Welcome to the July issue of the Eletter, available electronically here. To submit new articles, go “Article Submissions” on the Eletter website. To unsubscribe, please send an email with the subject line “Eletter Unsubscribe”.

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5.13 Faculty: University of Padova, Italy
5.14 Faculty: Luleå University of Technology, Sweden
5.15 Senior Scientist: TNO, The Netherlands
1. IEEE CSS Headlines

1.1. Extended deadline for IEEE CSS Video Clip Contest 2015
Contributed by: Frank Allgöwer, allgower@ist.uni-stuttgart.de

The IEEE Control Systems Society (CSS) is proud to present the 2015 IEEE CSS Video Clip Contest
http://www.ieeecss.org/video-contest
Participants are asked to prepare a video clip of the at most five minutes length on any subject related to the automatic control field.
The video may focus on a particular topic or on the field in general, but has to have the potential to promote the field.
The IEEE CSS Video Clip Contest is open for submissions until the extended deadline of July 21 2015.
No further extension will be possible. Everybody from within and from outside the controls community is invited to participate.
All videos are equally judged by a jury and the top three videos will be awarded $1000, $500, and $250 for the 1st, 2nd, and 3rd place, respectively. In addition, the 1st place receives financial support to attend the 2015 IEEE Multi-Conference on Systems and Control (MSC) which takes place in Sydney, Australia, September 21 to 23, 2015 (http://www.msc2015.org/), where the top videos will be presented to the public and an award ceremony will be held at MSC.
For more information, go to http://www.ieeecss.org/video-contest
Important Dates:
July 21, 2015: Extended deadline for video clip submissions
Beginning of August: Winners are notified
Sept. 21-23, 2015: Awards ceremony during MSC 2015
The contest is hosted by the Institute for Systems Theory and Automatic Control, University of Stuttgart http://www.ist.uni-stuttgart.de/

1.2. IEEE Control Systems Society Publications Content Digest
Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

Each issue offers readers a rapid means to survey and access the latest peer-reviewed papers of the IEEE Control Systems Society. We also include links to the Society’s sponsored Conferences to give readers a preview of upcoming meetings.

1.3. IEEE Transactions on Automatic Control
Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu
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- Divided State Feedback Control of Stochastic Systems. X. Zhao, F. Deng p. 1870
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Technical Notes and Correspondence

- Control of Heterogeneous Groups of Systems Interconnected through Directed and Switching Topologies. C. Hoffmann, A. Eichler, H. Werner p. 1904
- On a Sufficient Information Structure for Supervisory Policies that Enforce Liveness in a Class of General Petri Nets. V. Deverakonda, R. S. Sreenivas p. 1915
- Control Design for Trajectory Tracking with Untimed Petri Nets. D. Lefebvre, E. Leclercq p. 1921
- Synchronization Reachable Topology and Synchronization of Discrete-Time Linear Multi-Agent Systems. X. Wang, J. Zhu, Z. Cheng p. 1927
- The H2 Control Problem for Quadratically Invariant Systems with Delays. A. Lamperski, J. C. Doyle p. 1945
- Fault Detection Filter Design with Optimization and Partial Decoupling. X. Li, H. H-T. Liu, B. Jiang p. 1951
- Cooperative Global Robust Output Regulation for a Class of Nonlinear Multi-Agent Systems with Switching Network. W. Liu, J. Huang p. 1963

1.4. IEEE Transactions on Control of Network Systems
Contributed by: Denise Joseph, dejoseph@bu.edu

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1.5. IEEE Transactions on Control Systems Technology
Contributed by: Thomas Parisini, eic-ieetcst@units.it

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- Robust Trajectory Tracking of a Delta Robot Through Adaptive Active Disturbance Rejection Control. L. A. Castañeda, A. Luviano-Juárez, and I. Chairez, page 1387
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- Cooperative Teleoperation With Projection-Based Force Reflection for MIS. A. Takhmar, I. G. Polushin, A. Talasaz, and R. V. Patel, page 1411


- Observer-Based Decentralized Fault Detection and Isolation Strategy for Networked Multirobot Systems. F. Arrichiello, A. Marino, and F. Pierri, page 1465


- Duality-Based Nonlinear Quadratic Control: Application to Mobile Robot Trajectory-Following. L. Armesto, V. Girbes, A. Sala, M. Zima, and V. Smyd, page 1494


- Dual-Space Control of Extremely Fast Parallel Manipulators: Payload Changes and the 100G Experiment. G. Sartori Natal, A. Chemori, and F. Pierrot, page 1520

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- Distributed Control and Estimation Scheme With Applications to Process Control. L. Orihuela, P. Millán, C. Vivas, and F. R. Rubio, page 1563


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- Control of PEMFC Air-Feed System Using Lyapunov-Based Robust and Adaptive Higher Order Sliding Mode Control. S. Laghrrouch, M. Harmouche, F. S. Ahmed, and Y. Chitour, page 1594

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- A New Master-Slave Torque Design for Teleoperation System by T-S Fuzzy Approach. X. Yang, C.C. Hua, J. Yan, and X.P. Guan, page 1611
- Parameter-Dependent Relay Control: Application to PMSM. R. Delpoux, L. Hetel, and A. Kruszewski, page 1628
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2. Misc

2.1. SIAG/CST Best SICON Paper Prize
Contributed by: Qing Zhang, qz@uga.edu

Call for nominations - Extension
SIAG/CST Best SICON Paper Prize

The SIAM Activity Group on Control and Systems Theory (SIAG/CST) and the SIAM Journal on Control and Optimization (SICON) will present the 2015 award of the SIAG/CST Best SICON Paper Prize at the 2016 SIAM Annual Meeting (AN16), to be held July 11-15, 2016, in Boston, Massachusetts, USA.

Eligibility:
The prize, established in 2007 by SIAG/CST, is awarded to the authors of the two most outstanding papers, as determined by the prize committee, published in SICON in the two calendar years before the year of the award. For the 2015 award, the eligibility period is January 1, 2013, through December 31, 2014. A candidate paper must make significant research contributions to the field of control and systems theory.

Description of the Award:
The award will consist of a plaque for each author. Travel expenses will be available to reimburse one author per paper to attend the conference to receive the award and give a brief talk on the paper.

Nominations:
Nominations should be sent to SICON_paper_prize@siam.org by July 20, 2015. Attach a letter of nomination, including citation of the paper and a description of the paper’s contributions. Letters should be addressed as below:
Professor Qing Zhang, Chair
SIAG/CST Best SICON Paper Prize Committee
c/o J. M. Littleton
SIAM
3600 Market Street
Philadelphia, PA 19104-2688, USA
E-mail: littleton@siam.org
Phone: +1-215-382-9800 ext. 303

Selection Committee:
The members of the selection committee are: Qing Zhang (Chair), Francesco Bullo, Asen Dontchev, Maurizio Falcone, and Mary Ann Horn.
2.2. Celebrating Laurent Praly 60th birthday
Contributed by: Christophe Prieur, christophe.prieur@gipsa-lab.fr

Celebrating Laurent Praly 60th birthday
Mines ParisTech, 60 bd Saint Michel, Paris (France)
July, 27-28th 2015

The Centre Automatique et Systèmes (CAS) of Mines ParisTech, PSL Research University is proud to celebrate the 60th birthday of one of his prominent faculty member. Laurent Praly has been an active member of the control community for over 35 years. Throughout his sustained and influential scientific career, he has developed several breakthrough results and contributed towards the foundation of nonlinear control theory.

A two-days event is organized at Mines ParisTech. The list of confirmed speakers includes numerous of his distinguished colleagues, close collaborators or former students.

See http://cas.ensmp.fr/petit/LP/ for more information and free registration.

