

E-LETTER on Systems, Control, and Signal Processing
Issue 317
February 2015

Editor:

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Welcome to the February issue of the Eletter, available electronically [here](#).

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- 7.16 Faculty: Nanyang Technological University (NTU), Singapore
- 7.17 Program Manager: U.S. Army Research Office Research Triangle Park, N.C., USA
- 7.18 Senior Engineer: GE Global Research, Niskayuna, NY, USA

1. IEEE CSS Headlines

1.1. IEEE CSS Video Clip Contest 2015

Contributed by: Frank Allgöwer, allgower@ist.uni-stuttgart.de

Because of the success of the first CSS Video Clip Contest in 2014, the Control systems Society decided to sponsor a second CSS Video Clip Contest for the year 2015 with submission deadline July 1, 2015.

All details are announced at the CSS Video Clip Contest Website at <http://www.ieeecss.org/video-contest>
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1.2. IEEE Control Systems Society Publications Content Digest

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

CSS Publications Content Digest

The IEEE Control Systems Society Publications Content Digest is a novel and convenient guide that helps readers keep track of the latest published articles.

The CSS Publications Content Digest, available at <http://ieeecss.org/publications-content-digest> provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society. Each issue offers readers a rapid means to survey and access the latest peer-reviewed papers of the IEEE Control Systems Society.

The index in the Digest contains the Table of Contents for our 3 journals (Transactions on Automatic Control (TAC), Transactions on Control Systems Technology (TCST), and Control Systems Magazine (CSM)) with hyperlinks to the abstracts as well as the full articles in Xplore. Since TCST and CSM are published bimonthly, and TAC is published monthly, we will post the corresponding two TOCs in each (monthly) Digest. We also include links to the Society's sponsored Conferences to give readers a preview of upcoming meetings.

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1.3. IEEE Transactions on Control of Network Systems

Contributed by: Denise Joseph, dejoseph@bu.edu

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Volume 1 (2014), Issue 4 (December)

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- Quantized Subgradient Algorithm and Data-Rate Analysis for Distributed Optimization, P. Yi and Y. Hong, p380

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1.4. IEEE Transactions on Automatic Control

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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Volume 60 (2015), Issue 2 (February)

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2. Misc

2.1. Nordic Process Control Award

Contributed by: Sigurd Skogestad, skoge@ntnu.no

Rudolf Kalman receives the Nordic Process Control Award.

The Nordic Process Control Award is awarded for lasting and significant contributions to the field of process control. The 14th recipient of this award is Professor Rudolf Kalman who received the award for his seminal contributions to all aspects of control systems theory.

The award winner was announced on January 15, 2015 during the 19th Nordic Process Control Workshop held at the ship between Trondheim and Bodo in Norway. Unfortunately, Professor Kalman could not be present in person, but a very nice video interview with the award winner was shown.

The interview is available on youtube: <http://www.nt.ntnu.no/users/skoge/npc/npcw-2015/>

Previous winners of the Nordic Process Control Award:

1995: Howard H. Rosenbrock

1997: Karl Johan Åström

1998: F. Greg Shinskey

2000: Jens G. Balchen

2001: Charles R. Cutler

2003: Roger W. Sargent

2004: Ernst Dieter Gilles

2006: Manfred Morari

2007: Jacques Richalet

2009: John MacGregor

2010: Graham C. Goodwin

2012: Lorenz T. Biegler

2013: James B. Rawlings

For more information on the Nordic Process Control Working group see here: <http://www.nt.ntnu.no/users/skoge/npc/>

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2.2. Wind Turbine Control and Monitoring

Contributed by: Ningsu Luo, ningsu.luo@udg.edu

New Book

Wind Turbine Control and Monitoring

Ningsu Luo, Yolanda Vidal and Leonardo Acho (eds.)

Springer, 2014, X, 466 p. 310 illus., 198 illus. in color.

<http://www.springer.com/energy/renewable+and+green+energy/book/978-3-319-08412-1>

The development of environmentally compatible energy technologies has been accelerated in response to the growing concern of the impacts from climate change. Wind energy is rapidly emerging as a low carbon, resource efficient, cost-effective sustainable technology in the world. Due to the demand of higher power production installations with less environmental impacts, the continuous increase of the size of wind turbines and the recently developed offshore (floating) technologies have led to new challenges in the wind turbine systems.

Wind turbines are complex systems with large flexible structures that work under very turbulent and unpredictable environmental conditions for a variable electrical grid. The maximization of wind energy conversion

systems, load reduction strategies, mechanical fatigue minimization problems, costs per kWh reduction strategies, reliability matters, stability problems, and availability (sustainability) aspects demand the use of advanced (multivariable and multi-objective) cooperative control systems to regulate variables such as pitch, torque, power, rotor speed, power factors of every wind turbine, etc. Meanwhile, the purpose of wind turbine monitoring and fault diagnosis systems is to detect and locate degradations and failures in the operation of wind turbine components as early as possible, so that maintenance operations can be performed in due time (e.g. during time periods with low wind speed). Therefore, the number of costly corrective maintenance actions can be reduced and consequently the loss of wind power production due to maintenance operations is minimized.

This book is primarily intended for researchers in the field of wind turbines, control, mechatronics and energy; postgraduates in the field of mechanical and electrical engineering; and graduate and senior undergraduate students in engineering wishing to expand their knowledge of wind energy systems. The book will also interest practicing engineers dealing with wind technology who will benefit from the comprehensive coverage of the theoretic control topics, the simplicity of the models and the use of commonly available control algorithms and monitoring techniques.

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3. Journals

3.1. Contents: Control Theory and Technology

Contributed by: Zou Tiefeng, tfzou@scut.edu.cn

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Control Theory and Technology (The original title: Journal of Control Theory and Applications)

Vol. 12, No. 4, November 2014

ISSN: 2095-6983 CODEN: CTTOAM

<http://www.springer.com/engineering/control/journal/11768>

- Electrocardiogram (ECG) pattern modeling and recognition via deterministic learning. X. Dong, C. Wang, J. Hu, S. Ou, p.333
- On linear observers and application to fault detection in synchronous generators. J. E. Stellet, T. Rogg, p.345
- Robust sliding mode control of general time-varying delay stochastic systems with structural uncertainties. S. Wang, L. Bai, M. Chen, p.357
- Adaptive backstepping force/motion control for mobile manipulator robot based on fuzzy CMAC neural networks. T. L. Mai, Y. Wang, p.368
- Robust state estimation for uncertain linear systems with deterministic input signals. H. Liu, T. Zhou, p.383
- A novel trajectory planning strategy for aircraft emergency landing using Gauss pseudospectral method. S. Meng, J. Xiang, Z. Luo, Y. Ren, N. Zhuang, p.393
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3.2. Contents: Control Engineering Practice

Contributed by: Tobias Glück cep@acin.tuwien.ac.at

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3.3. Contents: Asian Journal of Control

Contributed by: Fu Li-Chen, lichen@ntu.edu.tw

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Asian Journal of Control

Vol.17, No.1 January, 2015

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- Cooperative Global Adaptive Output Regulation for Nonlinear Uncertain Multi-Agent Systems with IISS Inverse Dynamics. Youfeng Su and Jie Huang
- Hierarchical Hybrid Symbolic Robot Motion Planning and Control. Ali Karimoddini and Hai Lin
- Distributed Multi-Robot Evacuation Incorporating Human Behavior. Shubo Zhang and Yi Guo

- Kalman Filtering Over Lossy Networks Under Switching Sensors. Keyou You, Tianju Sui and Minyue Fu
- Two Schemes of Data Dropout Compensation for LQG Control of Networked Control Systems. Jinfeng Gao, Han Wu and Minyue Fu
- Stochastic Observability of Linear Systems under Access Constraints. Hui Zhang, Yin Tian and Lixin Gao
- Quadratic Optimal Fault Tolerant Control on Wireless Networked Control Systems for Real-Time Industrial Applications. Dongmei Xu, Steven X. Ding, Ying Wang and Bo Shen
- Fuzzy Decentralized Control for a Class of Networked Systems with Time Delay and Missing Measurements. Feng Zhou, Lu Liu and Gang Feng

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- Multi-Consensus of Nonlinearly Networked Multi-Agent Systems. Juan Li, Zhi-Hong Guan and Guanrong Chen
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- Finite-Horizon ϵ -Optimal Tracking Control of Discrete-Time Linear Systems Using Iterative Approximate Dynamic Programming. Fuxiao Tan, Bin Luo and Xinping Guan
- Design of a Maximally Permissive Liveness-enforcing Supervisor with Reduced Complexity for Automated Manufacturing Systems. ShouGuang Wang, MengChu Zhou and WenHui Wu
- On Prediction and Control of Discrete-Time First-Order Linear Stochastic Systems with Prospective Strong Intervention. Rudong Gai
- FDI Design for Uncertain Nonlinear Systems with Both Actuator and Sensor Faults. Junqi Yang and Fanglai Zhu
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- Design and Analysis of Distributed Optimal Controller for Identical Multiagent Systems. Fangfang Zhang, Wei Wang and Huanshui Zhang

