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# Reminder Call for IFAC Fellow Nominations 2011

Deadline for the 2011 IFAC Fellow Nominations is

## 31 December, 2010

Instructions and Forms are available on the IFAC website at

http://www.ifac-control.org/news/fellow-nominations-2011/call-for-fellownominations-2011



# Nonlinear Control Systems - NOLCOS 2010 IFAC Symposium Bologna, Italy, 1 - 3 September, 2010

The 8th IFAC Symposium on Nonlinear Control Systems (Nolcos 2010) was held in Bologna (Italy) from September 1-3, 2010, and organized by the Department of Electronics, Computer Science and Systems of the University of Bologna.

The IFAC NOLCOS symposium is a continuing series of symposia that were previously held in Capri (I) 1989, Bordeaux (F) 1992, Lake Tahoe (USA) 1995, Enschede (NL) 1998, Saint-Petersburg (RUS) 2001, Stuttgart (DE) 2004, and Pretoria (ZA) 2007.

Following the Nolcos tradition, the Symposium has addressed significant challenges in various fields of nonlinear control by focusing on the latest developments in theory and application of nonlinear control systems, as well as related areas of research and engineering. The organization of the scientific program and of the social activities of Nolcos 2010 has been specifically arranged to facilitate interaction between senior and young researchers sharing the passion for the study of nonlinear phenomena, to create new opportunities of collaboration, and to stimulate cross-fertilization among different nonlinear control areas.

With more than 300 papers received from more than 40 contributing countries, Nolcos reaffirmed itself as one of the most distinguished IFAC events and testified to the importance of nonlinear control in the international scientific community. About 400 reviewers have been involved in the technical assessment of the submitted papers. As a result, about 800 reviews have been received, which led to the acceptance of about 220 papers constituting the final program of Nolcos 2010. The scientific program spanned three days, with three plenary talks, two evening plenary talks, one industrial talk, four semi-plenary talks, and 5 sessions in parallel with regular and invited talks.

The first plenary talk was delivered by Prof. Francis Clarke, from the Institut Universitaire de France and the Universite de Lyon (France), and focused on discontinuous feedback and nonlinear systems. The second plenary talk was given by Prof. Jessy Grizzle, University of Michigan (USA) about bipedal locomotion and hybrid nonlinear control. Prof. Rodolphe Sepulchre from the University of Liege (Belgium) presented the last plenary talk which focused on consensus in nonlinear spaces.





Certificate of Appreciation for Jessy Grizzle

The scientific program was also enriched by two evening plenary talks; the first one, delivered by Prof. Alberto Isidori from University of Rome "La Sapienza", presented a retrospective view of the nonlinear control developments of the last thirty years, while the second, presented by Prof. Frank Allgower of the University of Stuttgart, Germany, envisioned nonlinear control tools in future biological scenarios.

The core of the Symposium were the 220 papers which were presented by their authors in forty oral sessions (with five sessions running in parallel). These contributions covered all technical areas of nonlinear control and provided an accurate picture of the state of the field at the present time. Among them there were eight invited sessions organized in the field of nonlinear model predictive control, stability and stabilization of quantized and switching systems, set-membership state and parameter estimation for nonlinear systems, and analysis and control of nonlinear distributed-parameter systems.

As a further distinguished feature of this specific Nolcos, three tutorial workshops, lasting five hours each, took place on the day preceding the Symposium. The tutorials were organized by the three plenary speakers on the topics of their plenary talks. The objective of the tutorials was to familiarize the participants with basic facts and notions of the specific topic and to fix the background for the plenary talks in which advances and future trends in the field were then presented.

The IFAC Technical Committee on Nonlinear Control Systems has created the certificate of achievement, an award bestowed on a distinguished colleague from the nonlinear systems and control field every three years. Prof. Arthur Krener was the recipient of this award at Nolcos 2010. It was presented to him at the symposium banquet on the Thursday evening.