2.3. Book on Signals, Systems & Inference
Contributed by: George Verghese, verghese@mit.edu

Published by Pearson in April 2015:
Signals, Systems & Inference
Alan V. Oppenheim & George C. Verghese
608 pages

The concepts and mathematics of signals, systems and probability are usefully combined in studying fields such as communication, control and signal processing, or other domains that involve data sequences, time series or waveforms. This text, which grew out of an upper-level undergraduate subject that has been taught at MIT for many years now, assumes two prerequisites: an introductory subject in time- and frequency-domain analysis of deterministic signals and systems, and an introductory subject in probability. The book is divided into four parts.

The first part (in three chapters) begins with a brief review of the desired prerequisites in signals and linear time-invariant (LTI) systems, though parts of the material (e.g., group delay) may be unfamiliar to some readers with the assumed background. This is followed by the application of some of this material in the setting of digital communication by pulse amplitude modulation.

The second part (in three chapters) is devoted to state-space models, concentrating on the single-input single-output LTI case. The development is largely built around the eigenmodes of such systems, under the simplifying assumption of distinct natural frequencies. This part of the book introduces the idea of model-based inference in the context of state observers for LTI systems, and examines associated feedback control strategies.

The third part of the book (in three chapters) is a short review of the desired probability prerequisites, including estimation and hypothesis testing for random variables. Again, parts of this material (e.g., normal equations, Neyman-Pearson testing and ROC curves) may be unfamiliar to some readers with the assumed background.

The final part of the book (in four chapters) characterizes wide-sense stationary random signals, and the outputs that result from LTI filtering of such signals, in both the time- and frequency-domains. Correlation functions and power spectral densities are then used to study canonical signal estimation and detection.
problems, specifically linear minimum-mean-square-error signal estimation (i.e., Wiener filtering) and signal
detection problems whose optimum solutions involve matched filtering.

More information about the book, including the table of contents, may be obtained at
http://pearsonhighered.com/pearsonhigheredus/educator/product/products_detail.page?isbn=9780133943283

2.4. Summer School on Positive invariance
Contributed by: Didier Theilliol, didier.theilliol@univ-lorraine.fr

Summer School on “Positive invariance as a set-theoretic tool for fault diagnosis and fault tolerant control”
Location: Grenoble (France) - GIPSALab
Date: 7 to 11 September 2015
Organizers: J.J. Martinez (GIPSALab - Grenoble), S. Olaru (CentraleSupélec - Gif) and D. Theilliol (CRAN,
U. Lorraine),
Website: http://www.gipsa-lab.fr/summerschool/Invariant-sets-for-FTC/

Context and scope:
The development of set-theoretic methods for the characterization of invariant sets has allowed application of
the associated theoretical concepts in various domains, such as fault isolation, robust control and predictive
control.
The aim of this summer school is to present in an accessible manner novel trends in fault diagnosis and fault
tolerant control. As a central concept, the positive invariance of sets characterizing the nominal and the
faulty behavior will be shown to present a particular interest in the last decade FDI and FTC developments.
Topics approached by this summer school cover theory of invariant sets, stability of switched systems,
and methods for stabilizing dynamical systems under fault occurrence. The use of these notions for fault
diagnosis, fault tolerant control design and the associated numerical tools will be presented in a gradual and
pedagogical manner during this 5-day summer school.
The school is intended for early stage researchers (Master, PhD, post-doc), engineers and scientists from
academia and industry. Basic knowledge in automatic control and mathematical system theory will be useful.
Speakers: F. Blanchini (Italy); J. De Dona (Australia); J.J. Martinez (Fr); S. Olaru (Fr); V. Puig (Spain);
V. Reppa(Fr); O. Sename(Fr); F. Stoican (Romania); M. Seron (Australia); D. Theilliol (Fr)

Registration:
The registration fee, which includes accommodation for 5 nights, lunches, social dinner, access to the lectures,
coffee breaks, and school material is
- for academic participants 475 Euros
- for students (Master/Phd) 225 Euros
- for CNRS participants: free via the internal registration scheme
  * (for non-academic participants please contact the organizers)

Early registrations are encouraged due to the fact that the number of participants is limited to 35.
For further information, please contact John-Jairo Martinez-Molina john-jairo.martinez-molina@gipsa-lab.grenoble-
inp.fr
3. Journals

3.1. Contents: Nonlinear Studies
Contributed by: Seenith Sivasundaran, seenithi@gmail.com

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- Homogenization of boundary optimal control problem in a domain with highly oscillating boundary via periodic unfolding method. Ravi Prakash, Bidhan Chandra Sardar 213-240
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Contributed by: Seenith Sivasundaran, Seenith Sivasundaran

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Vol 6, No 2 (2015)
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3.3. Contents: Proceedings of the Institute of Applied Mathematics
Contributed by: proceedings.IAM@gmail.com

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3.4. Contents: IMA Journal of Mathematical Control and Information
Contributed by: Suzanne Eves, suzie.eves@oup.com

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3.5. Contents: International Journal of Applied Mathematics and Computer Science
Contributed by: amcs@uz.zgora.pl

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3.6. Contents: Control Engineering Practice
Contributed by: Tobias Glück, cep@acin.tuwien.ac.at

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3.7. Contents: Control Theory and Technology
Contributed by: Zou Tiefeng, tfzou@scut.edu.cn

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3.8. Contents: Frontiers of Information Technology & Electronic Engineering
Contributed by: Miao Yizhou, miaoyizhou@zju.edu.cn

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3.9. 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.3 May, 2015
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- Exact Sampling of a Linear Interval Predictor. Christophe Combastel
- Distributed Hybrid Controllers for Multi-Agent Mass Games by a Variable Number of Player Agents. Shinsaku Izumi, Shun-ichi Azuma and Toshiharu Sugie
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- Stability and Stabilization of Two-Dimensional Switched LTI Systems with Potentially Unstable Focus. Liying Zhu
- New Controllability Condition for Siphons In Ws3pr Nets. Xuanxuan Guan and Shouguang Wang
- Delay- and Packet-Disordering-Dependent $H_{\infty}$ Output Tracking Control for Networked Control Systems. Yan Song and Jingcheng Wang
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- Adaptive Dual Control of Discrete-Time LQG Problems with Unknown-But-Bounded Parameter. Jiaoru Huang, Fucai Qian, Ding Liu and Shaolin Hu
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- Finite-Time Optimal Tracking Control for Dynamic Systems on Lie Groups. Yongfang Liu and Zhiyong Geng
- Universal Practical Tracking Control of a Planar Underactuated Vehicle. Baoli Ma and Wenjing Xie
- Simultaneous Linear and Anti-Windup Controller Synthesis: Delayed Activation Case. Maopeng Ran, Qing Wang, Maolin Ni and Chaoyang Dong
- Smooth Output Reconstruction for Linear Systems with Quantized Measurements. Hongzhong Zhu, Toshiharn Sugie and Hiroshi Fujimoto
- A New Finite Time Convergence Condition for Super-twisting Observer Based on Lyapunov Analysis. Chaoxu Mu and Changyin Sun
- Parametric Stabilization of Quantized Interconnected Systems with Application to Coupled Inverted Pendulums. Yuqian Guo, Ning Chen, Guisheng Zhai, Weihua Gui and Xiaoyu Shen
- Chaotification of Switching Control Systems via Dwell Time Approach. Yuping Zhang, Xinzhi Liu, Hong Zhu and Yong Zeng

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- Robust Finite-Time Stability Control of A Class of High-Order Uncertain Nonlinear Systems. Haitao Liu, Xiaozhen Wang and Tie Zhang
- Almost Sure Exponential Stabilization of A Class of Uncertain Stochastic System with Markovian Switching. Fubo Zhu and Zhengzhi Han
- Three-Dimensional Constrained Tracking Control via Exact Differentiation Estimator of a Quadrotor Helicopter. Ghommam Jawhar, Guillaume Charland-Arcand and Maarouf Saad

3.10. Contents: Automatica
Contributed by: Elisa Capello, automatica@polito.it

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Automatica,
Vol. 57, July 2015
http://www.sciencedirect.com/science/journal/00051098/57


- Network synchronization using invariant-manifold-based diffusive dynamic couplings with time-delay. C. Murguia, R.H.B. Fey and H. Nijmeijer, pages 34-44.


