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”.

The next Eletter will be mailed out in the beginning of August 2014.

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1. IEEE CSS Headlines

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

The IEEE Control Systems Society (CSS) is proud to present the first ever IEEE CSS Video Clip Contest. Participants are asked to prepare a video clip of 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 winners will receive attractive prizes.

The IEEE CSS Video Clip Contest is open for submissions until August 1st 2014. Everybody from within and from outside the control 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 2014 IEEE Multi-Conference on Systems and Control (MSC 2014) which takes place in beautiful Antibes, France, October 8 to 10, 2014. The top videos will be presented to the public and an award ceremony will be held at MSC 2014.

For more information, go to http://www.ieeecss.org/video-contest.

Important Dates:
May 2, 2014: Submission site opens
August 1, 2014: Deadline for video clip submissions
August 31, 2014: Winners are notified
October 8-10, 2014: Award ceremony during MSC 2014

The contest is hosted by the Institute for Systems Theory and Automatic Control, University of Stuttgart.

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

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

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

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

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1.3. IEEE Transactions on Control of Network Systems  
Contributed by: Yannis Paschalidis, yannis@bu.edu

Please note that the contents of the IEEE Transactions on Control of Network Systems, with links to the abstracts of the papers are available on http://sites.bu.edu/tcns/home/tcns-june-2014
IEEE Transactions on Control of Network Systems
Volume 2 (2014), Issue 2 (June)
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- Projection-Based Model Reduction of Multi-Agent Systems Using Graph Partitions, N. Monshizadeh, H. L. Trentelman, and M. K. Camlibel, p145
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1.4. IEEE Transactions on Control Systems Technology
Contributed by: Thomas Parisini, eic-ieee@uni.t.it

IEEE Transactions on Control Systems Technology
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1.5. IEEE Transactions on Automatic Control
Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

Please note that the contents of the IEEE Transactions on Automatic Control, together with links to the abstracts of the papers may be found at the TAC web site: http://www.nd.edu/ieeetac/contents.html

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- Quantitative Studies on Asymptotic Growth Behaviors of Trajectories of Nonlinear Discrete Dynamical Systems. L. Wang, Z-B. Xu p. 1930
- Frequency-Interval Model Reduction of Bilinear Systems. H. R. Shaker, M. Tahavori p. 1948
- An Iterative Learning Control Approach for Linear Systems with Randomly Varying Trial Lengths. X. Li, J-X. Xu, D. Huang p. 1954

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2.1. Contents: Mathematics of Control, Signals, and Systems (MCSS)
Contributed by: Lars Gruene, lars.gruene@uni-bayreuth.de

Mathematics of Control, Signals, and Systems (MCSS)
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- A structured pseudospectral method for $H_{\infty}$-norm computation of large-scale descriptor systems, Peter Benner, Matthias Voigt, 303-338

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

International Journal of Applied Mathematics and Computer Science (AMCS)
2014, Volume 24, Number 2 (June)
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E-mail: amcs@uz.zgora.pl
Scope: modern control theory and practice; artificial intelligence methods and their applications; applied mathematics and mathematical optimisation techniques; mathematical methods in engineering, computer science, and biology

2.3. Contents: Transactions on Smart Grid
Contributed by: Anuradha Annaswamy, aanna@mit.edu

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2.4. Contents: Asian Journal of Control
Contributed by: Fu Li-Chen, lichen@ntu.edu.tw

Asian Journal of Control
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- Physician-Commanded Six-DOF Robotic Manipulation for Target Localization in Conformal Radiotherapy. Wen-Chung Chang, Chin-Sheng Chen, Chia-Yuan Liu and Yu-Jen Chen

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- Passivity Based Attitude Control of Rigid Bodies. Hanlei Wang and Yongchun Xie

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- Reconfigurable Synchronization Control of Networked Euler-Lagrange Systems with Switching Communication Topologies. A. R. Mehrabian, K. Khorasani and S. Tafazoli

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- Robust and Efficient Slam Via Compressed \( H_\infty \) Filtering. Viet-Cuong Pham and Jyh-Ching Juang

- Optimal Tracking for State-Dependent Coefficient Factorized Nonlinear Systems. Fernando Ornelas-Tellez, J. Jesus Rico and Riemann Ruiz-Cruz

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- Computationally Efficient Simplex Unscented Kalman Filter Based on Numerical Integration. B. Q. Hu, L. B. Chang, A. Li and F. J. Qin