High attendance characterized this Nolcos Symposium, with about 270 registered persons from 38 countries, and more than 60 persons attending the pre-symposium tutorials. All the plenary talks and the parallel sessions were well-attended during the three days, with high participation of all the social events organized during the Symposium. These numbers and the overall success of Nolcos 2010 represent a good example for the IFAC Nolcos Symposium which will be organized by Prof. Christophe Prieur (IPC Chair) and Prof. Sophie Tarbouriech (Editor) in Toulouse (France) in September 2013

An event such as Nolcos cannot be successfully organized without the support of many persons and structures. On behalf of the IPC, I would like to thank all the authors, reviewers, and participants for their contributions. A special thank goes to the eight Area Chairs (Profs. A. Astolfi, S. Celikovsky, Z. P. Jiang, W. Kang, L. Praly, K. Schlacher, A. Serrani, and A. R. Teel) who scientifically promoted the Symposium and supervised, the demanding review activity in their respective areas in an outstanding manner. I'm also grateful to the 56 members of the International Program Committee for the scientific advice given in different phases of the organization, and to the NOC members for taking care of many logistic matters. I also acknowledge the fruitful collaboration of the Faculty of Engineering of the University of Bologna in the organization of the event and the support of DEIS-University of Bologna. Finally, a special thank goes to the many volunteers who have contributed to its organization, the Symposium Secretariat (Studio Moretti s.r.l.), and my colleague Prof. Carlo Rossi, chair of NOC, who joined me in the organization of Nolcos 2010.

Lorenzo Marconi, IPC Chair of Nolcos 2010

# **IFAC Fellows 2010**

As already announced in the Newsletter, Issue 4, 2010, the IFAC Council has elected this year's Fellows. We shall introduce the new Fellows to our readers in this and the following Newsletter issues. The order in which these presentations are made is random, depending on when the material is received.

## **Ross Barmish**



B. Ross Barmish received the Bachelor's degree in Electrical Engineering from McGill University in 1971. In 1972 and 1975 respectively, he received the M.S. and Ph.D. degrees, both in Electrical Engineering, from Cornell University. From 1975 to 1978, he served as Assistant Professor of Engineering and Applied Science at Yale University. From 1978 to 1984, he was as an Associate Professor of Electrical Engineering at the University of Rochester and in 1984, he joined the University of Wisconsin, Madison, where he is currently Professor of Electrical and Computer Engineering. From 2001 to 2003, he was with the Department of Electrical Engineering and Computer Science at Case Western Reserve University, where he served as Department Chair while holding the Nord Professorship.

Professor Barmish is a Fellow of IEEE (Contributions to Robust Control) and has received the Best Paper Award for Journal Publication on two occasions from the International Federation of Automatic Control. Over the years, he has been involved in a number of IEEE Control Systems Society activities such as associate editorships, conference chairmanships and prize paper committees. He has also served as a consultant for a number of companies and is the author of the textbook New Tools for Robustness of Linear Systems, Macmillan, 1994. Over the last two years, his research has concentrated on the modelling and trading of markets for stocks and options.

### **Denis Dochain**



Denis Dochain received his degree in Electrical engineering in 1982 from the Université Catholique de Louvain, Belgium. He completed his Ph.D. thesis and a « thèse d'agrégation de l'enseignement supérieur » in 1986 and 1994, respectively, also at the Université Catholique de Louvain, Belgium. He has been CNRS associate researcher at the LAAS (Toulouse, France) in 1989, and Professor at the Ecole Polytechnique de Montréal. Canada in 1987-88 and 1990-92. He has been with the FNRS (Fonds National de la Recherche Scientifique, National Fund for Scientific Research), Belgium since 1990. Since September 1999, he has been Professor at the CE-SAME (Center for Systems Engineering and Applied Mechanics), Université Catholique de Louvain, Belgium, and Honorary Research Director of the FNRS. He was invited professor at Queen's University, Kingston, Canada between 2002 and 2004. He has been full professor at the UCL since 2005. He is associate editor of the IEEE Transactions of Automatic Control and of Automatica, and the Regional Editor for Europe of the Journal of Process Control. He is a member of the Technical Board of the IFAC. He was a member of the Council of the IFAC from 1999 to 2002, the chair of the IFAC TC on Biosystems and Bioprocesses (TC8.4) from 2002 to 2003, and the chair of the IFAC CC on Power and Process Systems (CC6) from 2003 to 2008. He received the IFAC outstanding service award in 2008.