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- Design of H_∞ Static Output Feedback Control for Discrete-Time Systems with Limited Actuator. Yeng-Fang Li

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- The Dynamic Feedback Matrix Control for Multidimensional Chaotic Systems. Fangfang Zhang and Shutang Liu
- Bounded Connectivity-Preserving Leader-Follower Flocking Algorithms Without Acceleration Measurements. Yutian Mao, Lihua Dou, Hao Fang and Jie Chen
- On-line Parameter Estimation via Algebraic Method: An Experimental Illustration. R. Delpoux and T. Floquet
- Elementary-Siphon-Based Control Policy for Flexible Manufacturing Systems with Partial Observability and Controllability of Transitions. Meng Qin, ZhiWu Li and Abdulrahman M. Al-Ahmari
- Improved Stability Criteria for Linear Neutral Time-Delay Systems. Hongwei Xia, Pingping Zhao, Li Li, Yanmin Wang and Aiguo Wu
- Distributed Robust H_∞ Consensus for Multi-Agent Systems with Nonlinear Dynamics and Parameter Uncertainties. Yinqiu Wang and Qinghe Wu
- Fault Detection for Networked Systems with Partly Known Distribution Transmission Delays. Yanqian Wang, Shuyu Zhang, Junwei Lu and Fu Chen

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3.4. Contents: International Journal of Control, Automation, and Systems

Contributed by: Young-Hoon Joo, Editor-in-Chief, journal@ijcas.com

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International Journal of Control, Automation, and Systems (IJCAS)

Vol. 13, No. 1, February 2015

ISSN: 1598-6446

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3.5. Contents: Unmanned Systems

Contributed by: Ben M. Chen, bmchen@nus.edu.sg

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- Cooperative Multi-Vehicle Search and Coverage Problem in an Uncertain Environment, 35-47, F. Sharifi, M. Mirzaei, Y. Zhang and B. W. Gordon
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Unmanned Systems SG-UAV Outstanding Paper Award: The award is to recognize outstanding papers published in the Unmanned Systems. Sponsored by Singapore UAV (SG-UAV) Private Limited, the award consists of a cash prize up to US\$3,000 in total each year starting from 2015. The winners will be announced each year by December 1. Authors of papers published in Unmanned Systems during the two calendar years preceding the year of the award are eligible for the award. More information can be found at the journal website: <http://www.worldscientific.com/us/>.

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3.6. CFP: Mathematical Problems in Engineering

Contributed by: Dr Xinggang Yan, x.yan@kent.ac.uk

Call for papers for the Journal: Mathematical Problems in Engineering (latest impact factor: 1.082)

Special Issue on: "Advanced Control of Complex Dynamical Systems with Applications"

Topics of the special issue include, but are not limited to:

- Decentralized control
- Variable structure control
- Singular systems control
- Time delay systems
- Fuzzy control and impulsive control
- Robust observer design and parameters identification
- Fault detection and fault tolerant control
- Analysis and control of stochastic systems
- Applications of advanced control systems

Important Dates:

Submission deadline: July 31, 2015.

First round of reviews: October 23, 2015.

Publication date: December 18, 2015.

Lead Guest Editor: Xinggang Yan

Guest Editors: Sarah Spurgeon, Qingling Zhang and Leonid Fridman

The detailed information is available from the following website: <http://www.hindawi.com/journals/mpe/si/401821/cfp/>

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4. Conferences

4.1. International Conference on Unmanned Aircraft Systems

Contributed by: Youmin Zhang, Youmin.Zhang@concordia.ca

Last Call-for-Papers: 2015 International Conference on Unmanned Aircraft Systems (<http://www.uasconferences.com>)

On behalf of the ICUAS'15 Organizing Committee, this is to invite you to submit your contributions to the 2015 International Conference on Unmanned Aircraft Systems, ICUAS'15, <http://www.uasconferences.com>, to be held in Denver CO, USA, on June 9-12, 2015. The conference is co-sponsored by the IEEE CSS and RAS, and several other organizations.

Denver is a metropolitan city with major attractions, and Colorado is the second in Aerospace Industry companies in the U.S. June 9 will be a Workshop/Tutorial day, followed by a three-day technical Conference. Judging from the interest ICUAS has drawn over the past seven years and its growth, ICUAS'15 is expected to continue on this path and attract the highest number of participants from academia, industry, federal/state agencies, government, the private sector, users, practitioners and engineers who wish to be affiliated with and contribute technically to this highly demanding and rapidly evolving and expanding field. Details may be found at <http://www.uasconferences.com> and related links. ICUAS'15 will be fully sponsored by the ICUAS Association, a non-profit organization; Information about the organization may be found at www.icuas.com. The theme of ICUAS'15 will focus on the very challenging and timely topic of 'integrating UAS into the national airspace'.

ICUAS'15 aims at bringing together different groups of qualified military and civilian representatives world-wide, organization representatives, funding agencies, industry and academia, to discuss the current state of UAS advances, and the roadmap to their full utilization in civilian and public domains. Special emphasis will be given to current and future research opportunities, and to 'what comes next' in terms of the essential technologies that need to be utilized to advance further UAS.

Through Keynote/Plenary addresses, invited and solicited presentations, and round table discussions, it is expected that the outcome of the Conference will be a better understanding of what industry, the military and civilian national and international authorities need, and what are the crucial next steps that need to be completed before UAS are widely accepted even in everyday life applications.

Important dates:

February 6, 2015: Full Papers/Tutorial Proposals Due

April 24, 2015: Acceptance/Rejection Notification

May 11, 2015: Upload Final, Camera Ready Papers

April 24 - May 11, 2015: Early Registration

June 9-12, 2015: Conference Period

Paper submission:

Papers must be submitted electronically through controls.papercept.net. Go to <http://controls.papercept.net/>. Click on the link "Submit a Contribution to ICUAS'15" and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 12 point fonts, Times New Roman. The maximum number of pages per paper is 10. Illustrations and references are included in the page count. Submitted

papers will undergo a peer review process coordinated by the Program Chairs, the ICUAS Advisory Committee Members, the IPC and qualified reviewers. Authors will be notified of acceptance at the latest by April 24, 2015. Accepted papers must be uploaded electronically no later than May 11, 2015. Authors are encouraged to accompany their presentations with multimedia material (i.e., videos), which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.

General chairs:

Fulvia Quagliotti, Politecnico di Torino, fulvia.quagliotti@polito.it

Youmin Zhang, Concordia University, yumin.zhang@concordia.ca

Kimon Valavanis, University of Denver, kimon.valavanis@du.edu

Program chairs:

Didier Theilliol, Univ. of Lorraine, Didier.Theilliol@univ-lorraine.fr

Roberto Sabatini, RMIT Univ. AU, roberto.sabatini@rmit.edu.au

Srikanth Saripalli, Arizona State U., Srikanth.Saripalli@asu.edu

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4.2. Mediterranean Conference on Control and Automation

Contributed by: Joseba Quevedo, joseba.quevedo@upc.edu

Last Announcement/Call for Papers - Paper Submission is open

The 23th Mediterranean Conference on Control and Automation (MED'2015)

June 16-19, 2015, Torremolinos (Málaga), Spain

<http://www.med2015.uma.es/>

Introduction:

The organizing committee of MED'2015 extends a cordial invitation to you to the 23th Mediterranean Conference on Control and Automation which will be held on the beautiful city of Torremolinos in Malaga, Spain.

General Information:

The Mediterranean Conference on Control and Automation is a series of meetings that has been running since 1993, coordinated and supervised by the Mediterranean Control Association, with MED'2015 being the 23th conference of the series. The conference, through its technical program, will provide a unique opportunity for the academic and industrial community to address new challenges, share solutions and discuss future research directions. A broad range of topics is proposed, following current trends of combining control/systems theory with software/ communication technologies. For up-to-date information on MED'2015, please visit the Conference site: <http://www.med2015.uma.es/>;

General Chair: Joseba Quevedo/Victor Fernando Muñoz

Program Chair: Sebastián Dormido/Didier Maquin

Tutorial/Workshop Chair: Alfonso García Cerezo/Argyrios Zolotas

Invited Session Chair: Alfonso García Cerezo/Abdel Aitouche

Topics of interest include, but are not limited to:

Adaptive control; Aerospace control; Agents & agent-based systems; Biologically inspired systems, control; Bond Graph; Computational intelligence; Computer controlled systems; Computing & communications; Decentralized control; Discrete event systems; Distributed systems; Education & training; Embedded control systems; Fault diagnosis; Fault tolerant Control; Fuzzy systems; Genetic & evolutionary computation; Hybrid systems; Image processing; Industrial automation, manufacturing; Intelligent control systems; Intelligent

transportation systems; Linear systems; Micro and nano systems; Modeling & simulation; Neural networks; Networked control; systems; Non-linear systems; Optimization; Petri nets; Power systems; Predictive control; Process control; Real-time control; Renewable energy and sustainability; Robotics; Robust control; Spectral estimation; Swarms Robotics; Unmanned Systems; Virtual reality; Wireless sensor networks; Human-robot collaboration

Paper Submission - New open:

Prospective participants are invited to electronically submit the full version of their work by the indicated deadlines, following the guidelines available on the Conference web site <http://www.med2015.uma.es> and following in the “submission” menu the link to Papercept site:

(<http://controls.papercept.net/conferences/scripts/start.pl>).

