10] OTKA K063405 (2006-2009) 12184 thousand HUF / project leader, “Integration of Fractional Order Derivatives in the Adaptive Control of Nonlinear Systems on the Basis of Novel Soft Computing Techniques”

[11] RET-10/2006 (2006-2009) “Transportation Informatics and Telematics Knowledge Center”, participant

[12] OTKA CNK78168 (2009-2012) “Modelling and multi-objective optimization based control of road traffic flow considering social and economical aspects” (lead by the Budapest University of Technoloy and Economics -- BME) participant and representative of the researchers’ group of Óbuda University;

[13] TAMOP-4.2.2.A-11/1/KONV-2012-0012: Basic research for the development of hybrid and electric vehicles - The Project is supported by the Hungarian Government and co- financed by the European Social Fund;

[14] 2013-2014: ROBOT-X Development of a Robot Boulder Kit for the Purposes of Education and Research and Development (GOP-2011-1.1.1)

Participation in International Research Projects:

Bilateral Science & Technology Co-operation Programs:

(These projects are connected to the above given domestic ones regarding their disciplines as fuzzy control, robot control on soft computing basis, process and product models and the field of manufacturing systems of high complexity.)

[1] Hungarian-Turkish (1994-1996, Bogazici University; leader: Imre Rudas)

[2] Hungarian-Portuguese (1996-1998; UNINOVA; leader: Imre Rudas)

[3] Hungarian-Polish (1998-1999; Poznan University; leader: József **Tar**)

[4] Hungarian-Turkish (1998-1999; Bogazici University; leader: Imre Rudas)

[5] Hungarian-Portuguese (1998-1999; University of Porto; leader: Imre Rudas)

[6] Hungarian-Malaysian (1999-2000; Univ. of Tech. Johor; leader: László Horváth)

[7] Hungarian-South African (1999-2000; University of Pretoria; leader: László Horváth)

[8] Hungarian-Finnish (2000-2001, Tampere University of Technology, leader: Imre Rudas)

[9] Hungaria-Slovenian (2000-2001, University of Maribor, leader: József **Tar** n)

[10] Hungarian-Portuguese (2000-2001, University of Braga, leader: Imre Rudas)

[11] Hungarian-Polish (2002-2003, Poznan University; leader: József **Tar**)

[12] Hungarian-Greek (2002- 2003, National Technical University of Athén, leader: László Horváth)

[13] Hungarian-Portuguese (2004-2005, Institute of Engineering, Porto, leader: József **Tar** P-6/03)

[14] Hungarian-Romanian (2006-2007, University of Timisoara, Romania, leader: János Fodor, Ro-51/05)

[15] Hungarian-Japanese (2005-2006, Department of Machine Intelligence and Systems Engineering, Graduate School of Engineering, Tohoku University, Japan, leader: Imre Rudas. JAP-12/02)

[16] Hungarian-Slovenian (2007-2008, University of Maribor, leader: László **Horváth**) (SLO-12/2006)

[17] Hungarian-Portuguese (2008-2009, Institute of Engineering, Porto, leader: József **Tar**) (PT-12/2007)

[18] Hungarian-Polish (2008-2009, Poznan University of Technology, József **Tar**) (PL-14/2008)

Other research programs financed by international resources

Company FANUC (headquarters in Japan) was and presently is financing a co-operation between the Budapest Polytechnic, Bogazici University Istanbul, Turkey, and the State University of Kazan, Tatarstan, Russia, aiming at the following topic:

[1] FANUC Foundation for Promotion of Advanced Automation Technology (PAAT). (1998, Rudas Imre) "Intelligent Control of Mechatronic Systems with Special Emphais on the Application of Soft Computing Techniques".

[2] FANUC's "Financial Assistance to Research and Development Activities in the Field of Advanced Automation Technology Fund" (2001, Rudas Imre) "Intelligent Control of Mechatronic Systems with Special Emphasis on the Application of Soft Computing Techniques", continuation of the previous one, a running project.

Participation in reviewing scientific papers from 2001:

About 50 papers at various conferences and journal contributions.