His main research interests are in the field of distributed parameter systems, nonlinear systems, parameter and state estimation, and adaptive extremum seeking control with application to microbial ecology, environmental, biological and chemical systems, pulp and paper processes, polymerisation reactors, and electric systems. He is the (co-)author of 4 books, more than 100 papers in refereed journals and about 200 international conference papers.

# Jessy Grizzle



Jessy W. Grizzle received the Ph.D. in electrical engineering from the University of Texas at Austin in 1983 and in 1984 held an NSF-NATO Postdoctoral Fellowship in Science in Paris, France at the CNRS. Since September 1987, he has been with The University of Michigan, Ann Arbor, where he is the Jerry and Carol Levin Professor of Engineering at the University of Michigan and a Professor of Electrical Engineering and Computer Science. His research interests have often focused on theoretical aspects of nonlinear systems and control, including geometric methods for continuous- and discrete-time systems, and observer design in discrete time. He has been a consultant in the automotive industry since 1986, where he jointly holds sixteen patents dealing with emissions reduction through improved controller design. His current interest in bipedal locomotion grew out of a sabbatical in Strasbourg, France. Prof. Grizzle was elected Fellow of the IEEE in 1997. His awards include: with K.L. Dobbins and J.A. Cook (Ford Motor Company), 1992 Paper of the Year Award from the IEEE Vehicular Technology Society; with G. Abba (Univ. of Metz, France) and F. Plestan (Ecole Centrale, Nantes, France), the 2002 Axelby Award from the IEEE Control Systems Society; and with J. Sun (Univ. of Michigan) and J. Cook (Ford), the 2003 IEEE Control Systems Society Technology Award. He has served as Associate Editor for the Transactions on Automatic Control and Systems & Control Letters, Publications Chairman for the 1989 CDC, on the Control Systems Society's Board of Governors in 1997-1999, Associate Editor for Automatica 2002-2005, AACC Award Committee (2003-2005), and is currently a Senior Editor for the IEEE Transactions on Automatic Control.

# A. Galip Ulsoy



A. Galip Ulsoy is the C.D. Mote, Jr. Distinguished University Professor of Mechanical Engineering (ME) and the William Clay Ford Professor of Manufacturing at the University of Michigan (UM) at Ann Arbor, where he also serves as the Deputy Director of both the Ground Robotics Research Center and of the Engineering Research Center for Reconfigurable Manufacturing Systems. He received the Ph.D. in ME from the University of California at Berkeley (1979), the M.S. degree in ME from Cornell University (1975), and the B.S. degree in Engineering from Swarthmore College (1973). He served as Chair of the ME Department, Technical Editor of the ASME J. Dynamic Systems, Measurement and Control, President of the American Automatic Control Council (AACC) - the US national member organization of the International Federation of Automatic Control (IFAC), and Director of the Civil and Mechanical Systems Division at the National Science Foundation.

A. Galip Ulsoy has made basic research contributions to the mechanics of axially moving elastic systems (e.g. translating bands, rotating shafts), and to control system design (e.g., adaptive control, state derivative feedback, coupling between modeling and controller design, time-delayed systems) as well as major research contributions to manufacturing systems (e.g., reconfigurable manufacturing, sawing, turning, milling, drilling, robotics, stamping), automotive systems (e.g., accessory drive belts, active suspensions, vehicle lateral control), and other engineering systems (e.g., disk drives, mineral processing operations). He is co-author of a textbook and a research monograph, over 300 articles, is a co-inventor on 3 patents, and has been a principal investigator, or co-investigator, for research projects funded at over \$90 million.

A. Galip Ulsoy received the 1979 Wood Award from the Forest Products Research Society, a Society of Manufacturing Engineers (SME) 1986 Outstanding Young Manufacturing Engineer Award, the 1993 AACC O. Hugo Schuck Best Paper Award, the 1995 South West Mechanics Lectureship, the 1997 Service Excellence Award from the College of Engineering at UM, the 2003 Rudolf Kalman Best Paper Award from the ASME J. Dynamic Systems, Measurement and Control, the 2002 Michael J. Rabins Leadership Award and the 2004 Henry M. Paynter Outstanding Investigator Award from the Dynamic Systems and Control Division of the American Society of Mechanical Engineers (ASME), the 2008 Albert M. Sargent Progress Award from SME, and the 2008 Rufus T. Oldenburger Medal from ASME. He is a member of the National Academy of Engineering and is a Fellow of ASME, SME and IFAC.