Submitted papers will undergo a peer review process, coordinated by the International Program Committee, and accepted papers will be published in a proceedings volume that will be available at the time of the conference.

Important dates:

Invited session proposals, due February 16, 2015

Contributed papers, Invited session papers, Workshop/Tutorial proposals, due February 16, 2015

Notification of acceptance/rejection April 17, 2015

Final papers, due May 4, 2015

Sponsors: Mediterranean Control Association (MCA), Comité Español de Automática (CEA), University of Málaga (UMA)

Technical co-sponsors: IEEE CSS, IEEE RAS

Accepted and presented papers will be published in the respective conference proceedings, and included in the IEEE Xplore® online digital library, Web Science database and EI Compendex database.

For more information about the Conference, please contact the Conference secretariat: med2015@uma.es

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4.3. SIAM Conference on Applied Linear Algebra

Contributed by: Nicole Erle, erle@siam.org

Conference Name: SIAM Conference on Applied Linear Algebra

Location: Hyatt Regency Atlanta, Atlanta, Georgia, USA

Dates: October 26-30, 2015

The Call for Papers for this conference is now available. Please visit <http://www.siam.org/meetings/la15/> for more information.

Invited plenary speakers

Haim Avron, IBM T.J. Watson Research Center, USA

Raymond Chan, Chinese University of Hong Kong, Hong Kong

Geir Dahl, University of Oslo, Norway[*]

Zlatko Drmac, University of Zagreb, Croatia

Howard Elman, University of Maryland, USA

Maryam Fazel, University of Washington, USA

Melina Freitag, University of Bath, United Kingdom

Xiaoye Sherry Li, Lawrence Berkeley National Laboratory, USA

Volker Mehrmann, TU Berlin, Germany

Michael Overton, New York University, USA[*]

Haesun Park, Georgia Institute of Technology, USA
Eugene Tyrtyshnikov, Russian Academy of Sciences, Russia

[*] These speakers are supported in cooperation with the International Linear Algebra Society

Submission deadlines

March 30, 2015: Minisymposium proposals

April 27, 2015: Abstracts for contributed and minisymposium speakers

April 27, 2015: Contributed poster presentation abstracts

Travel fund application deadline

April 17, 2015: SIAM Student Travel Award and Post-doc/Early Career Travel Award Applications

Twitter hashtag: #SIAMLA15

Contact SIAM Conference Department at meetings@siam.org with any questions about the conference.

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4.4. IFAC Conference on Analysis and Design of Hybrid Systems

Contributed by: Magnus Egerstedt, magnus@gatech.edu

5th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS)

Atlanta, GA, USA, October 14-16 2015

<http://adhs15.gatech.edu>

Important Dates:

Papers Due: April 15, 2015

Author Notification: July 1, 2015

Final Papers Due: September 1, 2015

Conference: October 14-16, 2015

The IFAC Conference on Analysis and Design of Hybrid Systems brings together researchers and practitioners in the area of hybrid systems, with backgrounds in control, computer science, and operations research, to provide a forum for discussing and presenting recent results in the fields of hybrid and cyber-physical systems. Submissions are invited in all areas pertaining to the design, analysis, control, optimization, implementation, and applications of hybrid dynamical systems. Topics of interest include, but are not limited to: modeling, specification, analysis, verification, controller synthesis, simulation, and implementation. Contributions on applications of hybrid methods in various fields, such as networked control systems, large-scale process industries, transportation systems, energy distribution networks, communication networks, safety systems, etc, are particularly encouraged.

General Chairs:

Magnus Egerstedt and Yorai Wardi

Program Chairs:

Bengt Lennartson and Paulo Tabuada

Plenary Speakers:

Jessy Grizzle, Pramod Khargonekar, and Christoforos Hadjicostis

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4.5. IFAC Symposium on System identification

Contributed by: Wenxiao Zhao, wxzhao@amss.ac.cn

The deadline for the 17th IFAC Symposium on System identification, SYSID 2015, to be held in Beijing, China, between October 19-21, 2015, is approaching.

You are welcome to contribute papers, organize invited sessions, and/or distribute the call-for-papers among your friends, colleagues, students and scientists who you think may be interested in.

Important dates:

Deadline for submission of draft papers: February 15, 2015

Author notification: May 31, 2015

Deadline for final submissions: July 15, 2015

SYSID2015 website: <http://www.sysid2015.info/>

SYSID2015 Submission website: <http://ifac.papercept.net/conferences/scripts/start.pl>

Should you have any question, please feel free to contact us via secretariat@sysid2015.info

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4.6. IEEE International Conference on Emerging Technologies & Factory Automation

Contributed by: Holger Voos, holger.voos@uni.lu

Call for regular, special sessions, & work in progress paper

20th IEEE International Conference on Emerging Technologies & Factory Automation ETFA'2015

8-11. September 2015

Alvisse Parc Hotel, Luxembourg City, Luxembourg

<http://www.etfa2015.org>

The aim of the ETFA 2015 conference is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of technology, as well as actual and potential applications to industrial and factory automation.

Main Submission Areas:

- T1. Information Technology in Automation
- T2. Industrial Communication Systems
- T3. Real-Time and (Networked) Embedded Systems [RTNES]
- T4. Automated Manufacturing Systems
- T5. Industrial Control
- T6. Computer Vision, Computational Intelligence, and Modern Heuristics in Automation
- T7. Intelligent Robots & Systems
- T8. Intelligent Sensors, Sensor Networks, and Information Processing
- T9. Information and Communication Technology in Energy Systems

For details of the submission areas topics see: <http://www.etfa2015.org/index.php?page=tracks-topics>

Solicited papers:

Research papers reporting on new developments in technological sciences. Industry and development papers reporting on actual developments of technology, products, systems and solutions. Tutorial and survey papers. Work-in-progress papers. In addition, ETFA 2015 solicits special session proposals to stimulate in-depth discussions in special areas relevant to the conference theme.

Submission types:

Two types of submissions are solicited: Long Papers (regular and special sessions) - 8 double-column pages.

Work-in-Progress Papers - limited to 4 double-column pages. For further details, please consult the conference web pages. Accepted and presented papers will be published in the respective conference proceedings, and included in the IEEE Xplore® online digital library.

Important dates:

Deadline for the proposal of Special Sessions: February 15, 2015

Deadline for submission of regular and special sessions papers: March 15, 2015

Deadline for submission of work-in-progress papers: May 20, 2015

Organizers:

General Co-Chairs

Holger Voos, University of Luxembourg, Luxembourg

Richard Zurawski, ISA Group, USA

Program Committee Co-Chairs

Alexander Fay, Helmut-Schmidt University, Germany

Nicolas Navet, University of Luxembourg, Luxembourg

Work-in-Progress Co-Chairs

Peter Plapper, Univ. of Luxembourg

Carla Seatzu, Univ. of Cagliari, Italy

Special Sessions Co.Chairs

Alberto Ortiz, Univ. of Balearic Islands, Spain

Michael Short, Univ. of Teesside, UK

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4.7. International Conference on Control, Automation and Systems

Contributed by: Jae Weon Choi, conference@icross.org

2015 15th International Conference on Control, Automation and Systems (ICCAS 2015)

October 13(TUE)-16(FRI), 2015

Bexco, Busan, Korea

Website: <http://2015.iccas.org>

conference@icross.org

ICCAS 2015 will be held at Bexco, Busan Korea on October 13-16, 2015.

The aim of the ICCAS is to bring together researchers and engineers worldwide to present their latest works, and disseminate the state-of-the-art technologies related to control, automation, robotics, and systems.

It is our pleasure to announce that a number of high-profile plenary speakers have confirmed their participation and will give their lectures at the conference:

- Karl Johansson, KTH Royal Institute of Technology, Sweden
- Pheng Shi, University of Adelaide, Australia
- Jay Farrell, University of California, Riverside, USA
- Yoshihiko Nakamura, University of Tokyo, Japan
- Sangbae Kim, Massachusetts Institute of Technology, USA
- David Boas, Harvard Medical School, USA
- Taek Lyul Song, Hanyang University, Korea

Important Dates:

April 10, 2015: Submission of organized session proposals

April 17, 2015: Submission of full papers

June 19, 2015: Notification of paper acceptance

July 17, 2015: Submission of final camera-ready papers

Organizing Chair: Myo Taeg Lim (Korea Univ., Korea)

Program Chair: Jae Weon Choi (Pusan Natl. Univ., Korea)

Busan, the venue, is famed as Northeast Asia's perfect mix of natural beauty and modern infrastructure. With 3.6 million residents, Busan is Korea's second largest city, and the world's 5th busiest port, making it the center of Korean global trade.

