

E-LETTER on Systems, Control, and Signal Processing
Issue 322
July 2015

Editor:

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

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- 5.6 PhD/Post-Doc/Research Assistant: Lehigh University, USA
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- 5.10 Post-Doc: Université Libre de Bruxelles, Belgium
- 5.11 Post-Doc University of Massachusetts, USA
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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/>

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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. 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 Automatic Control

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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- 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
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- Multirate Output Feedback Control of Nonlinear Networked Control Systems. H. Beikzadeh, H. J. Marquez p. 1939
- 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
- Observation of Nonlinear Differential-Algebraic Systems with Unknown Inputs. F. J. Bejarano, W. Perruquetti, T. Floquet, G. Zheng p. 1957
- Cooperative Global Robust Output Regulation for a Class of Nonlinear Multi-Agent Systems with Switching Network. W. Liu, J. Huang p. 1963
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- Nonuniform Line Coverage from Noisy Scalar Measurements. P. Davison, N. E. Leonard, A. Olshevsky, M. A. Schwemmer p. 1975
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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-ieeeetct@units.it

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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.

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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.

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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

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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) - GIPSA Lab

Date: 7 to 11 September 2015

Organizers: J.J. Martinez (GIPSA Lab - 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

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3. Journals

3.1. Contents: Nonlinear Studies

Contributed by: Seenith Sivasundaran, seenithi@gmail.com

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Contributed by: Seenith Sivasundaran, [Seenith Sivasundaran](#)

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Vol 6, No 2 (2015)

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Contributed by: proceedings.IAM@gmail.com

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Contributed by: Suzanne Eves, suzie.eves@oup.com

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Contributed by: amcs@uz.zgora.pl

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Publisher: University of Zielona Góra and Lubuskie Scientific Society, Poland

ISSN: 1641-876X (print), 2083-8492 (online)

Frequency: Quarterly

Editor-in-Chief: Józef Korbicz

Website: www.amcs.uz.zgora.pl

E-mail: amcs@uz.zgora.pl

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

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

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ISSN: 2095-6983 CODEN: CTTOAM

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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:

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Prof. Reza Moheimani

School of Electrical Engineering and Computer Science,

The University of Newcastle, Australia

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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>.

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All submission should include a title page containing the title of the paper, an abstract and a list of keywords, 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>)

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Kano, H., Tokyo Denki Univ. (Chair)

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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 Fédérale 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 Supérieure, 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

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4.5. IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning 2015

Contributed by: Lucian Busoniu, lucian@busoniu.net

Deadline extended: IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning 2015

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 IEEEExplore, <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

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4.6. International Conference on Control, Automation and Systems

Contributed by: Myo Taeg Lim, conference@icross.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.

ICCAS 2015 CFP: http://icos.org/data/download/ICCAS2015/ICCAS2015_CFP.pdf

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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>

The pdf file of the call for papers can be downloaded from: 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)

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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

<http://hsb2015.fi.muni.cz>

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/>), 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

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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 multi-vehicle 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

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5.2. PhD: North Carolina A&T State University, USA

Contributed by: Ali Karimodini, 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:

- . Meet the minimum admissions requirement for the ECE Department at NCA&T State University:
- . Recent M.S. in Electrical & Computer Engineering or related fields
- . Demonstrated experience in control and robotics
- . 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. Karimodini at akarimod@ncat.edu with the subject “PhD Applicationv, 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 Karimodini

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

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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.

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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.

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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 infos

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;

- a summary of (or an e-link to) your PhD thesis;
- name and email of your PhD supervisor and at least two referees.

For further infos

http://cor.unisalento.it/notarstefano/opt4smart/Postdoc_OPT4SMART_flyer.pdf

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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.

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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.

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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

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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

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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

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5.11. Post-Doc University of Massachusetts, USA

Contributed by: Yossi Chait, ychoit@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>

The university is committed to active recruitment of a diverse faculty and student body.

The University of Massachusetts Amherst is an Affirmative Action/Equal Opportunity Employer of women, minorities, protected veterans, and individuals with disabilities and encourages applications from these and other protected group members. Because broad diversity is essential to an inclusive climate and critical to the University's goals of achieving excellence in all areas, we will holistically assess the many qualifications of each applicant and favorably consider an individual's record working with students and colleagues with broadly diverse perspectives, experiences, and backgrounds in educational, research or other work activities. We will also favorably consider experience overcoming or helping others overcome barriers to an academic degree and career.

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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

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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

email: schenato@dei.unipd.it

URL: <http://automatica.dei.unipd.it/people/schenato.html>

skype: l_schenato

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5.14. Faculty: Luleå University of Technology, Sweden

Contributed by: Jonas Ekman, jonas.ekman@ltu.se

Chaired 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 chaired professor you will be main 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>

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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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