- A backstepping approach to the output regulation of boundary controlled parabolic PDEs. J. Deutscher, pages 56-64.


- Informative windowed forecasting of continuous-time linear systems for mutual information-based sensor planning. H.-L. Choi and J.-S. Ha, pages 97-104.


- Design of continuous-discrete observers for time-varying nonlinear systems. F. Mazenc, V. Andrieu and M. Malisoff, pages 135-144.


- Increasing-gain observers for nonlinear systems: Stability and design continued on inside back cover. A. Alessandri and A. Rossi, pages 180-188.


- Leader-following rendezvous with connectivity preservation and disturbance rejection via internal model approach. Y. Su, pages 203-2012.

3.11. Contents: Applied and Computational Mathematics
Contributed by: Fikret Aliev, chief_ed@acmij.az

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3.12. CFP: Asian Journal of Control
Contributed by: Fu Li-Chen, Fu Li-Chen

Call for Papers
Special Issue on “Recent Emerging Technologies in Atomic Force Microscopy”
http://www.ajc.org.tw
Nano-technology is an important research area in the 21st century. There are many relevant applications in various industries, such as for scientific measurement and for high tech business areas. Atomic Force Microscopy (AFM) opens a new window to the nano-world. It features a high resolution for imaging and manipulating samples on a nanoscale in vacuum, gases, or liquid operational environments, and has now become a widely used tool in the sectors of, for example, biological sciences, industrial inspection, and medical testing, etc. As a result, AFM is becoming more and more important as one of the key approaches in next generation nano-technology.

This special issue invites original articles that address both theoretical and application-oriented papers, including innovative mechanism design, control technological improvements, new scanning methods, and any related technologies in AFM. Topics of potential interest include, but are not limited to:

- AFM mechanism design
- AFM control methods
- New scanning methods in AFM
- AFM actuators or sensors
- Modeling and simulation of AFM systems
- Applications of AFM systems

Guest Editors:
Prof. Ian Petersen
School of Engineering and Information Technology
UNSW Canberra, Australian Defence Force Academy, Australia
Email: i.r.petersen@gmail.com

Prof. Reza Moheimani
School of Electrical Engineering and Computer Science,
The University of Newcastle, Australia
Email: Reza.Moheimani@newcastle.edu.au

Important Dates:
September 30, 2015 Deadline for submissions
January 31, 2016 Completion of First Review
May 31, 2016 Completion of Final Review
June 30, 2016 Receipt of Final Manuscript
January 1, 2017 Publication (Tentatively Vol.19, No. 1)

How to submit:
Potential authors are encouraged to upload the electronic file of their manuscript (in PDF format) through the journal’s online submission website: http://mc.manuscriptcentral.com/asjc.
If you encounter any submission problem, feel free to contact Prof. Li-Chen Fu.

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All submission should include a title page containing the title of the paper, an abstract and a list of key-words, authors’ full names and affiliations, complete postal and electronic address, phone and fax numbers. The contacting author should be clearly identified. For detailed submission guidelines, please visit http://wileyonlinelibrary.com/journal/asjc.
4. Conferences and Workshops

4.1. World Congress: Mathematical Problems in Engineering, Aerospace and Sciences
Contributed by: Seenith Sivasundaram, seenithi@gmail.com

World Congress: Mathematical Problems in Engineering, Aerospace and Sciences
When: 05-08 July 2016
Where: La Rochelle, France, University of La Rochelle
Website: http://www.icnpaa.com
http://www.internationalmathematics.com/icnpaa/

ICNPAA’s aim
Mathematical Problems in Engineering, Aerospace and Science have stimulated cooperation among scientists from a variety of disciplines. Developments in computer technology have additionally allowed for solutions of mathematical problems. This international forum will extend scholarly cooperation and collaboration, encouraging the dissemination of ideas and information.

The conference will have a pool of active researchers, with a proper balance between academia and industry, as well as between senior and junior researchers, including graduate students and post-doctoral fellows. It is anticipated that such a balance will provide both senior and junior researchers an opportunity to interact and to have a wider picture of recent advances in their respective fields. The conference, especially, enables the setting up of new interdisciplinary research directions among its participants by establishing links with world renowned researchers, making possible joint international projects that will no doubt bring about fresh and innovative ideas and technologies in engineering, aerospace and sciences.

The proceedings will be published by the American Institute of Physics (AIP).
Co-Sponsored by: AIAA: American Institute of Aeronautics and Astronautics
IFIP: International Federation of Information Processing
La Rochelle, France, University of La Rochelle

4.2. International Symposium on Stochastic Systems Theory and Its Applications
Contributed by: Hiroyuki Kano, kano@mail.dendai.ac.jp

The 47th ISCIE International Symposium on Stochastic Systems Theory and Its Applications (SSS’15):
December 5-8, 2015
Honolulu, Hawaii, USA
http://sci-sss.org

The technical program will cover the general topic of stochastic systems and its applications, including but not be limited to the following subjects:
Modeling, Filtering and Control of Stochastic Systems and Stochastic Processes; Analysis of Stochastic Systems and Stochastic Processes; System Identification and Parameter Estimation; Time Series Analysis and Spectral Estimation; Signal Detection and Statistical Signal Processing; Stochastic Optimization Methods and Evolutionary Methods; Statistical Methods of Big Data and Their Applications; Chaos and Fractal; Neural Networks and Fuzzy Systems; Image Processing; Pattern Recognition, Computer Vision and 3-D Information Processing; Fault Detection and Diagnosis; Medical and Biomedical Systems; Mathematical
Finance; Control of Networks; Probabilistic Robotics; Statistical Methods for GNSS Navigation; Applications in Engineering related to Stochastic Processes and Stochastic Systems.

Papers Submission:
Authors are invited to submit extended abstracts, which must be written in English and must be received by August 15, 2015. Extended abstracts should not exceed two A4 pages with 25mm margins on all sides, in one column format, and with 10-point fonts or larger. Please include the title, author names, affiliations, and addresses on the top of the first page of the extended abstract. The extended abstract should be prepared in PDF format, and it should be submitted via the SSS Web site. Authors will be advised regarding acceptance of the extended abstract by September 15, 2015.