The charm of Busan goes beyond beautiful beaches, a stunning skyline, incredible food, natural scenery, world-class infrastructure, and endless shopping. Feel the Ocean Beat!

Thank you for your contributions and we look forward to seeing you at ICCAS 2015 during October 13-16, 2015.

ICCAS 2015 CFP: <http://icross.org/data/download/ICCAS2015/ICCAS2015.CFP.pdf>

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4.8. International Conference on System Theory, Control and Computing

Contributed by: Sergiu Caraman, Sergiu.Caraman@ugal.ro

19th International Conference on System Theory, Control and Computing - ICSTCC 2015

October 14-16, 2015, Cheile Gradistei - Fundata Resort, Romania

Website: <http://www.aie.ugal.ro/icstcc2015>

ICSTCC 2015 aims at bringing together under a unique forum, scientists from Academia and Industry, to discuss the state of the art and the new trends in System Theory, Control and Computer Engineering, promoting professional interactions and fellowship.

ICSTCC 2015 is technically co-sponsored by IEEE Control Systems Society.

The Proceedings will be published in IEEE Xplore Digital Library and will be submitted for indexing in Thomson Reuters Conference Proceedings Citation Index (formerly ISI Proceedings).

Important dates:

- May 1, 2015: Invited Session proposal submission
- May 10, 2015: Initial paper submission
- July 1, 2015: Notification of acceptance
- August 1, 2015: Final submission and registration payment

Confirmed keynote speakers:

Ioan Dumitrache (Romania)

Visakan Kadiramanathan (UK)

Markos Papageorgiou (Greece)

Olivier Sename (France)

Alain Vande Wouwer (Belgium)

The main areas of interest are: Automation and Robotics; Computer Science and Engineering; Electronics and Instrumentation

All papers should be submitted via the online submission system at <http://controls.papercept.net/conferences/scripts/start.pl#STCC15>

For further information please contact the organizing committee at: icstcc2015@ugal.ro

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4.9. Asia-Pacific Conference on Computer Aided System Engineering

Contributed by: Alberto Sanchez, aesanchez@ieee.org

2015 Asia-Pacific Conference on Computer Aided System Engineering (APCASE 2015)

July 14-16, 2015

Quito, Ecuador

<http://conference.apcase.org>

Important dates:

Full Paper Submission: 15 March 2015

Acceptance Notification: 30 April 2015

Regular Registration: 15 June 2015

Conference Dates: 14-16 July 2015

Conference Scope:

The aim of the APCASE conference is to provide a highly prestigious venue for academics, system engineering and applied science researchers as well as practitioners. The conference covers both theoretical and practical issues of modern computer aided system and network engineering, as well as topics related to intelligent ubiquitous computation, modern system design methods, software intensive and simulation systems, informatics, cloud computing, security system, case studies of system engineering set in the industrial application context. Topics of interest include, but are not limited to:

- System theory and applications
- Communications and networks
- Biomedical and health systems
- Ubiquitous and ambient computing
- Mechatronic and robotic systems
- Software intensive systems
- Engineering smart systems
- Power systems computing and software

Papers accepted for presentation will be submitted to IEEE Xplore. Selected papers will be included in a special issue of the IEEE Latin America Transactions or International Journal of Electronics and Telecommunications JET.

Submission Guidelines:

Submitted papers should present original research that is unpublished and not submitted elsewhere. Regular papers should have no more than 6 pages and should strictly comply with IEEE Xplore guides for publication. IEEE templates and author instructions will be available at the website.

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5. Workshops

5.1. Sequential Monte Carlo Workshop

Contributed by: Thomas Schön, thomas.schon@it.uu.se

SMC 2015 workshop announcement

Sequential Monte Carlo methods (also known as particle filters) have revolutionized the on-line and off-line analysis of data in fields as diverse as target tracking, computer vision, financial modelling, brain imagery, or population ecology. Their popularity stems from the fact that they have made possible to solve numerically many complex problems that were previously intractable.

The aim of the SMC 2015 workshop, in the spirit of SMC2006 and SMC2012, is to gather scientists from all areas of science interested in the theory, methodology or application of Sequential Monte Carlo methods. SMC 2015 will take place at ENSAE, Paris, on August 26-28 2015.

For more information and registration, see: <http://smc2015.sciencesconf.org/>

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5.2. International Workshop on Numerical Software Verification

Contributed by: Sergiy Bogomolov, bogom@informatik.uni-freiburg.de

Call for papers (deadline extension)

NSV 2015

8th International Workshop on Numerical Software Verification

April 13, 2015

Cyber-Physical Week 2015

Seattle, WA, USA

Web Page: <http://nsv2015.informatik.uni-freiburg.de/>

Important Dates:

Extended Submissions deadline: February 6, 2015

Notification: Feb 27, 2015

Final version: March 8, 2015

Workshop: April 13, 2015

Description of the Workshop:

Numerical computations are ubiquitous in digital systems: supervision, prediction, simulation and signal processing rely heavily on numerical calculus to achieve desired goals. Design and verification of numerical algorithms has a unique set of challenges, which set it apart from rest of software verification. To achieve the verification and validation of global properties, numerical techniques need to precisely represent local behaviors of each component. The implementation of numerical techniques on modern hardware adds another layer of approximation because of the use of finite representations of infinite precision numbers that usually lack basic arithmetic properties such as commutativity and associativity. Finally, the development and analysis of cyber-physical systems (CPS) which involve the interacting continuous and discrete components pose a further challenge. It is hence imperative to develop logical and mathematical techniques for the reasoning about programmability and reliability.

The NSV workshop is dedicated to the development of such techniques.

Topics:

The scope of the workshop includes, but is not restricted to, the following topics:

- Quantitative and qualitative analysis of hybrid systems
- Models and abstraction techniques
- Optimal control of dynamical systems

- Parameter identification for hybrid systems
- Numerical optimization methods
- Hybrid systems verification
- Applications of hybrid systems to systems biology
- Propagation of uncertainties, deterministic and probabilistic models
- Specifications of correctness for numerical programs
- Formal specification and verification of numerical programs
- Quality of finite precision implementations
- Numerical properties of control software
- Validation for space, avionics, automotive and real-time applications
- Validation for scientific computing programs

Submission information:

We solicit regular and short papers. Paper submission must be performed via the EasyChair system:

<http://easychair.org/conferences/?conf=nsv2015>

Regular papers must describe original work, be written and presented in English, and must not substantially overlap with papers that have been published or that are simultaneously submitted to a journal or a conference with refereed proceedings. Submitted papers will be judged on the basis of significance, relevance, correctness, originality, and clarity. They should clearly identify what has been accomplished and why it is significant.

Regular paper submissions should not exceed 15 pages in ENTCS style, including bibliography and well-marked appendices: <http://www.entcs.org/prelim.html>

Program committee members are not required to read the appendices, and thus papers must be intelligible without them.

Short papers are also welcome, they should present tools, benchmarks, case-studies or be extended abstracts of ongoing research. Short papers should not exceed 6 pages. Furthermore, in order to foster the exchange of ideas, we encourage authors to also submit short papers describing ideas which have already been reported in other venues.

All accepted papers (except short papers based on ideas published elsewhere) will be published electronically by Elsevier in the Electronic Notes in Theoretical Computer Science series (ENTCS).

Chairs:

Sergiy Bogomolov (IST Austria)

Matthieu Martel (Université de Perpignan, France)

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5.3. International Workshop on Multidimensional (nD) Systems

Contributed by: Teresa Paula Azevedo Perdicoulis, tazevedo@utad.pt

It is our great pleasure to invite you to participate in the IEEE 9th International Workshop on Multidimensional (nD) Systems (IEEE nDS 2015) at the Universidade de Trás-os Montes e Alto Douro in Vila Real, Portugal from September 7 to September 9, 2015.

The workshop presents the current state of the art and recent advances in the theory and applications of multidimensional systems. It is also a forum for researchers from a wide variety of different scientific areas and application fields. The proceedings will be available at IEEE Xplore.

Keynote talks by:

Ettore Fornasini, Università di Padova (IT)

Rudolf Rabenstein, University of Erlangen-Nuremberg (DE)

JosÃ© A. Ramos, Nova Southeastern University (FL, USA)

Topics of interest:

- Blurred and noisy image processing
- Multidimensional signal reconstruction from partial or incomplete observations and projections
- Signal modelling
- Spectral analysis and transform techniques
- Array processing
- Linear and nonlinear control, prediction and filtering of multidimensional processes
- Robust analysis and control of uncertain multidimensional models
- Multidimensional spectrum estimation
- Multivariate approximation
- Multidimensional realization theory
- Multivariate polynomial and matrix factorization schemes
- Repetitive processes
- Iterative Learning Control (ILC) and other topics related to multidimensional systems theory and applications.