Participation in organizing international conferences from 1999:

About 70 international events.

Participation in doctoral events from 2001

(1) Opponent of the PhD Thesis by Szilveszter Pletl: "Modern Adaptive Robot Control Algorithms Based on Fuzzy and Neural Network Principles (Korszerû adaptív, fuzzy és neurális elvû robotirányítási algoritmusok) In Hungarian", Budapest University of Technology and Economics, Department of Control Engineering and Information Technology, 2001;

(2) Opponent of the PhD Thesis by Péter Földesy: „Error Modelling and Extension of the Applicability of he CNN-UM Based Visual Microprocessors” (in Hungarian) Computer and Automation Institute of the Hungarian Academy of Sciences, 2002;

(3) Examiner in the Doctoral Examination of István Harmati Budapest University of Technology and Economics, “Control of Robots”, 2003.

(4) Reviewer in the preliminary discussion on the Doctoral PhD Thesis by Alexander Anufriev „Realisation Problems of the Hybrid Dynamical Approach to FMS Scheduling”, Budapest University of Technology and Economics, 2003;

(5) Committee member at the PhD defense process of István Harmati Budapest University of Technology and Economics, “Control of Robots”, 2003.

(6) Reviewer in the preliminary discussion on the PhD Thesis by Vladimir Lukanin „ Special Aspects of Motion Planning for Industrial Robots”, Budapest University of Technology and Economics, 2004;

(7) Opponent of the PhD Thesis by István Petrás: „ Spatio-temporal Patterns and Active Wave Computing”, Péter Pázmány Catholic University, Budapest, 2004;

(8) Opponent of the PhD Thesis by Orsolya Takács: „Procedures and Error Limits for the Application of Soft Computing Methods in Anytime Systems” (Eljárások és hibakorlátok lágy számítási módszerek anytime rendszerekben való alkalmazásához)” Budapest University of Technology and Economics, 2005;

(9) Examiner in the Doctoral Examination of Márton Lőrinc (Budapest University of

Technology and Economics), “Control of Robots”, 2005;

(10)[10] Reviewer in the preliminary discussion on the PhD Thesis by Gábor Vass „Object Manipulation in the Case of Multiple Fingered Robot Hands (Tárgymanipuláció tervezés robotok és többujjas kezek esetében)”, Budapest University of Technology and Economics, 2005

(11) Reviewer for the PhD thesis by Tibor Gajdár „Motion Control of Conventional and Non-conventional Railway Wheelsets”, Tampere University of Technology, Tampere, Finland, 2005.

(12) Reviewer for the preliminary discussion and opponent of the final PhD thesis by János Madár „ Prior Knowledge in Process Engineering”, (Veszprémi Egyetem, 2005)

(13) Reviewer for the preliminary discussion and opponent of the final version of the PhD thesis by Zoltán Petres “Polytopic Decomposition of Linear Parameter-Varying Models by Tensor-Product Model Transformation”, Budapest University of Technology and Economics, Budapest, Hungary, 2007.

(14) Secretary of the Jury at the open defending process of the DSc thesis by István Vajk: „Identifikáció zajos mérésekből EVD-SVD alapú algoritmusokkal” (in Hungarian) at the Hungarian Academy of Sciences, 2006.

(15) Secretary of the Jury at the open defending process of the DSc Thesis by Péter Baranyi: „Tenzorszorzat-modell transzformáció a rendszer- és irányításelméletben” (in Hungarian) at the Hungarian Academy of Sciences, 2006.

(16) Examiner in the Doctoral Examination of Ádám Varga (Budapest University of Technology and Economics), “Control of Robots”, 1 March, 2007.

(17) Member of the Jury at the open defending process of the DSc Thesis by András Edelmayer: „Fault Detection in Dynamic Systems: from State Estimation to Direct Input Reconstruction Methods”, 2007.