The authors of accepted papers are requested to submit the manuscripts for the proceedings following the instructions available on the SSS Web site. The manuscripts should be prepared in PDF format and submitted electronically on the Web by November 15, 2015. The maximum length of each manuscript including both text and illustrations will be ten pages (about 7500 words). In order to assure high-quality of the proceedings, all manuscripts will be reviewed and only accepted ones will be included in it. (For the policy of the copyright, please see http://sci-sss.org/sss2015/cfp.php)

Sponsored by:
Institute of Systems, Control and Information Engineers (ISCIE)
In Cooperation with:
The Society of Instrument and Control Engineers (SICE); The Institute of Electrical Engineers of Japan (IEE); The Institute of Electronics, Information and Communication Engineers (IEICE); The Japan Society for Industrial and Applied Mathematics (JSIAM); Information Processing Society of Japan (IPSJ); Research Institute of Signal Processing Japan (RISP); IEEE Control Systems Society Japan Chapter; IEEE Control Systems Society Kansai Chapter; IEEE Signal Processing Society Japan Chapter; IEEE Signal Processing Society Kansai Chapter; College of Engineering, University of Hawaii at Manoa; Tokyo Denki University

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Ghorbani, R., Univ. of Hawaii (Local Arrangement)

Program & Steering Committee:
Kano, H., Tokyo Denki Univ. (Chair)
Hanazaki, I., Tokyo Denki Univ. (Vice Chair)

Important Dates:
August 15, 2015: Submission of extended abstracts and organized session proposals
September 15, 2015: Notification of acceptance
November 15, 2015: Submission of manuscripts for the Proceedings

4.3. American Control Conference
Contributed by: Bonnie Ferri, bonnie.ferri@ece.gatech.edu

Papers submission is encouraged for an Invited Session on Controls Education at the 2016 American Control Conference in Boston, June 6-8. This session is sponsored by the IEEE Control System Society Technical Committee on Education. Topics can include lab courses, flipped and blended courses, online education, novel controls courses, educational platforms, controls in maker spaces or design courses, etc. Submit a full length paper to Bonnie.Ferri@ece.gatech.edu by September 1, 2015.

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4.4. Allerton Conference on Communication, Control, and Computing
Contributed by: Brenda Roy, broy@illinois.edu

The Fifty-Third Annual Allerton Conference on Communication, Control, and Computing will kick off with two Opening Tutorials being held on Tuesday, September 29, 2015 at the Coordinated Science Laboratory. The Conference sessions will start on Wednesday, September 30, 2015 through Friday, October 2, 2015, at the Allerton Park and Conference Center. The Allerton House is located twenty-six miles southwest of the Urbana-Champaign campus of the University of Illinois in a wooded area on the Sangamon River. It is part of the fifteen-hundred acre Robert Allerton Park, a complex of natural and man-made beauty designated as a National natural landmark.

Allerton Park has twenty miles of well-maintained trails and a living gallery of formal gardens, studded with sculptures collected from around the world.

Papers presenting original research are solicited in the areas of communication systems, communication and computer networks, detection and estimation theory, information theory, error control coding, source coding and data compression, network algorithms, control systems, robust and nonlinear control, adaptive control, optimization, dynamic games, multi-agent systems, large-scale systems, robotics and automation, manufacturing systems, discrete event systems, multivariable control, computer vision-based control, learning theory, cyber-physical systems, security and resilience in networks, VLSI architectures for communications and signal processing, and intelligent transportation systems.

Plenary Lecture:
Professor Martin Vetterli of the School of Computer and Communication Sciences, Ecole Polytechnique Fedérale de Lausanne, will deliver this year’s plenary lecture. It is scheduled for Friday, October 2, 2015 at the Allerton Park and Retreat Center.

Opening Tutorial Lectures:
Professor Andrea Montanari, Stanford University, and Professor Francis Bach, Laboratoire d'Informatique de l'Ecole Normale Superieure, will both present a tutorial lecture on Tuesday, September 29, 2015 at the Coordinated Science Laboratory, University of Illinois at Urbana-Champaign.

Information for Authors:
Regular papers suitable for presentation in twenty minutes are solicited. Regular papers will be published in full (subject to a maximum length of eight 8.5” x 11” pages, in two column format) in the Conference Proceedings. Only papers that are actually presented at the conference and uploaded as final manuscripts can be included in the proceedings, which will be available after the conference on IEEE Xplore. For reviewing purposes of papers, a title and a five to ten page extended abstract, including references and sufficient detail to permit careful reviewing, are required.

Manuscripts can be submitted during June 15-July 6, 2015 with the submission deadline of July 6 being firm. Please follow the instructions at the Conference website: http://www.csl.uiuc.edu/allerton/.
Authors will be notified of acceptance via e-mail by August 7, 2015, at which time they will also be sent detailed instructions for the preparation of their papers for the Proceedings. Final versions of papers to be presented at the conference are required to be submitted electronically by October 4, 2015 in order to appear in the Conference Proceedings and IEEE Xplore.

Conference Co-Chairs: Angelia Nedich and Minh Do
Email: allerton-conf@illinois.edu URL: http://www.csl.illinois.edu/allerton/

Coordinated Science Laboratory and the Department of Electrical and Computer Engineering University of Illinois at Urbana-Champaign

We were granted an extension until 14 July 2015 of the paper submission deadline for:

2015 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning

http://adprl15.net

Part of IEEE Symposium Series on Computational Intelligence 2015, Cape Town, South Africa, 7-10 December 2015

We are therefore still welcoming papers for a few more weeks. However, please keep in mind that this extension is final. We will have an exciting talk by Jan Peters (SSCI plenary), and others, a Doctoral Consortium and travel grant possibilities for students, and of course Cape Town itself!

Final Call for Papers:

Adaptive dynamic programming (ADP) and reinforcement learning (RL) are two related paradigms for solving decision making problems where a performance index must be optimized over time. ADP and RL methods are enjoying a growing popularity and success in applications, fueled by their ability to deal with complex problems, including features such as uncertainty, stochastic effects, and nonlinearity. ADP tackles these challenges by developing optimal control methods that adapt to uncertain systems over time. RL takes the perspective of an agent that optimizes its behavior by interacting with an initially unknown environment and learning from the feedback received. The ability to improve performance over time in uncertain or unknown environments has led to successful applications of ADP and RL in areas such as robotics, game playing, automotive engines, networks, logistics, etc.

The goal of the IEEE Symposium on ADPRL is to provide an outlet and a forum for interaction between researchers and practitioners in ADP and RL, in which the two fields are brought together and their connections are exploited. We equally welcome contributions from control theory, computer science, operations research, computational intelligence, neuroscience, as well as other novel perspectives on ADPRL. Original papers are sought on methods, analysis, applications, and overviews of ADPRL. We are interested in applications from engineering, artificial intelligence, economics, medicine, and other relevant fields.

Specific topics of interest include, but are not limited to:

- Convergence and performance analysis;
- RL and ADP-based control;
- Function approximation and value function representation;
- Complexity issues in RL and ADP;
- Policy gradient and actor-critic methods;
- Direct policy search;
- Planning and receding-horizon methods;
- Monte-Carlo tree search and other Monte-Carlo methods;
- Adaptive feature discovery;
- Parsimonious function representation;
- Statistical learning and PAC bounds for RL;
- Learning rules and architectures;
- Bandit techniques for exploration;
- Bayesian RL and exploration;
- Finite-sample analysis;
- Partially observable Markov decision processes;
- Neuroscience and biologically inspired control;
- ADP and RL for multiplayer games and multiagent systems;
- Distributed intelligent systems;
- Multi-level multi-objective optimization for ADPRL;
- Transfer learning;
- Applications of ADP and RL.