Important dates:

Submission of papers and special session proposals: March 30, 2015

Notification of acceptance or rejection: May 15, 2015

Important information at the conference web site: <http://nds2015.utad.pt>

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6. Graduate Schools

6.1. Spring School on Sliding-Mode Control Theory and Applications

Contributed by: Bernard Brogliato, bernard.brogliato@inria.fr

Spring School on Sliding-Mode Control Theory and Applications

Location: Aussois (French Alps)

Date: 8 to 12 June 2015

Website: <http://bipopsummerschool2015.inria.fr/>

Various aspects of sliding-mode control will be tackled : sliding-mode control of infinite-dimensional systems; sliding state observers; high-order sliding-mode controllers; adaptive gains; discrete-time implementation; sliding modes in genetic networks; and with deep analysis of several applications in robotics, electro-pneumatic systems, etc.

The school is intended for Students (Master, PhD, post-doc), and Researchers from universities and private companies. The required background is basics of Automatic Control. Registration is free for all participants (5 days full board).

Speakers: Y. Orlov, S. Spurgeon, A. Ferrara, X. Brun, F. Plestan, W. Perruquetti, H. de Jong, B.

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6.2. DISC Summer School on Control for Cyber-Physical Systems

Contributed by: Maurice Heemels, m.heemels@tue.nl

DISC Summer School on Control for Cyber-Physical Systems

Centerparcs park Zandvoort, Zandvoort (Amsterdam), The Netherlands

June 1-4, 2015

Invitation:

Maurice Heemels and Alberto Bemporad have the pleasure to invite you to participate in the DISC Summer School on “Control for Cyber-Physical Systems” which is scheduled to take place from June 1-4, 2015, at “Centerparcs park Zandvoort”, Zandvoort, The Netherlands.

Venue:

The school will be held in Centerparcs park Zandvoort, which is a beach resort right at the beach of the North Sea, see http://www.centerparcs.com/gb-en/netherlands/fp_ZV_holiday-park-park-zandvoort.

Zandvoort is a nice and vibrant beach town, very close to Amsterdam.

DISC:

DISC is the Dutch Institute of Systems and Control that gathers all researchers in systems and control in the Netherlands, see <http://www.disc.tudelft.nl>. DISC has organized PhD summer schools on various control and control-related topics for over 20 years. As such the DISC summer schools have a long and successful tradition that Maurice and Alberto are planning to continue this year as organisers. The organisers can build upon their experience in organising another very successful bi-annual school series over the last 10 years with a focus on hybrid, networked and large-scale systems educating over 450 PhD students worldwide.

Cyber-physical systems:

The design of next generation smart electricity grids, intelligent transportation, electron microscopy and high-end printing requires a tight coordination between computation, communication and control elements (the cyber part) on the one hand, and physical processes such as heating, cooling, motion, vibrations, etc. (the physical part) on the other hand. Despite the need for integrated design of these so-called cyber-physical systems (CPS), the corresponding scientific disciplines (control, computer science, etc.) have predominantly developed independently. Novel system architectures and systematic design methods are needed to realize the integrated design of the CPS of the future.

The program:

The program includes 4 days of lectures covering the main concepts, results and contributions in the area of Cyber-Physical Systems emphasising the prominent role played by control theory and technology in it. Topics will include control over communication networks, security of CPS, resource-aware control, wireless control, formal methods in control, hybrid systems, multi-agent systems, distributed and decentralized control, and important applications. For more details see <http://www.disc.tudelft.nl/education/summer-school-2015.html>

Lecturers:

These topics will be taught by leading researchers in the field and we have confirmation of the following lecturers:

- Prof. Ricardo Sanfelice (University of California at Santa Cruz, USA)
- Prof. Paulo Tabuada (University of California at Los Angeles, USA)
- Prof. Alberto Bemporad (IMT Institute for advanced studies, Lucca, Italy)
- Prof. Bart De Schutter (Delft University of Technology, NL)
- Prof. Kanat Camlibel (Groningen University, NL)

- Prof. Maurice Heemels (Eindhoven University of Technology, NL)

Other international and national speakers will be confirmed soon.

Registration:

The registration fee, which includes full board, accommodation, access to the lectures, coffee breaks, and school material is

- for non-DISC members 1000 Euro (before April 15 - early bird) and 1150 Euro (after April 15)
- for DISC students/members 800 Euro (before April 15 - early bird) and 950 Euro (after April 15)

You stay in a comfort cottage with two or three people. You have your own bedroom. Sheet package, towel package, kitchen package and swimming pool access are included.

For cottage details check the website http://www.centerparcs.com/gb-en/netherlands/fp_ZV_holiday-park-park-zandvoort .

The school is limited to 55 participants based on a first-come first-serve policy. The registration deadline is May 15, 2015.

You can register at the following website: <https://disc-forum.nl>. Non-DISC members can also send an email to: secr@disc.tudelft.nl for registration. (Please mention your full name and university including address). See for more details also <http://www.disc.tudelft.nl/education/summer-school-2015.html>

For further information, please contact the DISC administrative office Martha Otte (M.W.Otte@tudelft.nl) or the organizers Maurice Heemels (m.heemels@tue.nl) or Alberto Bemporad (alberto.bemporad@imtlucca.it)

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7. Positions

7.1. PhD: University of Technology, Sydney, Australia

Contributed by: Adrian N. Bishop, adrian.bishop@anu.edu.au

One PhD position is available in the area of statistical control theory, Monte Carlo methods (particle filtering) in control and estimation, and machine learning, in the Centre for Health Technologies at the University of Technology, Sydney.

This position covers full tuition and fees plus a stipend of up to \$35,000 AUD tax exempt. Requirements include a strong background in mathematics relevant to the above mentioned domains; a strong undergraduate degree in a relevant area or a Master's degree and experience in Matlab. The candidate should have excellent oral and written communication skills in English.

The candidate must begin prior to May 2015.

If you are interested, please send an email to Dr. Adrian N. Bishop at adrian.bishop@anu.edu.au and include:

1. Your curriculum vitae and your top publications (if any)
2. A paragraph that explains any relevant undergraduate and MS courses
3. Two contact referees (including name, e-mail, and phone number of the person) for letter of recommendation requests

Contact:

Dr. Adrian N. Bishop

University of Technology, Sydney; and, National ICT Australia, Australian Technology Park

E-mail: Adrian.Bishop@anu.edu.au

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7.2. PhD: University of Seville, Spain

Contributed by: Anibal Ollero, aollero@us.es

The GRVC at the University of Seville is offering two contracts for PhDs in the framework of the European Union H2020 International Training Network entitled “ITN on autonomous unmanned aerial vehicles for marine and coastal monitoring” - MarineUAS (<http://www.marineuas.eu>, section “vacancies”).

The topics of these contracts are:

- Multi-UAS planning and trajectory generation for safe long duration missions
- Distributed approaches for coverage and tracking missions with multiple heterogeneous UAVs

The GRVC (<http://grvc.us.es/en/index.htm>) has a leadership role in aerial robotics and unmanned aerial systems, with R&D Projects (15 Unmanned Aerial Systems projects in 2014) that are pushing the state of the art in this area.

The conditions are detailed in: http://grvc.us.es/en/PhDpositions_GRVC_USE.pdf

The gross salary is in the range of 30,000 to 35,000 euros approximately depending on family status. Interested candidates should contact us in the E-mail addresses aollero@us.es and candidatesgrvc@gmail.com. The deadline for applications is 2015-02-15.

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7.3. PhD: MarineUAS, EU

Contributed by: Tor Arne Johansen, tor.arne.johansen@itk.ntnu.no

15 doctoral fellowships on Autonomous Unmanned Aerial Systems for Marine and Coastal Monitoring

MarineUAS is a doctoral program funded by the European Union’s Innovative Training Network scheme under Horizon2020 to strengthen research training on Autonomous Unmanned Aerial Systems for Marine and Coastal Monitoring. 15 doctoral fellowships are vacant with the project partners: University of Porto, Instituto Superior Tecnico Lisbon, University of Seville, Linköping University, Norwegian University of Science and Technology, the Innovation Center at TU Braunschweig, Honeywell, CATEC, NORUT and Maritime Robotics.

Further information and announcement of the vacancies is found at: <http://www.marineuas.eu/>

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7.4. PhD: Oxford University, UK

Contributed by: Marko Bacic, marko.bacic@eng.ox.ac.uk

PhD Studentship at Department of Engineering Science, Oxford University.

This studentship is part of a larger project funded by the EPSRC and Rolls-Royce. The global appetite for power and for efficient transportation is increasing as nations industrialise and populations grow. This application is about making engines more efficient using game changing technology that enables sophisticated computer control of engine thermodynamic cycles. This research will address the technological building blocks required for computer controlled manipulation of power generating fluid flows.