- Positive Realization of Stable Fractional Discrete-Time Linear Systems. Lukasz Sajewski

- A Convex Method of Robust Controller Design for Markovian Jump Systems with Uncertain Transition Rates. Yafeng Guo

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2.5. Contents: Applied and Computational Mathematics an International Journal
Contributed by: Fikret Aliev, chief_ed@acmij.az

Applied and Computational Mathematics an International Journal
Vol.13, No.2, June 2014
www.acmij.az

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Contributed by: Tanya Capawana, tanya.capawana@nowpublishers.com

This unique journal is a resource for graduate students and researchers looking for a high-level introduction to a new area. Primarily published as a monograph-style journal, each issue comprises a state-of-the-art review (50-200 pages) of its subject written by research leaders. By combining the peer-review of research journals with the high usage of reference works and the pedagogy of textbooks, FnT fulfills an important need in graduate-level education.

Foundations and Trends in Systems and Control (http://www.nowpublishers.com/journals/SYS/latest) is pleased to announce its second issue:
A. van der Schaft and D. Jeltsema,
“Port-Hamiltonian Systems Theory: An Introductory Overview”
doi: 10.1561/2600000002
Apart from offering a systematic and insightful framework for modeling and analysis of multi-physics systems, port-Hamiltonian systems theory provides a natural starting point for control. Especially in the nonlinear case it is widely recognized that physical properties of the system - such as balance and conservation laws and energy considerations - should be exploited and respected in the design of control laws which are robust and physically interpretable.

Port-Hamiltonian Systems Theory: An Introductory Overview provides a concise and easily accessible description of the foundations underpinning the subject, and goes on to emphasize novel developments in the field that will be of interest to a broad range of researchers. The tutorial style makes it suitable for use in a course and by students.

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2. From Modeling to Port-Hamiltonian Systems
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12. Port-Hamiltonian Systems on Graphs
13. Switching Port-Hamiltonian Systems
14. Distributed-Parameter Systems
15. Control of Port-Hamiltonian Systems

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2.7. CFP: Computers in Industry

Contributed by: Radu-Emil Precup, radu.precup@aut.upt.ro

CFP: Computers in Industry

Special Issue on Synergy of computers, cognition, communication and control with industrial applications

In nowadays industrial systems, the necessity of computers, cognition, communication, and control (CCCC) becomes more and more essential, for example, when performance specifications, unexpected upcoming system states, changing operating conditions, or environmental influences have to be integrated into the system design. Computers, automation and information technology (IT) are quickly developing, simultaneously the technologies specific to CCCC are increasingly exploited to enhance the efficiency of operating processes. Several modern industry-related applications such as industrial electronics, business management systems, and public sectors, deal with complex dynamical systems and with signals that are based on large amounts of data. It is expected that this will further increase. The current century is characterized by big data collections, making it more and more important to use and interpret the embedded information in the respective
architectures. The synergy of CCCC supports the increasingly demanding performance specifications of these applications and helps to face special situations like unexpected condition adaptations, human interaction challenges, and goal conflicts.

Practical industrial applications of the synergy of CCCC are networked control systems, online quality control of production items, supervision and failure analysis of dynamically changing machine states, decision support systems, prediction and control in dynamic production processes, welding processes, user profiling, process monitoring, web based control of information management flows, and resilient control architectures. The debate on these important issues will support the further progress of this area.

The objective of this Special Issue is to provide papers about the recent advances of CCCC techniques in modern industrial applications. These papers should contain both practical or experimental results and theoretical ones pointing out the role of IT and of the architecture. The use of the combination of at least two of the four (computers, cognition, communication, and control) should be demonstrated by validation and efficiency measured in production. The combination of more than two is strongly encouraged. Furthermore, it should be illustrated by implementation and not by strong theoretical details and simulations. A paper that is concerned with a single technique and does not invoke other CCCC techniques is not suitable.

Only papers with practical proofs (industry application and validation) should be submitted. Pure theoretical papers are not published in this journal. Papers that do not match the topics of the special issue are considered as out of scope, and they are not accepted.