Paper Submission Procedure:

Paper submissions should be prepared in the IEEE format and should have at most 8 pages. Accepted papers will be published in the SSCI proceedings and on IEEEXplore, http://ieeexplore.ieee.org/, conditioned on registering and presenting the paper at the conference. Submissions must contain original, high quality, not submitted or elsewhere published work. Authors must submit their paper through the IEEE SSCI 2015 webpage http://ieee-ssci.org.za/
The call for papers as well as more detailed information can be retrieved from the ADPRL 2015 webpage http://adprl15.net and from the main SSCI 2015 webpage http://ieee-ssci.org.za/

Please make sure you select: “Adaptive Dynamic Programming and Reinforcement Learning” (ADPRL 2015) during the submission process

Organisers:
Madalina Drugan (Vrije Universiteit Brussel, Belgium) mdrugan@vub.ac.be Marco Wiering (University of Groningen, The Netherlands) m.a.wiering@rug.nl Lucian Busoniu (Technical University of Cluj-Napoca, Romania) lucian@busoniu.net

4.6. International Conference on Control, Automation and Systems
Contributed by: Myo Taeg Lim, conference@icros.org

2015 15th International Conference on Control, Automation and Systems (ICCAS 2015)
October 13(TUE)-16(FRI), 2015
Bexco, Busan, Korea
http://2015.iccas.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, Analysis and Design on Dynamical Systems with Hybrid Structure
- Jay Farrell, University of California, Riverside, USA, Analysis and Design on Dynamical Systems with Hybrid Structure
- Yoshihiko Nakamura, University of Tokyo, Japan, Analysis and Design on Dynamical Systems with Hybrid Structure
- Sangbae Kim, Massachusetts Institute of Technology, USA, The MIT Cheetah: New Design Paradigm for Mobile Robots
- David Boas, Harvard Medical School, USA, Functional Near Infrared Spectroscopy - What is it and its potential role in brain-computer interfacing?
- Taek Lyul Song, Hanyang University, Korea, Computationally Efficient Multi-target Data Association

Important Dates:
July 3, 2015: Notification of paper acceptance
July 24, 2015: Submission of final camera-ready papers
September 15, 2015: Advanced Registration Deadline

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.


### 4.7. International Workshop on Discrete Event Systems

Contributed by: Alessandro Giua, giua@diee.unica.it

**WODES 2016**

13th International Workshop on Discrete Event Systems

May 30 - June 1, 2016, Xi’an, China

You are cordially invited to submit a paper to WODES 2016, the international workshop devoted to discrete event theory and applications.

The website of the event is: [http://wodes2016.diee.unica.it](http://wodes2016.diee.unica.it)

The pdf file of the call for papers can be downloaded from: [http://wodes2016.diee.unica.it/images/preCfP_wodes2016.pdf](http://wodes2016.diee.unica.it/images/preCfP_wodes2016.pdf)

**Important Dates:**

- Special Session Proposals: January 8, 2016
- Paper Submission: January 8, 2016
- Notification of Acceptance: March 15, 2016
- Final Submission: April 10, 2016

For information please contact the workshop secretariat: wodes2016@diee.unica.it

The IPC Co-chairs:

Christos G. Cassandras (Boston University USA); Alessandro Giua (Aix-Marseille Univ, France and Univ. of Cagliari, Italy); Zhiwu Li (Xidian University, China)

### 4.8. International Workshop on Hybrid Systems Biology

Contributed by: Alessandro Abate, aabate@cs.ox.ac.uk

**Call for Participation and for Posters/Demos**

**HSB 2015: The 4th International Workshop on Hybrid Systems Biology**


4-5 September 2015, Madrid (Spain)

In conjunction with Madrid Meet 2015

The 4th International Workshop on ‘Hybrid Systems Biology’ will be held on September 4th and 5th in Madrid (ES), and co-located with the Madrid Meet 2015 ([http://mafalda.fdi.ucm.es/madrid2015/](http://mafalda.fdi.ucm.es/madrid2015/)), which hosts also CONCUR 2015, QEST 2015, FORMATS 2015, among other events. Previous editions have been held in Newcastle upon Tyne (UK), Taormina (IT), and Vienna (AT, at VSL 2014).

**Important dates:**

Posters/Demos Submission: August 15, 2015
Paper Submission: June 15, 2015 (closed)
Paper Notification: July 15, 2015
Paper Final Submission: September 5, 2015
Topics of interest:
The scope of the HSB workshop covers the general area of dynamical models in Biology with an emphasis on hybrid approaches - by no means restricted to a narrow class of mathematical models - and taking advantage of techniques developed separately in different areas.

Topics of interest include, but are not limited to:
Models of metabolic, signalling, and genetic regulatory networks in living cells; Models of tissues, organs; physiological models; Biological applications of quantitative and formal analysis techniques, such as reachability computation, model checking, abstract interpretation, bifurcation theory, stability and sensitivity analysis; Parametric and non-parametric system identification techniques (learning models from experimental data); Efficient techniques for combined and heterogeneous (stochastic/deterministic, spatial/non-spatial) simulations for biological models; Modelling languages for biological systems, with related analysis and simulation tools; Models coping with incomplete and uncertain information; Stochastic hybrid models in biology; Hierarchical systems for multi-scale, multi-domain analysis; Abstraction, approximation, discretisation, and model reduction techniques; Game-theoretical frameworks in biology (e.g., populations dynamics); Control architectures of biological systems; Modelling and synthesis for synthetic biology

Call for posters and demos:
Full paper submission has been closed. Now we solicit poster presentations.
Please submit poster abstracts not exceeding 1 page A4 into the EasyChair online submission system at https://easychair.org/conferences/?conf=hsb2015 until August 15th. Abstracts serve the sole purpose of selecting contributions for the demo session and will not be published in the conference proceedings.

Registration:
Registration is now opened and can be done via the Madrid Meet webpage at http://mafalda.fdi.ucm.es/madrid2015/registration.htm.
Early registration deadline: July 24, 2015

Plenary speakers:
Luca Cardelli, Microsoft Research and Mustafa Khammash, ETH Zurich

Program Committee Chairs:
Alessandro Abate, University of Oxford, Oxford, UK, and David Safranek, Masaryk University, Brno, Czech Republic

Steering Committee:
Ezio Bartocci, Vienna University of Technology, Austria; Luca Bortolussi, University of Trieste, Italy; Thao Dang, VERIMAG/CNRS, Grenoble, France; Adam Halasz, West Virginia University, USA; Oded Maler, VERIMAG/CNRS, Grenoble, France; Carla Piazza, University of Udine, Italy

5. Positions

5.1. PhD: Missouri University of Science and Technology, USA
Contributed by: Tansel Yucelen, yucelen@mst.edu

We are searching for an exceptional Ph.D. student with a strong background in dynamical systems and automatic controls to work on a funded research assistant position at the Advanced Systems Research Laboratory (ASRL, www.ASRL.us) of the Department of Mechanical and Aerospace Engineering at the Missouri University of Science and Technology. This student is expected to start working on Fall 2015
or Spring 2015 and perform high-quality and innovative theoretical and experimental research on resilient autonomous vehicles and cooperative robotics.

Our intention is to give our strong guidance in order to maximize the chances of our students of building a rewarding research career. If you are interested, please send an email to Asst. Prof. Tansel Yucelen at yucelen@mst.edu including:

1. Your curriculum vitae (applicants with M.S. degree are preferred)
2. A publication on dynamical systems and automatic controls (applicants with accepted or submitted conference or journal papers are preferred)
3. A concise paragraph (4-5 sentences maximum) that explains your theoretical and experimental experience on dynamical systems and automatic controls
4. A list that shows the undergraduate and M.S. courses the applicant took related to mathematics, dynamical systems, and automatic controls.
5. Three contact information (including name, e-mail, and phone number of the person) for letter of recommendation requests (one of these three contact information must include your current advisor).

The work performed by our laboratory is focused on the creation of new information, control, and decision algorithms that reveal advanced systems such as highly capable autonomous vehicles and networked multivehicle systems. These systems are envisioned to elevate our society as well as to perform safety-critical operations with more robots and less humans. We place a strong emphasis both on theoretic research and experimentation for addressing fundamental and open real-world technological problems. Our aim is to be recognized as one of the top research laboratories in the nation by significantly advancing the knowledge, training science-based engineers and professionals, and placing our students in top research places, to shape the future of our society.

Dr. Tansel Yucelen
Director of Advanced Systems Research Laboratory
Assistant Professor of Department of Mechanical and Aerospace Engineering
Missouri University of Science and Technology

5.2. PhD: North Carolina A&T State University, USA
Contributed by: Ali Karimoddini, akarimod@ncat.edu

Three PhD positions are available in the area of the applications of formal methods to Control and Robotics problems in Autonomous Cooperative Control of Emergent Systems of System (ACCESS) Laboratory at TECHLAV Center, North Carolina A&T State University.