(18) Reviewer for the preliminary discussion and opponent of the final Doctoral PhD Thesis by Levente Adalbert Kovács: „New Principles and Goal-Adequate Algorithms for the Control of the Insulin Concentration in the Case of Diabetes Mellitus Type I”,Budapest University of Technology and Economics, 2008;

(19) Reviewer for the preliminary discussion and opponent of the final Doctoral PhD Thesis by János Botzheim: “Identification of Intelligent Computational Models using Evolutionary and Gradient Descent Based Learning Algorithms”, Budapest University of Technology and Economics, 2008;

(20) Reviewer for the Preliminary and Final Discussion of the Doctoral PhD Thesis by Nóra Moldoványi: “Model Predictive Control of Crystallisers” [PhD School of Chemical Engineering Sciences, Department of Process Engineering, University of Pannonia, Veszprém, Hungary, 2008;

(21) Member of the Jury at the open defending process of the PhD Thesis by Gábor Felső “Mikromanipulációs robotrendszerek modellezése és vizuális alapú pozíciómérési eljárásai”, Budapest University of Technology and Economics, 2008;

(22) Reviewer for the preliminary and final discussion of the PhD thesis by Ádám Varga “Predictive Control of Robots and Nonlinear Mechatronic Systems” Budapest University of Technology and Economics, 2008;

(23) Foreign member of the “Post-PhD Jury of the Institute of Engineering Porto, Oporto, Portugal”, 2008;

(24) Reviewer for the preliminary discussion of the Doctoral PhD Thesis by László Szilágyi, “Novel Image Processing Methods Based on Fuzzy Logic”, Budapest University of Technology and Economics, 2008;

(25) Member of the Jury at the open defending process of the DSc thesis by Annamária Várkonyi Kóczy “Methods of Computational Intelligence for Modeling and Data Representation of Complex Systems”, Hungarian Academy of Sciences, 2010.

(26) Reviewer for the preliminary discussion of the PhD thesis by István Nagy “Localization Error Based Near Time-optimal Path Planning Process, for Mobile Robots”, Budapest University of Technology and Economics, 2009;

(27) Member of the Jury at the open defending process of the PhD Thesis by István Pályi “VASÚTI INDÓHÁZ HÁLÓZAT REKONSTRUKCIÓJÁNAK GAZDASÁGI MODELLEZÉSE, KÜLÖNÖS TEKINTETTEL A MŰEMLÉKVÉDELMI KÉRDÉSEKRE” (in Hungarian), Budapest University of Technology and Economics, 2009

(28) Member of the Jury at the open defending process of the PhD Thesis by Zsuzsa Preitl “Control design methods for optimal energy consumption systems”, Budapest University of Technology and Economics, 2009

(29) Member of the Jury at the open defending process of the PhD Thesis by Ferenc Tél “Sztereó képfeldolgozó rendszer robotikai alkalmazásokhoz” Budapest University of Technology and Economics, 2009

(30) Reviewer for the preliminary and final discussion of the PhD thesis by Péter Somogyi “Novel monitoring methods for diagnostic purposes in experimental medical and physical measurements”, Budapest University of Technology and Economics - CERN, 2009-2010;

(31) Reviewer for the preliminary and final discussion of the PhD thesis by Olesya Ogorodnikova “Human Robot Interaction: The Safety Challenge (An integrated frame work for human safety)” Budapest University of Technology and Economics, 2009 2010;

(32) Reviewer for the final discussion of the PhD thesis by András Keszthelyi “Database Based Optimization in organizing of higher education”, Roland Eötvös University, Budapest, 2010.

(33) Member of the Jury at the open defending process of the PhD Thesis by Gábor Takács “Convex polyhedron learning and its applications”,Budapest University of Technology and Economics, 2010;

(34) Reviewer for the preliminary andfinal discussion of the PhD thesis by Tamás Urbancsek “Modern Control Achitecture for the Design of Multi-agent Telerobot Systems” (in Hungarian), Budapest University of Technology and Economics, 2009-2010;

(35) Member of the Jury at the open defending process of the PhD thesis by Attila Balogh “Control Strategies for the Improvement of the Efficiency of the Converters for Renewable Energy Resources” (in Hungarian), Budapest University of Technology and Economics, 2011;

(36) Reviewer for the preliminary and final discussion of the PhD Thesis by Béla Takarics “TP Model Transformation Based Sliding Mode Control and Friction Compensation”, Budapest University of Technology and Economics, 2011.