#### Andrew R. Teel



Andrew R. Teel received his A.B. degree in Engineering Sciences from Dartmouth College in Hanover, New Hampshire, in 1987, and his M.S. and Ph.D. degrees in Electrical Engineering from the University of California, Berkeley, in 1989 and 1992, respectively. After receiving his Ph.D., Dr. Teel was a postdoctoral fellow at the Ecole des Mines de Paris in Fontainebleau, France. In September of 1992 he joined the faculty of the Electrical Engineering Department at the University of Minnesota where he was an assistant professor until September of 1997. In 1997, Dr. Teel joined the faculty of the Electrical and Computer Engineering Department at the University of California, Santa Barbara, where he is currently a professor. Professor Teel has received NSF Research Initiation and CAREER Awards, the 1998 IEEE Leon K. Kirchmayer Prize Paper Award, the 1998 George S. Axelby Outstanding Paper Award, and was the recipient of the first SIAM Control and Systems Theory Prize in 1998. He was also the recipient of the 1999 Donald P. Eckman Award and the 2001 O. Hugo Schuck Best Paper Award, both given by the American Automatic Control Council. He is a Fellow of the IEEE. He is also the area editor in nonlinear systems and control for the Automatica.

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# Shuzhi Sam Ge



Professor Shuzhi Sam Ge is IEEE Fellow, Professor at both the National University of Singapore and the University of Electronic Science and Technology of China. He received his BSc degree from Beijing University of Aeronautics and Astronautics (BUAA) in 1986, and the the Ph.D. degree from Imperial College, London, 1993. At IEEE Control Systems Society, he has been serving as Vice President for Technical Activities. 2009-2010, Member of Board of Governors of IEEE Control Systems Society, 2007-2009, and Chair of Technical Committee on Intelligent Control, 2005-2008. He served as the inaugural General Chair of IEEE Multi-conference on Systems and Control, Singapore 2007, and the General Chair of the IEEE International Symposium on Intelligent Control, Taipei, 2004. He has (co)-authored three books: Adaptive Neural Network Control of Robotic Manipulators (World Scientific, 1998), Stable Adaptive Neural Network Control (Kluwer, 2001) and Switched Linear Systems: Control and Design (Springer-Verlag, 2005), Edited a book: Autonomous Mobile Robots: Sensing, Control, Decision Making and Applications (Taylor and Francis, 2006), and over 300 international journal and conference papers, and co-invented 3 patents. He has served/been serving as an Associate Editor for a number of flagship journals including IEEE Transactions on Automatic Control, IEEE Transactions on Control Systems Technology, IEEE Transactions on Neural Networks, and Automatica. He also serves as a book Editor of the Taylor & Francis Automation and Control Engineering Series.

# Anders Lindquist



Anders Lindquist received his PhD degree from the Royal Institute of Technology, Stockholm, Sweden, where in 1972 he was appointed a Docent of Optimization and Systems Theory. From 1972 to 1974 he held visiting positions at the University of Florida, Brown University, and the State University of New York at Albany. In 1974 he became an Associate Professor, and in 1980 a (full) Professor of Mathematics at the University of Kentucky, where he remained until 1983. He is now a Professor at the Royal Institute of Technology, where in 1982 he was appointed to the Chair of Optimization and Systems Theory. Since then he has also held visiting positions at the University of Padova and Consiglio Nazionale delle Ricerche, Italy, Arizona State University, International Institute of Applied Systems Analysis, Vienna, Russian Academy of Sciences, Moscow, East China Normal University, Shanghai, Technion, Haifa, University of California at Berkeley, and University of Kyoto, Japan. Between 1989 and 2009 he was an Affiliate Professor at Washington University, St Louis, and from 2000 until December 2009 the Head of the Mathematics Department at the Royal Institute of Technology.