The project will involve highly cross-disciplinary research in different aspects of autonomous systems. The research topics will include but not limited to Modelling and analysis of multi-agent systems; Teaming and cooperative control of multi-agent systems; Testing, evaluation, model checking and verification of multi-agent systems.

Required Qualifications:

1. Meet the minimum admissions requirement for the ECE Department at NCA&T State University:
2. Recent M.S. in Electrical & Computer Engineering or related fields
3. Demonstrated experience in control and robotics
4. Programming in MATLAB and C/C++
. strong analytical skills

 Desired Qualifications:

. Strong mathematical background in: linear algebra, probability and stochastic processes, system and control, estimation, and optimization
. Experience in embedded real-time systems
. Programming skills for embedded devices and Microcontrollers
. U.S. citizenship or permanent residency. Minority candidates are strongly encouraged to apply.

If you are interested, please send an email to Dr. Karimoddini at akarimod@ncat.edu with the subject “PhD Application,” and include:

1. A cover letter that explains why the proposed research topic interests you, how you fulfill the requirements of this project, and list any relevant undergraduate and MS courses or projects.
2. Your curriculum vitae.
3. Master Transcript.
4. One page summary of your MSc thesis.
5. Electronic copies of your publications if any.
6. Other information that might be relevant to your application.

Only shortlisted candidates will be contacted.

Contact:
Dr. Ali Karimoddini
Autonomous Cooperative Control of Emergent Systems of System (ACCESS) Laboratory
Testing, Evaluation and Control of Heterogeneous Large-scale systems of Autonomous Vehicles (TECHLAV) Center
Autonomous Control and Information Technology (ACIT) Institute
North Carolina A&T State University
E-mail: akarimod@ncat.edu

5.3. PhD: University of Sannio, Italy
Contributed by: Carmen Del Vecchio, c.delvecchio@unisannio.it

PhD Position available at the Department of Engineering of the University of Sannio in Benevento, Italy

Contacts:
Prof. Luigi Glielmo (email glielmo@unisannio.it), Dr. Carmen Del Vecchio (email c.delvecchio@unisannio.it)
The GRACE (Group for Research on Automatic Control Engineering) at the University of Sannio offers a PhD position in control theory and applications to be started in October 2015.
The successful candidate will collaborate to researches of our group in control and optimization theory both theoretical and implemented in different areas.
Sectors of applications of the research include, but are not limited to optimization and control of energy flows in smart grid, machine learning application to industrial processes, analysis and stability of nonlinear systems with application to epidemiological models.
Our ideal candidate has a sound knowledge in control and optimization methods from their Bachelor and Master degree, an excellent academic track record, well developed analytical and problem solving skills and a strongly motivated personality. Interests in both theoretical research and applications to practical control
problems as well as the ability of working independently complete the candidate profile.
The candidate will be selected according to applicant fulfilment of the above qualifications.
Interested candidates must send detailed CV and two contacts to whom we can ask references, to the email
address reported in correspondence of each research topic.
The selected candidate will join a friendly and young team of 8 PhD students, 4 post Docs and 5 Professors
with several expertise in identification, control and optimization of dynamical systems. The attracting but
not distracting environment of the historical town of Benevento is an additional plus.

5.4. PhD/Post-Doc: Rutgers, The State University of New Jersey, USA
Contributed by: F. Javier Diez, diez@rutgers.edu

We invite applications for one PhD/postdoctoral position in control design for multi-rotor type UAVs. The
successful candidate will join a research group that is focusing on building novel multi-rotor platforms capable
of operating in extreme environments.
The successful candidate will be familiar with control design methodologies for control of multi-rotor systems.
The work will involve design, and testing of a robust nonlinear controller for altitude control of a quadrotor
type autonomous aerial vehicle operating in extreme conditions.
Requirements:
MS/Ph.D in Flight Dynamics and Control, Mechanical or Aerospace Engineering or relevant fields
- Backgrounds in control, nonlinear dynamic models for UAV, PID controllers
- Experience in flight experiments of multirotor UAV

Starting position is available immediately. Annual appointment with renewal possible up to 3 years.
For further information, please contact Prof. F. Javier Diez, diez@rutgers.edu.
Applicants can send a single pdf file containing a letter of interest, curriculum vitae, and names and contact
of references.

5.5. PhD/Post-Doc: Università del Salento, Italy
Contributed by: Giuseppe Notarstefano, giuseppe.notarstefano@unisalento.it

PhD and Post-Doc Positions available starting Fall 2015 within the ERC Starting Grant project OPT4SMART.
Research will be conducted at the Università del Salento (Lecce, Italy), under the supervision of Prof.
Giuseppe Notarstefano.
A description of both kinds of positions follows.
* Four Early-Stage-Researcher/PhD positions
About the position:
We are looking for motivated, talented graduate students from all over the world, who wish to
- undertake PhD research at the cutting edge of optimization and control in cyber-physical networks;
- contribute to the startup of an excellent, international new research group;
- study in one of the most beautiful Italian cities with a great quality of life.
The appointment will be for 3 years with the possibility to extend it up to 2 more years (at PhD or Postdoc
level). Within the PhD program, the PhD student will be required to spend periods abroad to improve
her/his education and to foster ongoing collaborations with world-class, international research groups.
Who should apply:
The desired candidate holds a Master degree (or equivalent, giving access to doctoral studies) in Engineering (preferably ECE, ME, AE), (Applied) Mathematics or related fields, and has

- an excellent academic record showing excellent analytical skills;
- a strong mathematical background including optimization and preferably systems and control theory;
- strong interest in optimization and at least one of: control theory, estimation, machine learning;
- proficiency in oral and written English.

Expression of interest: If interested in the position you should send an email to giuseppe.notarstefano@unisalento.it with subject “OPT4SMART PhD-student last-name” including:

- a one page cover letter describing your research interests and early achievements;
- a detailed CV;
- bachelor and master transcripts (list of courses with corresponding grades);
- a summary of (or an e-link to) your master thesis;
- name and email of at least two referees.

For further info
http://cor.unisalento.it/notarstefano/opt4smart/PhD_OPT4SMART_flyer.pdf

* A postdoc position

About the position:
We are looking for motivated, talented PhDs from all over the world, who wish to:

- undertake/continue research at the cutting edge of optimization and control in cyber-physical networks;
- contribute to the startup of an excellent, international new research group;
- work in one of the most beautiful Italian cities with a great quality of life.

The initial appointment will be for one year with the possibility of extension based on performance. The salary is competitive and commensurate with qualifications and experience. The postdoctoral researcher will work in a group with about six PhD students and take the co-supervision of one or more of them.

Who should apply:
The desired candidate holds a PhD degree in Controls, Optimization, Signal Processing or related fields, and has

- an excellent publication record (high-impact papers in high-quality journals or conferences);
- a strong mathematical background including optimization and preferably systems and control theory;
- strong interest in optimization and at least one of: control theory, estimation, machine learning;
- excellent proficiency in written and spoken English.

Expression of interest:
If interested in the position you should send an email to giuseppe.notarstefano@unisalento.it with subject “OPT4SMART Postdoc last-name” including:

- a one page cover letter describing your research interests and early achievements;
- a detailed CV;
- an (open access) e-link to your three most significant publications;
5.6. PhD/Post-Doc/Research Assistant: Lehigh University, USA
Contributed by: Nader Motee, motee@lehigh.edu

Ph.D. Research Assistantship and Postdoctoral Positions in Distributed Control and Dynamical Networks
Interested students and recently graduated PhD students are encouraged to apply for our open positions in Distributed Control and Dynamical Systems (DCDS) Laboratory in the Department of Mechanical Engineering and Mechanics at Lehigh University. There are several open positions for Fall 2015 and Spring 2016 semesters in the form of Research Assistants and Postdoctoral Scholars. For more information about our group and current research activities, please visit our website at http://www.dcds-lab.com

For PhD Positions: Students with strong backgrounds in Control Systems/Optimization/Applied Math or other related areas, are strongly encouraged to apply. For Postdoctoral Positions: Strong background in probability theory, stochastic dynamical systems, and graph theory are desirable. Candidate with Applied/Pure Mathematical background are strongly encouraged to apply.