(37) Reviewer for the preliminary and final discussion of the PhD thesis by Zsuzsanna Bede “Analysis of Variable Direction Lanes in Huge Communication Networks “ (in Hungarian), Budapest University of Technology and Economics, 2013

(38)[36] Reviewer for the preliminary and final discussion of the PhD thesis by Tamás Tettamanti “Advanced Methods for Measurement and Control in Urban Road Traffic Networks”, Budapest University of Technology and Economics, 2013;

(39) Member of the Jury at the open defending process of the PhD thesis by Péter Bauer “Optimal tracking control for unmanned aerial vehicles”, Budapest University of Technology and Economics, 2013;

(40) Member of the Jury at the open defending process of the DSc thesis by Károly Veszprémi “Váltakozóáramú villamos hajtások hálózatcsatlakozási tulajdonságainak optimalizálása (~Optimization of Connection properties of AC Drive systems)” (in Hungarian), the Hungarian Academy of Sciences, 2010;

(41) Reviewer for the preliminary and final discussion of the PhD thesis by Sándor Szénási “~Development and Optimization of the Parameters of a Parallel Search for Cell Nuclei” (in Humgarian), Óbuda University, Budapest, 2013.

(42) Reviewer for the preliminary and final discussion of the PhD thesis by Dániel Stojcsics “Kisméretû, merev szárnyú, pilóta nélküli légi járművek autonóm fedélzeti rendszereiben alkalmazott új eljárások kidolgozása és gyakorlati megvalósítása” (in Hungarian), Óbuda University, Budapest, 2012.

(43) Reviewer for the preliminary and final discussion of the PhD thesis by István Szénásy “Kapacitív energiatárolók alkalmazási lehetőségeinek vizsgálata metró jellegű járműveken” (in Hungarian), Széchenyi István University, Győr, 2013

(44) Reviewer for the preliminary and final discussion of the PhD thesis by József Veres “Bio-Inspired Low-Cost Robotic Joint with Reduced Level of Backlash And a Novel Approach: The Emulated Elastic Actuator”, Pázmány Péter Catholic University, Budapest, 2012-2013.

(45) Reviewer for the habilitation thesis by Tamás Péter “Modeling the Communication Processes in Large Communication Networks (Nagyméretű közúti hálózatok közlekedési folyamatainak modellezése)”, Széchenyi István University, Győr, 2012.

(46) Reviewer for the preliminary and final discussion of the PhD thesis by László Gál “Optimization of Fuzzy Models by Bacterial-type Algorithms (Fuzzy modellek optimalizálása bakteriális típusú algoritmusokkal)”, Széchenyi István University, Győr, 2012.

(47) Reviewer for the preliminary and final discussion of the PhD thesis by Viktor Kálmán “On Modeling and Control of Omnidirectional Wheels”, Budapest University of Technology and Economics, 2013;

(48) Member of the Jury at the open defending process of the PhD thesis by Krisztián Balázs “Advanced Approaches in the Application Methodologies of Evolutionary Algorithms”, 2013

Participation in the work of editorial boards

- Associate Editor of the “Engineering Applications of Artificial Intelligence – The International Journal of Intelligent Real-Time Automation”, a Journal of IFAC, Editor-in-Chief: Prof. R.A. Vingerhoeds, issued by PERGAMON. (From 2002);

- Associate Editor of the “Control Engineering Practice” , a Journal of IFAC, (from 2005);

- Member of the Editorial Team of the “Journal of Information and Organizational Sciences – JIOS” (e-ISSN: 1846-9418) http://www.jios.foi.hr/

- Member of the Editorial Team of the “Journal of Applied Nonlinear Dynamics” to be launched in 2012, ISSN 2164-6457 (print), ISSN 2164-6473 (online)-