Regular papers to this special issue will include the following topics:

- knowledge-based, fuzzy, neuro-fuzzy, neural systems and nature-inspired evolutionary-based algorithms relevant to application driven control and communication
- evolving soft computing techniques for online fault detection and decision support systems, smart systems and robotics
- computer-based control systems for real-time computing, communications and discrete-event systems
- embedded control systems in manufacturing
- cyber-physical systems, mechatronics systems and networked control systems
- Plant-wide optimization, prognosis and process monitoring
- Solutions for supply chain and risk management systems
- Comparisons, limitations and validations of CCCC in transportation and automotive systems

Important dates:
- Paper submission deadline: December 31, 2014
- The first review notification: March 15, 2015
- Deadline for submission of revised manuscripts: April 30, 2015
- The final review notification: June 15, 2015
- Planned publication date: December 15, 2015

Guest editors:
- Prof. Radu-Emil Precup, Politehnica University of Timisoara, Romania, radu.precup@aut.upt.ro
- Prof. Hans Hellendoorn, Delft University of Technology, The Netherlands, J.Hellendoorn@tudelft.nl
- Prof. Plamen Angelov, Lancaster University, p.angelov@lancaster.ac.uk

Please find details about the journal at the following link:
http://www.journals.elsevier.com/computers-in-industry/
Environmental pollution and energy shortages are not only the two major problems currently in the sustainable development of the automotive industry, but also the two major bottlenecks in the global automotive industry. Facing the enormous requirement of energy-saving and environment protection, the development of new energy vehicles have become an important measure to solve this problem. Recently, hybrid electric vehicles (HEVs) or electric vehicles (EVs) have become a hot topic from both theoretical and practical perspectives. Among various types of electric vehicles, hybrid electric vehicles (HEVs) or as they are commonly dubbed hybrid vehicles offer the distinct advantages of energy diversification, versatile operation, long driving range and high sustainability. Particularly, the aim is to employ advanced control strategies to improve the vehicle performance, including fuel economy and dynamic property, for instance.

This special issue invites original articles that address state-of-the-art technologies and new developments in the research on HEVs and EVs. Of particular interest are papers that are devoted to the most innovative control strategies in HEVs or EVs.

Topics of interest include, but are not limited to:
- Electric, Hybrid Electric and Plug-in Hybrid Electric Vehicle System and Architecture
- Modeling and simulation for HEVs or EVs
- Novel control strategies applied in HEVs or EVs
- Hybrid powertrains
- Fault detection and isolation in HEVs or EVs
- Energy optimization and management in HEVs or EVs
- Battery and battery management

Guest Editors:
Hamid Reza Karimi, Faculty of Engineering and Science, University of Agder, Grimstad, Norway
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Fengjun Yan, Department of Mechanical Engineering, McMaster University, Ontario, Canada
Email: yanjf@mcmaster.ca

Important Dates:
Deadline for submissions: July 31, 2014
Completion of First Review: November 30, 2014
Completion of Final Review: February 28, 2015
Receipt of Final Manuscript: March 31, 2015
Publication: September 1, 2015 (Tentatively Vol 17, No 5)

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

3.1. Dynamic Data-driven Environmental Systems Science Conference
Contributed by: Jonathan How, jhow@mit.edu

Dynamic Data-driven Environmental Systems Science Conference – DyDESS 2014
Call for Papers
Nov 5-7, Massachusetts Institute of Technology, Cambridge, MA
Submission Deadline: August 15, 2014 (submit@dydess.mit.edu)
Invitations/Acceptance: September 15, 2014
Registration & Camera Ready: October 15, 2014
Conference Dates: Nov 5-7, 2014
Location: MIT, Cambridge, MA.
URL: http://dydess.mit.edu

Submission: Submit by sending paper to submit@dydess.mit.edu in LNCS format as extended abstracts (6 pages) and short papers (12 pages) including figures and references. Download the guidelines here and style files for Latex or Word (Latex is preferred). See dydess.mit.edu for additional details. Papers will be peer reviewed and decisions based on the overall quality of results and novelty of approach. Papers accepted for oral or poster presentation must be presented at the conference for inclusion in the proceedings.

Motivation: Addressing the challenges in environmental sustainability requires an effective integration of sensing, observation and inference with physical, chemical, biological and social models. The necessary integration of data and science is multifaceted and symbiotic with applications from model-based sensing to data-driven modeling. While the attendant issues of predictability, uncertainty and risk reduction are of great interest in multiple areas of science, engineering and mathematics, a rigorous forum to present collective advances has been missing.

Vision: The Dynamic Data-driven Environmental Systems Science (DyDESS) Conference is envisioned as a premier conference coalescing the sciences with computation, systems science, and machine intelligence. It provides a forum for scientists in Engineering and Science in the emerging environmental systems research issues, an opportunity for young researchers to meet leading scientists, and brings together those interested in the dynamic data-driven framework for environmental applications. It provides an interdisciplinary forum to help methodology meet application, and to showcase the results obtained from applications and new, promising methodologies.