The technical difficulties of modulating engine flows can be immense but the prize for control substantial. For example, the leakage flows at the tip of a gas turbine blade and the cooling airflows in a combustion chamber contribute significantly to engine fuel burn and emissions respectively. One way to improve the gas turbine efficiency is to try to reduce the amount of leakage flow at the tip of a gas turbine blade, by actively injecting air from the turbine segments into the tip gap.

This project will consider the general problem of controlling flow dynamics in the tip gap region by means of air injection from the segments. We will develop the reduced order models of such a system based on the CFD simulations, before investigating control architecture and the corresponding control algorithms for the problem.

Finally the student will have the opportunity to evaluate the effectiveness of the algorithms on the Oxford High Speed Rotor facility as part of the larger project.

To apply, follow the instructions that can be found here:

<http://www.eng.ox.ac.uk/work-here/FLOWCONTROL-MB-RS2>

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7.5. PhD: Delft University of Technology, the Netherlands

Contributed by: Gabriel A. Delgado Lopes, g.a.delgadolopes@tudelft.nl,

Manuel Mazo, m.mazo@tudelft.nl

The Delft Center for Systems and Control at Delft University of Technology, the Netherlands, announce a vacancy for one PhD student within the project: CADUSY (Control and data-driven modeling using symbolic methods).

Project description:

The CADUSY project will investigate the application of symbolic evolutionary approaches to automatically synthesize controllers starting from bare experimental data. The research in this project will be highly interdisciplinary, involving the fields of system identification, control, machine learning - evolutionary methods, and symbolic methods. Furthermore, the research will have both theoretic as well as applied components, performed in collaboration with our industrial partners. For the applied work a number of real robotics and mechatronic test-cases will be employed.

What do we ask?

We are looking for a candidate with an MSc degree in systems and control, applied mathematics, artificial intelligence or machine learning. The candidate must have strong analytical skills and must be able to work at the intersection of several research domains (systems and control, computer science). A very good command of the English language is required, as well as excellent communication skills.

What do we offer?

We offer the opportunity to do scientifically challenging research in a multi-disciplinary research group. The appointment will be for a period of 4 years. As an employee of the university you will receive a competitive salary (between approx. EUR 2000 and EUR 2600 gross per month based on a full-time appointment), as well as excellent secondary benefits in accordance with the Collective Agreement (CAO) of the Association of Universities in the Netherlands (VSNU). Assistance with accommodation can be arranged.

How to apply?

Submit you application to Willeke Zeestraten (W.J.M.Zeestraten@tudelft.nl) with CADUSYPHD as subject code before February 28th, 2015. Include a cover letter along with a detailed curriculum vitae, a separate motivation letter stating why the proposed research topic interests you, electronic copies of publications (if applicable), the summary of your MSc thesis, your MSc and BSc course programs and the corresponding grades, names and addresses of two to three reference persons, and other information that might be relevant to your application.

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7.6. PhD/Post-Doc: Clemson University, USA

Contributed by: Yongqiang Wang, yongqi@clmson.edu

Applications are invited for doctoral and/or post-doctoral positions in the general area of dynamics and control of network systems. Competitive financial supports will be provided. Students with a strong background in systems and control and a clear interest in the general area of network systems are encouraged to apply. Specific areas of research include: analysis of dynamical engineered or biochemical networks, hybrid systems, oscillator networks or synchronization. Clemson University is ranked 20st among national public universities by U.S. News & World Report (tie with Purdue University-West Lafayette and University of Maryland-College Park). It is described by students and faculty as an inclusive, student-centered community characterized by high academic standards, a culture of collaboration, school spirit, and a competitive drive to excel.

Clemson is located on Lake Hartwell in the foothills of the Blue Ridge Mountains, an area of outstanding natural beauty and temperate climate. It is 30 miles from Greenville, SC, a vibrant and growing city which provides many opportunities for entertainment, culture, and fine dining. Strong mathematical and analytic skills are desired.

Candidates with a demonstrated track record in one or more of the previous area(s) will be preferred. Interested students should send a short resume, along with representative relevant publications, if applicable, to yongqi@clmson.edu

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7.7. Post-Doc: Delft University of Technology, the Netherlands

Contributed by: Gabriel A. Delgado Lopes, g.a.delgadolopes@tudelft.nl

Manuel Mazo, m.mazo@tudelft.nl

The Delft Center for Systems and Control at Delft University of Technology, the Netherlands, announces a vacancy for a one year Postdoc position within the Dutch-funded project CADUSY (Control and data-driven modeling using symbolic methods).

Project description:

The CADUSY project will investigate the application of symbolic evolutionary approaches to automatically synthesize controllers starting from bare experimental data. The research in this project will be highly interdisciplinary, involving the fields of system identification, control, machine learning - evolutionary methods, and symbolic methods. Furthermore, the research will have both theoretic as well as applied components, performed in collaboration with our industrial partners. For the applied work a number of real robotics and mechatronic test-cases will be employed.

What do we ask?

We are looking for a candidate with a PhD degree in systems and control, applied mathematics, formal verification, artificial intelligence or machine learning, and with a strong interest in inter-disciplinary research. Experience with satisfiability modulo theories (SMT) solvers, SAT solvers, and the field of formal verification and synthesis in general, is a strong asset. The candidate must have strong analytical skills and must be able to work at the intersection of several research domains. A very good command of the English language is required, as well as excellent communication skills.

What do we offer?

We offer the opportunity to do scientifically challenging research in a multi-disciplinary research group. The appointment will be for a period of 1 year. As an employee of the university you will receive a competitive salary (between approx. EUR 3000 and EUR 4000 gross per month based on a full-time appointment and

depending on the candidate's qualifications), as well as excellent secondary benefits in accordance with the Collective Agreement (CAO) of the Association of Universities in the Netherlands (VSNU). Assistance with accommodation can be arranged.

How to apply?

Submit your application to Willeke Zeestraten (W.J.M.Zeestraten@tudelft.nl) with the subject code CADUSY-POSTDOC before February 28th, 2015. Include a cover letter along with a detailed curriculum vitae, a separate motivation letter stating why the proposed research topic interests you, electronic copies of your top three publications, the summary of your PhD thesis, names and addresses of three reference persons, and other information that might be relevant to your application.

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7.8. Post-Doc: Arizona State University, USA

Contributed by: Kyle Rader, kwrader@asu.edu

Postdoctoral Associate Position in Numerical Methods for Sensing Applications Arizona State University School of Mathematical and Statistical Sciences

The School of Mathematical and Statistical Sciences (SoMSS) at Arizona State University (ASU) invites applications for a Postdoctoral Associate with an anticipated start date of August 2015. This is a non-tenure-track, benefits-eligible, year-to-year appointment, renewable annually for up to three academic years contingent upon satisfactory performance, availability of resources, and the needs of the unit.

Applicants are required to have a Ph.D. or equivalent by the time of appointment in the mathematical sciences, engineering, or a closely related field; and the potential for excellent teaching and research. Desired qualifications include knowledge of radar technologies, such as synthetic aperture radar; and a solid background in signal processing, in particular Fourier Analysis. Knowledge of frames, regularization techniques, and numerical analysis is also desirable. Teaching load is at the discretion of the director, but is typically two courses per year.

The Tempe campus of Arizona State University has approximately 59,000 students. It is located in the rapidly growing metropolitan Phoenix area, which provides a wide variety of recreational and cultural opportunities. The surrounding countryside is renowned among outdoor enthusiasts who enjoy hiking, biking, skiing, and other activities in the exquisite Arizona canyon lands and mountainous terrain.

Applications must be submitted online through mathjobs at <https://www.mathjobs.org/jobs/jobs/6901> and must include the following:

1. A cover letter
2. A curriculum vitae
3. A personal statement addressing the candidate's research program
4. A statement of teaching experience and philosophy
5. At least three letters of recommendation that must be submitted at the mathjobs site, including one that addresses teaching.

Initial review of applications will begin on February 6th, 2015; if not filled, every week thereafter until the search is closed. A background check is required for employment.

Arizona State University is a VEVRAA Federal Contractor and an Equal Opportunity/Affirmative Action Employer. All qualified applicants will be considered without regard to race, color, sex, religion, national origin, disability, protected veteran status, or any other basis protected by law.

<https://www.asu.edu/aad/manuals/acd/acd401.html>
<https://www.asu.edu/titleIX/>

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7.9. Post-Doc: University of Sydney, Australia

Contributed by: Ian Manchester, ian.manchester@sydney.edu.au

We are seeking a Postdoctoral Research Associate with a strong background in control and optimization to join the Australian Centre for Field Robotics (ACFR) at the University of Sydney, Australia.

You will develop theory and algorithms for constructive nonlinear control. Particular techniques will include contraction analysis, integral quadratic constraints, convex relaxation (e.g. sum-of-squares), and real-time optimization (e.g. model predictive control). There will also be the opportunity to implement and test your algorithms on a range of experimental platforms at the ACFR, including bipedal walking robots, underwater robots, and teams of aerial vehicles.