Lehigh is a premier residential research university, ranked in the top tier of national research universities each year. We are a coeducational, nondenominational, private university that offers a distinct academic environment of undergraduate and graduate students from across the globe. Located in Pennsylvania's scenic Lehigh Valley, the campus is in close proximity to both New York City and Philadelphia. Lehigh is comprised of 2,358 acres, making it one of the largest private universities in the country.

Interested applicants may contact Prof. Nader Motee (motee@lehigh.edu) with the following information: (1) one-page research statement explaining how your background fits our current research group, (2) detailed CV and list of publications, (3) copies of two publications. All documents should be sent in PDF format.

5.7. Post-Doc: University of Illinois, USA
Contributed by: Andrew Alleyne,alleyne@illinois.edu

Post-Doctoral Research Position
Department of Mechanical Science and Engineering
University of Illinois, Urbana Champaign

Position Description:
The Mechanical Science and Engineering department of the University of Illinois, Urbana-Champaign is advertising for a post-doctoral research associate in the area of Control Systems. The specific appointment will be with Professor Andrew Alleyne. The research associate will assist the PI with overseeing a diverse and intellectually rich portfolio of research projects as well as a talented pool of graduate students. Current projects include both government and industry supported efforts with a broad range of research topics. The primary application topics of interest are Energy/Power systems as well as Manufacturing Systems.

Qualifications:
Applicants should have a Ph.D. in a closely related engineering discipline (e.g. robotics, mechanical, electrical, controls, or systems engineering). The postdoctoral associate must also have excellent oral and written
communication skills as well as very good organizational skills. Leadership and mentoring skills are a requirement and a strong interest in an academic research career is desired. Other qualifications include:

- Modeling and simulation of dynamical systems in Matlab/Simulink
- Development of robust, multi-variable controllers for complex multi-physics systems
- Mechatronic implementation of control on physical systems

Experience in any of the following areas is considered beneficial:

- Thermal power systems, including Heat Transfer and Thermodynamics
- Additive manufacturing systems, including materials
- Robotics and/or vehicles

Applications:
Email applications to Prof. Andrew Alleyne (alleyne@illinois.edu) including:

- 1 page cover letter describing research background and interests (PDF)
- Curriculum Vitae (PDF)
- Available start date
- List of at least 3 references with contact information

Appointment:
The appointment is for 2 years and is renewable. The desired start date is August 16, 2015 (negotiable). Salary is commensurate w/qualifications. Women and underrepresented minorities are highly encouraged to apply.

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

Contributed by: Tal Shima, tal.shima@technion.ac.il

A post-doctoral position is available at the Faculty of Aerospace Engineering, Technion - Israel Institute of Technology, in Haifa, Israel.
The research will concentrate on guidance aspects as related to cooperative pursuit and evasion problems, taking into account also task assignment and estimation considerations. The work will involve both theoretical and algorithmic aspects. Laboratory experiments on available ground and aerial robots may also be performed.
Candidates for this position should have a Ph.D. in either engineering (aerospace, mechanical, electrical, or similar), computer science or applied math. Strong background in optimal control/differential games and/or planning algorithms is an advantage.
Application material should include:

- a cover letter
- detailed curriculum vitae, including educational background and a list of publications
- undergraduate and graduate studies grades transcripts
- contact information for at least two, preferably three, academic references

The material should be submitted in pdf via e-mail to Prof. Tal Shima, tal.shima@technion.ac.il
Applications will be handled as they arrive until the position is filled. For further inquiries, please contact Tal Shima at: tal.shima@technion.ac.il
5.9. **Post-Doc: Technion - Israel Institute of Technology, Israel**  
Contributed by: Vadim Indelman, vadim.indelman@technion.ac.il

Post-doc position in autonomous navigation and perception at the Technion, Israel

A postdoctoral fellow position is available in the area of single- and multi-robot autonomous navigation and perception. The scope of the proposed position is quite diverse and includes basic and applied research in topics of interest such as planning under uncertainty, probabilistic perception, visual SLAM, joint inference and control, and sensor fusion.

The successful candidate will work with Assist. Prof. Vadim Indelman within the recently established Autonomous Navigation and Perception Lab (ANPL), and will have the opportunity to contribute to ongoing multi-disciplinary research efforts and to develop his/her own research line.

Applicants should have a Ph.D. (or about to graduate) in Electrical, Aerospace or Mechanical Engineering, Computer Science or Applied Mathematics. A strong background in at least one of the areas mentioned above is required. Hands on experience and programming skills are an advantage.

This is a full-time, one-year, non-tenure-track appointment with possibility of extension subject to available funding and satisfactory performance. Funds for some conference travel and research expenses will also be provided. Starting date is flexible, however applications are encouraged to be submitted by July 31st.

Applicants should submit a cover letter that briefly describes their background and career plans, CV (with a full list of publications) and three professional references. Please send all application materials to vadim.indelman@technion.ac.il.

For more information please visit http://vindelman.net.technion.ac.il or contact Assist. Prof. Vadim Indelman via email.

Vadim Indelman, Ph.D.  
Assistant Professor  
Department of Aerospace Engineering  
Technion Autonomous Systems Program  
Technion - Israel Institute of Technology  
Tel: +972-4-829-3815  
Email: vadim.indelman@technion.ac.il  
Web: vindelman.net.technion.ac.il

5.10. **Post-Doc: Université Libre de Bruxelles, Belgium**  
Contributed by: Emanuele Garone, egarone@ulb.ac.be

Position: Post-Doc  
Place: Department of Automatic Control and System Analysis (SAAS). Université Libre de Bruxelles, Brussels, Belgium  
Duration: 12 months  
Starting Date : Ideally, the 1st of October  
Salary : Approx 2200 Euros/month after taxes  
Pre-requisite: PhD thesis on control system topics. Less than 1 year spent in Belgium in the last 3 years. Good knowledge of English. Experience in constrained control and/or in battery management system is a plus  
Description: The post-doc will work in the framework of the BATWAL project, an “excellency program” of the Walloon region which aims at developing a new generation of lithium ion “paintable” batteries and
their integration in the electrical network. The SAAS group is involved in the dynamic modelling and management of the batteries and of their cycle of charge and discharge. A work concerning the modelling of a single battery cell has been already carried out. The post-doc will focus his research on the modelling and control of a block of cells.

How to apply: Send an email to Prof. E. Garone (egarone@ulb.ac.be) with subject “BATWAL Post-Doc Application” within the 1st of August containing:

a Your CV  
b One or two recommendation letters  
c Half a page in which you explain how you think you can contribute to the project given your previous experiences

5.11. Post-Doc University of Massachusetts, USA  
Contributed by: Yossi Chait, ychait@umass.edu

Postdoctoral Research Associate Position  
Department of Mechanical and Industrial Engineering  
University of Massachusetts, Amherst

The Mechanical and Industrial Engineering department of the University of Massachusetts, Amherst is advertising for a postdoctoral research associate in the area of Biomedical Control Systems. The specific appointment will be with Professor Yossi Chait. The position is funded by an NIH award.