Presently, Anders Lindquist is the Director of the Strategic Research Center for Industrial and Ap-

plied Mathematics (CIAM) at the Royal Institute of Technology. He was elected a Member of the Royal Swedish Academy of Engineering Sciences in 1996 and a Foreign Member of the Russian Academy of Natural Sciences in 1997. He is also a Life Fellow of IEEE (Institute of Electrical and Electronics Engineers), a Fellow of SIAM (Society for Industrial and Applied Mathematics) and an Honorary Member of the Hungarian Operations Research Society. He was awarded the 2009 W.T. and Idalia Reid Prize in Mathematics from SIAM, the 2003 George S. Axelby Outstanding Paper Award of the IEEE Control Systems Society (CSS), and a SIGEST award from SIAM in 2001. He is a frequently invited plenary speaker at international conferences; in particular, he will be a plenary speaker at he 18th IFAC World Congress in Milano, Italy, in 2011.

Lindquist is presently on the editorial boards of SIAM Review and Acta Automatica Sinica. He has served on many other editorial boards of journals, among them the Journal of Mathematical Systems, Estimation, and Control (Communicating Editor), Systems and Control Letters, and Adaptive Control and Signal Processing, as well as book series, namely Systems and Control: Foundations and Applications, Applied and Computational Control, Signals, and Circuits, and Progress in Systems and Control. For the first half of 2003, he served as the scientific leader at Institut Mittag-Leffler.



# FORTHCOMING EVENTS

# 2010 No. 6 December

Title	2011	Place	Further Information
Intl. Conference on Computer Aided Systems Theory - EUROCAST 2011	February 06 – 11	Las Palmas de G.C Spain	http://www.iuctc.ulpgc.es/spain/eurocast2011/ e-mail: eurocast@iuctc.ulpgc.es
American Control Conference - in co-operation with IFAC -	June 29 – July 01	San Francisco CA, USA	http://a2c2.org/conferences/acc2011/
IFAC WORLD CONGRESS – 18th Milano 2011	August 28 – Sept. 02	Milan Italy	http://www.ifac2011.org/ e-mail: info@ifac2011.org
SAE/IFAC Intl. Symposium Future Active Safety Technology towards zero-traffic-accident - FAST-zero'11	September 05 – 08	Tokyo Japan	http://www.fast-zero11.info/ e-mail: fast-zero11@ics-inc.co.jp
Title	2012	Place	Further Information
IFAC Conference Advances in PID Control	March 28 – 30	Brescia Italy	http://pid12.ing.unibs.it (not yet operative) e-mail: to be announced
IFAC Symposium Information Control Problems in Manufacturing – INCOM 2012	May 23 – 25	Bucharest Romania	http://incom12.org (not yet operative)
IFAC Workshop Automatic Control in Offshore Oil and Gas Production	May 31 – June 1	Trondheim Norway	http://www.ifac-oilfield.no/ e-mail: to be announced
IFAC Conference Analysis and Design of Hybrid Systems - ADHS 2012	June 06 – 08	Eindhoven Netherlands	http:// to be announced e-mail: to be announced
IFAC Workshop Dynamics and Control in Agriculture and Food Processing - DYCAF	June 13 – 16	Plovdiv Bulgaria	http:// to be announced e-mail: to be announced
IFAC Symposium Advanced Control of Chemical Processes - ADCHEM-2012	July 10 – 13	Singapore Singapore	http://www.adchem2012.org/ e-mail: ivan@adchem2012.org
IFAC Symposium System Identification – SYSID 2012	July 11 – 13	Brussels Belgium	http://www.sysid2012.org/ e-mail: secretariat@sysid2012.org
IFAC Symposium Robot Control – SYROCO 2012	September 05 – 09	Dubrovnik Croatia	http:// to be announced e-mail: to be announced
IFAC Symposium Control in Transportation Systems - CTS'12	September 12 – 14	Sofia Bulgaria	http:// to be announced e-mail: to be announced
Title	2013	Place	Further Information
IFAC Symposium Advances in Control Education	August 28 – 30	Sheffield UK	http:// to be announced e-mail: to be announced
IFAC Symposium Nonlinear Control Systems - NOLCOS	September 04 – 06	Toulouse France	http:// to be announced e-mail: to be announced