The Australian Centre for Field Robotics Australian Centre for Field Robotics (ACFR) is one of the largest robotics research institutes in the world, with over 100 members including faculty, research fellows, technical staff, and postgraduate students. The ACFR performs fundamental research on perception, control, modelling, learning, and systems engineering and has strong industry and scientific collaborations in sectors including mining, commercial aviation, agriculture, defence, and underwater mapping and exploration.

The position is supported by an Australian Research Council project led by Dr Ian Manchester at the ACFR and Professor Jean-Jacques Slotine of MIT.

Full-time, fixed term of two years. Remuneration package: \$98,053 p.a. (which includes a base salary of \$82,856 p.a., leave loading and up to 17% employer's contribution to superannuation).

For more information and to apply, go to <http://sydney.nga.net.au> and search for job reference 2635/1114

Close date: 18 February 2015.

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7.10. Post-Doc: University of Warwick, UK

Contributed by: Declan Bates, D.Bates@warwick.ac.uk

Following a major UK Research Council Research Centre award, three PDRA positions in modelling and control of synthetic biological systems are now available in the Warwick Integrative Synthetic Biology Centre.

The successful candidates will work with twelve other experimental PDRA's on the design, construction and control of novel synthetic parts, devices and systems. Full details, and instructions on how to apply, are available from the WISB website: http://www2.warwick.ac.uk/fac/cross_fac/wisb/

Informal enquiries may be directed to Prof. Declan Bates (D.Bates@warwick.ac.uk)

Closing date for applications: 15th February 2015

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7.11. Post-Doc: Technion - Israel Institute of Technology, Israel

Contributed by: Yoash Levron, yoashl@ee.technion.ac.il

The department of Electrical Engineering at the Technion - Israel Institute of Technology invites researchers for a postdoctoral position in the area of power systems and smart power grids.

Applicants should have a Ph.D. (or they are about to graduate) in Electrical Engineering, Computer science, or applied mathematics. Proven publication record in IEEE journals is required.

The current position is offered for one year, with a possibility to extend it for another year, depending on the

candidate performances. To submit your application, please send a cover letter that details your experience and career plans and a short CV to yoashl@ee.technion.ac.il

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7.12. Post-Doc: Federal University of Espirito Santo, Brazil

Contributed by: Celso Jose Munaro, celso.munaro@ufes.br

We invite applications for one post-doctoral position in fault diagnosis applied to oil production plants. The main objective of this research is to develop and to implement algorithms to diagnose usual faults and to provide operators with information to bring the plant back to safety and good performance operation. The project will be developed at Federal University of Espirito Santo, Vitoria/ES, Brazil, and supported with funds from industry. Some topics related with the research project are: oscillation detection, detection of control valve stiction, stiction compensation, fault detection, causal relationships detection. The algorithms will be implemented on a commercial software that evaluates performance in unit operations.

The working time will be mainly devoted to research. Co-supervision of doctoral students and contribution to national and international projects within the research area will be part of the working duties.

Requirements: Ph.D. in related area. Good algorithmic and programming skills (Matlab). Background in signal processing, modeling and control theory. Good communication skills in oral and written English.

Very useful: Good skills for teamwork.

The position is open from January 2015 until filled.

The project will last for at least two years, and distinguished candidates may be invited in the future to apply for a full-time tenure-track position at Electrical Engineering Department.

Information about Vitoria city can be obtained in

http://en.wikipedia.org/wiki/Vit%C3%B3ria,_Esp%C3%ADrito_Santo.

Interested candidates should submit their applications to prof. Celso J. Munaro, celso.munaro@ufes.br. Include a cover letter along with a detailed curriculum vitae, a separate motivation letter stating why the proposed research topic interests you, electronic copies of your top three publications, the summary of your PhD thesis, names and addresses of three reference persons, and other information that might be relevant to your application.

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7.13. Post-Doc: Singapore University of Technology and Design, Singapore

Contributed by: Mohammadreza Chamanbaz, chamanbaz@sutd.edu.sg

Job Description:

The Motion, Energy, and Control Lab at the SUTD is looking for a postdoc candidates to support the development of low-cost, mesh-networking 802.11 sensor nodes for connecting people and data. The goal of the project is to inspire students to pursue education to become future engineers. The SenSing sensor nodes are an instance of ‘internet of things’ technologies designed to be:

- Cheap, non-invasive, and ubiquitous,
- Provide simple, intuitive ways to gather environmental data, play games, and communicate.

The sensors will allow various physical parameters such as temperature, light, humidity, noise levels, motion, images, and location to be recorded at meaningful intervals. Additional sensors can be included as needed as the project progresses, due to the modular and scalable design. The collected data will be transmitted

wirelessly to a central server via both star-shaped and meshing networks, where it is anonymously stored. The raw data is pre-processed, and can then be accessed by means of a simple and intuitive Graphical User Interface (GUI) or Application Programming Interface (API - for the more advanced user) to achieve various learning objectives themed around Singapore's natural environment. The contract will be for 2 years with the possibility of further extension.

Responsibilities:

1. Manage and participate in research and development activities centered around developing a very large scale distributed sensing platform,
2. Develop research questions and test hypotheses to guide the research towards advancing the state of the art in: Educational sensing systems, Wireless sensor network control, Big data collection and visualization, Privacy and security for internet of things applications
3. Provide technical support to academic staff in the development of sensor systems, student experiments, and special projects
4. Assist faculty and researchers in presenting and disseminating research results
5. Lead a team of research assistants and graduate students in performing high-impact research
6. Embedded system design, as well as machine learning and ad hoc networking will feature prominently in this work, as will the ability to design, test, and validate PCB and electronic systems. Some mechanical and case design aspects will also be important.

How to apply?

Send your application by email to Asst Prof. Erik Wilhelm (erikwilhelm@sutd.edu.sg). The package should include:

1. A complete curriculum vitae.
2. A one-page summary of past research accomplishments and current research interests.
3. A list with the names of at least 3 references.
4. A selection of (no more than five) publications (published, accepted, or in-preparation).

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7.14. Post-Doc: Ohio State University, USA

Contributed by: Xinghua Jia, jxh831027@gmail.com

One post-doctoral researcher position is available at the Nano Bio-systems and Nano-Bio-Inspired Devices Laboratory at The Ohio State University, Columbus, Ohio. The candidate is expected to work on an Unmanned Underwater Vehicle (UUV) inspired by multiple aquatic species.

Job responsibilities:

- Working closely with graduate students to design and implement a prototype for the bio-inspired unmanned underwater vehicle.
- Assisting commercialization of the product for underwater exploration and rescue.
- Writing papers and keeping progress update with the funding agency.

Qualifications/Requirements:

- Ph.D. in Robotics, Control, Mechanical Engineering, or Electrical Engineering.
- Solid interest in experimental studies and bio-inspired robotics.

Duration of the appointment: 2-3 years.

Starting date: March 1, 2015

How to apply:

Please send the following information to Mingjun Zhang at zhang.4882@osu.edu.

- CV including complete publication list;
- 2-3 representative papers.

Mingjun Zhang, PhD & D.Sc.

Professor

Department of Biomedical Engineering

Investigator, Davis Heart and Lung Research Institute

Member, Center for Regenerative Medicine and Cell Based Therapies

The Ohio State University

275 Bevis Hall

1080 Carmack Road

Columbus, OH 43210-1002

Email: zhang.4882@osu.edu

Tel: 614-292-1591

<https://bme.osu.edu/people/zhang.4882>

http://mjzhanglab.org.ohio-state.edu/about_pi.html

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7.15. Faculty: Harbin Institute of Technology, Shenzhen Graduate School, China

Contributed by: Ms.Zhao, scc.hitsz@gmail.com

Faculty Positions in Systems and Control Organization/Institution: Harbin Institute of Technology, Shenzhen Graduate School, Shenzhen, China

Department: School of Mechanical Engineering and Automation

The Division of Control and Mechatronics Engineering at Harbin Institute of Technology, Shenzhen Graduate School (HITSZ) invites applications for several faculty positions at all ranks. We are seeking candidates with excellent credentials in the areas of systems and control, wind energy, power systems and smart grids. Applicants must have a Ph.D. or equivalent in electrical, mechanical and power systems engineering and need to show strong research record and potential. Successful candidates will be received a joint appointment in the Center of Systems and Control. The Division currently has 11 full-time faculty members, and is expected to grow to 20 faculties in the next few years.

HITSZ offers a competitive salary and the salary levels at HITSZ for these positions are substantially higher than those provided by most universities in China, with full professor in the range of RMB 170K to 230K per year, associate professor in the range of RMB130K to 160K per year, and assistant professor in the range of RMB 90K to 110K per year. Bonus is a plus for all levels, subject to faculty's performance.