The Postdoc will assist the PI with activities that facilitate successful achievement of the goals of the award: (i) improvement and validation of system models in the area of end-stage renal disease, and (ii) development of a framework for designing individualized treatment protocols based on such models. The Postdoc is expected to actively engage in dissemination of research results through publication in peer reviewed journals, presentation at conferences and workshops, etc.

A PhD in engineering is preferable; however, a PhD in other areas that satisfy the above requirements will be considered. Solid knowledge of system identification, statistics, dynamical systems, and controls is highly desirable. Background in physiological systems is desirable. An interest in both theoretical research and applications to practical problems is desirable. Candidates must have an excellent track record of high-impact scientific research, be able to work independently as well as in an interdisciplinary group (engineering, mathematics, and medical practitioners), and have a high level of motivation. Familiarity with software tools such as Matlab/Simulink and statistical packages is desired.

Applications should include: (1) one page cover letter describing research background and interests (PDF), (2) Curriculum Vitae (PDF), (3) available start date (4) list of at least three references with contact information.

The annual salary range is $38,500-$45,250 (dependent upon experience) with full benefits. The position is contingent upon funding. Review of applications will begin on 7/10/15 and continue until a suitable candidate is identified. Anticipated appointment start date is September 1, 2015 (negotiable) for one year and renewable for a second year, contingent upon funding.

Applications are accepted only online at: http://umass.interviewexchange.com/jobofferdetails.jsp?JOBID=60715
5.12. 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 (HITSGS) 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 HITSG 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

5.13. Faculty: University of Padova, Italy
Contributed by: Luca Schenato, schenato@dei.unipd.it

Fixed Term Assistant Professor position (3 years, RTDa) at Department of Information Engineering, University of Padova
The Automatic Control research group (see http://automatica.dei.unipd.it) is currently opening a position for a fixed term (3 years) Assistant Professor in the area of Control and Automation.

Description of the Department: The Department of Information Engineering at the University of Padova has about 90 faculty, 2100 undergraduate students, 550 graduate students, 75 Ph.D. students and 60 post-docs. The department embraces 5 main engineering fields: Computer Science, Telecommunications, Electronics, Automatic Control and Bio-engineering. The department is one of the top research institute in Italy (ranked top Italian university in Information and Industrial Engineering among large-size universities according to 2013 Italian Ministry of Education VQR Program), actively involved in European (2M Euro/year) and Industrial projects (1.8M Euro/year), and collaborating with cutting edge international research institutions and industrial partners. URL: http://www.dei.unipd.it/en/

Description of the Control Group: The Control and Automation group accounts for 15 faculty members and more than 20 Ph.D. and post-docs. The main research areas include: Advanced Control Applications (adaptive optics, automotive, HVAC systems, semiconductor manufacturing, plasma physics and fusion, biological imaging), Boolean Control Networks, Camera Networks, Industrial Communication Systems, Robotics and Mechatronics, Machine Learning and Systems Identification, Networked Control Systems, Quantum Control and Information, Smart Grids and Switched Systems under Positivity Constraints. Additional information can be found in the group website: http://automatica.dei.unipd.it/

Position: Fixed term Assistant Professor (3 years, RTDa)

Profile of the candidate: We are seeking candidates with excellent credentials in any areas of systems and control at large, including robotics, machine learning and embedded control systems. Applicants must have a Ph.D. or equivalent in electrical, mechanical, industrial engineering or another closely related field, and need to have proven outstanding research records. The successful candidate will be expected to teach graduate and undergraduate courses in his/her area of expertise, supervise graduate students, and interact with the other faculty on the development of a strong, independent, externally funded research program.

How to apply: The official call will be opened soon, the exact deadline is not known yet. For further information about the position, applicants are encouraged to contact Prof. Luca Schenato: schenato@dei.unipd.it

Luca Schenato, Ph.D.
Associate Professor
Department of Information Engineering
University of Padova, Italy
tel. +39 049 827 7925
e-mail: schenato@dei.unipd.it
URL: http://automatica.dei.unipd.it/people/schenato.html
skype: l_schenato

5.14. Faculty: Luleå University of Technology, Sweden
Contributed by: Jonas Ekman, jonas.ekman@ltu.se

Chair Professor in Machine Learning

Luleå University of Technology is in an expansive phase and is strengthening research and education within machine learning by establishing a new group within the area.

As chair professor you will be mainly responsible for the development of research, third cycle studies, and education at basic and advanced level within your area. You will be working actively with external funding of
research and PhD students. Especially important is European funding, for example Horizon 2020. You will also develop cooperation with other parts of Luleå University of Technology, with national and international research environments, as well as with the surrounding society and companies.

Candidates are invited to apply by September 25 at http://www.ltu.se/ltu/Lediga-jobb?l=en&rmpage=job&rmjob=1613&rmlang=UK

5.15. Senior Scientist: TNO, The Netherlands
Contributed by: Anouk Bos, anouk.bos@tno.nl

Job: Senior Scientist Heavy Duty Combustion Control

Responsibilities:
We are looking for a senior scientist who has an excellent knowledge of controls for combustion engine applications typically used for heavy duty power trains. He or she knows the recent trends and developments in this field and can help translate client needs into working systems and solutions. The research group Powertrains is one of the leading players on emission management technology and has a longstanding track record in the automotive industry. We have developed our own extensive modelling and simulation tools to simulate both conventional (diesel) and hybrid electric power trains and aftertreatment systems. The group has its own state-of-the-art testing facilities, where we can measure complete engines including after-treatment systems for real world emissions and fuel efficiency. We can perform steady state and dynamic measurements on an engine as well as on an entire vehicle (up to truck size) in our unique altitude climate chamber, and perform on-road measurements. We can use state of the art RCP tools to generate proof of concepts on component, system and vehicle level.

Qualifications:
Based on your education and professional experience you know the effects and trade-offs of the various advanced combustion methods for heavy duty engines. You can define optimum control strategies that maximize engine efficiency and subsequently reduce fuel costs and CO2. You have a good understanding of recent trends and developments occurring in all components that influence the performance of the engine that can be influenced by controls.

Within our international team of combustion modelling and control scientists you will have a senior scientist/specialist role. By focusing on innovative solutions and contributing to our vision and strategy you will play a key role in strengthening and further building on our position in the automotive industry. We are an applied research and development organisation, and you will be working in a wide range of projects ranging from projects for (international ) B2B customers to (European) research projects that further strengthen our knowledge base.

Candidates should have a Master’s degree or PhD in a relevant field, for example mechanical engineering or automotive engineering, supplemented with at least seven years of relevant professional experience. You have broad technical knowledge on heavy duty diesel engines, combustion processes, and means of controlling and optimizing this process for efficiency and exhaust gas composition. Candidates should be experienced in direct interactions with (international) customers and can help translate their needs into services and solutions. Candidates should be an effective team player and enjoy achieving results in teams of varying composition. Moreover, candidates should enjoy developing innovative solutions to technically challenging problems and have the right mix of intellectual curiosity and practical pragmatism.

We have a global customer based and hence you should be willing to occasionally travel to international
customers.

We look forward to receiving your online application under https://www.tno.nl/career or anouk.bos@tno.nl

About us:

TNO is an independent research organisation whose expertise and research make an important contribution to the competitiveness of companies and organisations, to the economy and to the quality of society as a whole. Innovation with purpose is what TNO stands for. With 3500 people we develop knowledge not for its own sake but for practical application. To create new products that make life more pleasant and valuable and help companies innovate. To find creative answers to the questions posed by society. We work for a variety of customers: governments, the SME sector, large companies, service providers and non-governmental organisations. Working together on new knowledge, better products and clear recommendations for policy and processes. In everything we do, impact is the key. Our product and process innovations and recommendations are only worth something if our customers can use them to boost their competitiveness.

https://www.tno.nl/powertrains/

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