Interested candidates can send detailed CV, list of publications, statement of research (no more than 3 pages), teaching interests (no more than 2 pages), and a cover letter including contact information of three references to:

Ms. Zhao

School of Mechanical Engineering and Automation

HIT Campus Shenzhen University Town
Xili, Shenzhen
Guangdong
P. R. China 518055
or email the documents to scc.hitsz@gmail.com

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7.16. Faculty: Nanyang Technological University (NTU), Singapore

Contributed by: C. C. Cheah, [C. C. Cheah](#)

Tenure-Track Assistant Professor or Associate Professor in Satellite Engineering

Nanyang Technological University (NTU) in Singapore, a fast-rising global university, is seeking an Assistant Professor/Associate Professor in Satellite Engineering for its School of Electrical and Electronic Engineering (EEE).

Young and research-intensive, NTU is ranked 39th in the QS World University Rankings 2014 and 61st in Times Higher Education World University Rankings. Well-known for its high academic standards and strong tradition in research, the School of EEE is host to nine mega research centres and more than 50 laboratories, which are well-equipped with modern facilities and state-of-the-art equipment. In particular, the Satellite Research Center (SaRC) has been very active in research, development and launch of satellite payloads, micro-, nano- and pico-satellites and it aims to be a center of excellence in satellite engineering.

The ideal candidate is expected to have a strong background in satellite engineering and have experiences in developing satellite bus or payloads. He is to play a role in the NTU Satellite Program, grow new capabilities, secure external resources for satellite projects and contribute to strategic satellite research areas. In addition to research, candidate is also expected to achieve teaching excellence in preparing engineering leaders of the future.

The successful candidate may also be required to work closely with NTU's industry partners in developing capability aligned with the technology needs of the industry in the areas which may include satellite bus and payload design.

Applicants with relevant postdoctoral or 2-3 years of working/teaching experience in top research institutes or universities are preferred.

Emoluments and General Terms and Conditions of Service:

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered. Information on emoluments and general terms and conditions of service is available in the section on Terms and Conditions of Service for Academic Appointments

<http://www.ntu.edu.sg/ohr/CareerOpportunities/TermsandConditions/Pages/FacultyPositions.aspx>.

Application Procedure:

Important: Please indicate clearly the post applied for (i.e. Tenure-Track Assistant/Associate Professor in Satellite Engineering) when submitting an application or inquiring about this job announcement.

To apply, please refer to the Guidelines for Submitting an Application for Faculty Appointment

<http://www.ntu.edu.sg/ohr/CareerOpportunities/SubmitanApplication/Pages/FacultyPositions.aspx> and send your application (cover letter and a full CV) via email to:

Chairman, School Search Committee

c/o School of Electrical & Electronic Engineering

Email: eeehr@ntu.edu.sg

Electronic submission of applications is encouraged. Only shortlisted candidates will be notified.

Closing Date: Until Application Filled

<http://www.ntu.edu.sg/ohr/CareerOpportunities/CurrentOpenings/FacultyOpenings/EEE/Pages/Tenure-Track-Assistant-Professor-or-Associate-Professor-in-Satellite-Engineering.aspx>

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7.17. Program Manager: U.S. Army Research Office Research Triangle Park, N.C., USA

Contributed by: Purush Iyer, s.p.iyer.civ@mail.mil

Applications are being solicited for the following scientific disciplines: Mechanical Engineer-0830; Computer Engineer-0854; Electronics Engineer-0855; Aerospace Engineer-0861; and Mathematician-1520 at pay band DB-III or pay band DB-IV (equivalent to the GS-12/13 or 14/15 grade levels), U.S. Army Research Office, Research Triangle Park, N.C.

The annual salary range is \$72,332 - \$155,428 (per annum, which includes a locality adjustment) depending upon individual qualifications and salary history.

Position is as a Program Manager for extramural basic research program in Control Theory for Networked Multi-Agent Systems, which influences and will be informed by the emerging research area of Network Science. Thus, the new program diverges from traditional control theory in its use of techniques from graph theory and algebraic topology.

Work involves the creation, management, and leadership of high risk, opportunity-driven basic-research with potential for major impact on Army/DoD capabilities. Incumbent will promote/coordinate relationships between Army and national and international scientific, educational, and research institutions to affect the transition of this research into current/future Army systems. Will conduct workshops, conferences and symposia related to research initiatives within Control Theory; identify emerging opportunities; maintain awareness of recent developments. Coordinate with representatives (intra- and inter-discipline) from DoD and other agencies to evaluate research initiatives. Expertise required in areas of Control Theory for dynamic systems (including biological entities), Game Theory, and Distributed Algorithms.

Applicants must show successful completion of a full 4 year course of study leading to a bachelor's degree from an ABET accredited institution; or combination of education and experience equivalent to the GS-12 level position (DB-III) or GS-14 level position (DB- IV) in the Federal government. Advanced degrees at the PhD level, with relevant journal publications, preferred. Experience must have been in or related to the work of the position and equipped the applicant with the knowledge, skills, and abilities to successfully perform the duties of the position.

Applicants must be U.S. citizens, be able to obtain a security clearance (SECRET), and comply with provisions of the Ethics in Government Act.

Interested individuals must apply electronically by sending detailed curriculum vitae that includes relevant work experience and detailed publication list to Dr. Purush Iyer (s.p.iyer.civ@mail.mil) by Feb 15th, 2015. If you have questions, please contact Dr. Iyer, (919) 549-4204 or Ms. Wanda Wilson, (919) 549-4296

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7.18. Senior Engineer: GE Global Research, Niskayuna, NY, USA

Contributed by: Christina Thompson, christina.thompson@ge.com

GE Global Research has an exciting opportunity available for a Senior Control Systems Engineer in Niskayuna, NY.

Job Description:

As a Senior Control System Engineer you will develop advanced control system technologies for a broad

range of GE products and services. Examples of the application space include Aviation Engines and Systems, Renewable Energy Systems, Turbomachinery, Locomotives and Healthcare.

The Senior Control System Engineer has responsibility for conducting in-depth research work on advanced control systems for a broad range of industrial applications.

You will be a key member of a highly motivated team of researchers that works closely with other GE Global Research sites, the GE businesses worldwide, and leading GE customers. As a Senior Control System Engineer, you will:

- Define control system concepts and requirements.
- Develop and validate control system solutions through analysis and simulation.
- Implement concepts in prototype hardware or end-product systems to validate concepts.
- Help assure that research results are successfully transferred to the GE businesses and lead to product and service innovation.
- Lead and guide globally distributed and multidisciplinary teams in project tasks deliverables and new project ideas development.
- Work closely with the GE businesses to identify and promote future project opportunities and secure funding for these.
- Stay current with advances in control system technologies to seek out new ideas and applications.
- Document your results in technical reports, conference papers, invention disclosures, and presentations.

Qualifications/Requirements:

- Doctorate degree in an Engineering field or related discipline with at least 5 years of relevant controls systems experience OR a Master's degree in an Engineering field with at least 10 years of relevant controls systems experience.
- Knowledge and application of multivariable/model-based control methodologies.
- Familiar with control system design, modeling (first principles and system identification), estimation/signal processing or system engineering.
- Experience in conceptualizing, implementing and validating control algorithms.
- Experience leading projects and diverse project teams, executing on project deliverables as well as shaping projects while working closely with stakeholders.
- Proficiency in Matlab/Simulink.
- Candidate must be willing to travel a minimum of 2 weeks per year.
- Legal authorization to work in the U.S. is required. We will not sponsor individuals at the Masters level for employment visas, now or in the future, for this job opening.
- Must be willing to work out of an office located in Niskayuna, NY.
- Must be willing to take a drug test and submit to a background investigation as part of the selection process.
- Must be 18 years or older.

Additional Eligibility Qualifications:

GE will only employ those who are legally authorized to work in the United States for this opening. Any offer of employment is conditioned upon the successful completion of a background investigation and drug screen.

Desired Characteristics:

- In-depth knowledge of linear and non-linear controls, estimation, system theory, distributed controls and sensing, fault tolerant control.
- Strong system modeling skills, both from first-principles as well from experimental data (system identification).
- Strong computational mathematical skills including numerical linear algebra, optimization and numerical simulation.
- Experience with real-time implementation of control system solutions in a variety of hardware platforms.
- Knowledge of other dynamic system simulation packages, such as Easy5 or other application specific simulation platforms.
- Experience in pursuing and shaping programs in new technology / application areas, including new ideas/concepts, market and customer value analysis, and design, analysis and development of controls solutions for a differentiated product or service.
- Proven ability to secure funding for research projects from internal or external sources.
- Demonstrated ability to transfer control concepts from research into products.
- Demonstrated technical project leadership and project management skills.
- Strong interpersonal and leadership skills in a team-oriented, international environment, ability to guide and coach project team members.
- Clear evidence of innovation and creativity.
- Self-starter able to work with minimal supervision.
- Open, creative and flexible.
- Knowledge of object-oriented programming (e.g. in C++).
- Strong analytical skills.
- Ability to communicate effectively both orally and in writing.
- Global mindset and customer focus.
- Strong networking skills.
- Six Sigma green belt certification.

You must submit your application for employment on the careers page at www.gecareers.com to be considered. The job number for this position is 2029901.

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