Scope: DyDESS invites original papers in the effective coupling of data and models for environmental applications, particularly research that integrates both methodology and experiments, suggests new promising
methodology, or demonstrates successful application. DyDESS is a single-track conference that includes
keynote, oral and poster sessions, and awards for outstanding papers.

DyDESS invites papers in the following areas:
(a) Sensing, imaging and retrieval for the oceans, atmosphere, space and land that is informed by the
environmental context.
(b) Algorithms for modeling and simulation, downscaling, model reduction, data assimilation, uncertainty
quantification and statistical learning. Methods that tackle nonlinear and high-dimensional problems are of
particular interest.
(c) Methodologies for planning and control, sampling and adaptive observation, and efficient coupling of
these algorithms into information-gathering and observing system designs.
(d) Applications of methodology to environmental estimation, analysis and prediction including climate,
natural hazards, oceans, cryosphere, atmosphere, land and space.

General Chairs
* John Marshall, Cecil and Ida Green Professor of Oceanography, Massachusetts Institute of Technology
* Jonathan How, Richard Cockburn Maclaurin Professor of Aeronautics and Astronautics, Massachusetts
Institute of Technology

Program Chairs
* Dennis Bernstein, University of Michigan (Aerospace Engineering)
* Sai Ravela, Massachusetts Institute of Technology (Earth, Atmospheric and Planetary Sciences)
* Adrian Sandu, Virginia Tech (Computer Science)

3.2. Allerton Conference on Communication, Control, and Computing
Contributed by: Denise Lewis, edlewis@illinois.edu

Allerton Conference on Communication, Control, and Computing
October 1-3, 2014 (with two Opening Tutorials being held on Tuesday, September 30, 2014)
Allerton House, Monticello, Illinois

The Fifty-Second Annual Allerton Conference on Communication, Control, and Computing will kick off with
two Opening Tutorials being held on Tuesday, September 30, 2014 at the Coordinated Science Laboratory.
The Conference sessions will start on Wednesday, October 1, 2014 through Friday, October 3, 2014 at
Allerton House, the conference center of the University of Illinois.
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.

Allerton House is located twenty-six miles southwest of the Urbana-Champaign campus of the University 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.
Plenary lecture: Jon Kleinberg, Tisch University Professor of the Department of Computer Science, Cornell University, will deliver this year’s plenary lecture. It is scheduled for Friday, October 3, 2014.

Notices: Manuscripts must be submitted by Monday, July 7, 2014, following the instructions at the Conference website: http://publish.illinois.edu/cslallertonconference/papers/submit-a-paper/

Final versions of papers to be presented at the conference will need to be submitted electronically by October 5, 2014.

Conference Co-Chairs: Olgica Milenkovic and Angelia Nedich
Sponsors: Coordinated Science Laboratory and the Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign
Email: allerton-conf@illinois.edu
URL: http://www.csl.illinois.edu/allerton

3.3. Congress of the International Federation of Automatic Control
Contributed by: Lisa Vickers, info@ifac2014.org

19th World Congress of the International Federation of Automatic Control (IFAC)
24-29 August 2014, Cape Town, South Africa
http://www.ifac2014.org

IFAC 2014 Programme Highlights:
This year International Federation of Automatic Control (IFAC) World Congress, which will be held at the Cape Town International Convention Centre (CTICC) from August 24 to 29, will focus on ways that control and automation can serve humankind. The Congress aims to promote dialogue and debate in the automatic control profession, while promoting the development of the profession in the wider engineering and relevant communities.

This is the first time that the Congress, which is held every three years, will be held in Africa, although several IFAC workshops and symposia have been held in the country. The first IFAC Congress was held in Moscow, in Russia, in 1960 and the most recent one was hosted in Milan, Italy, in 2011.

The theme for the 19th Congress is “Promoting automatic control for the benefit of humankind” and more than 2000 presentations, spanning about 25 parallel sessions, have been scheduled.

Automatic control can, and is, playing a significant role in providing technologies that assist humankind in living lighter lives on the planet. It is significant that the technical area with the most contributions at the Cape Town Congress is power and energy systems.

Also in dialogue will be the competing demands of high performance and high complexity. This competition can lead to the development of better automation technology as systems that used to be run by hand or with relatively low levels of control and automation are not sustainable. These systems include power grids, telecommunications, transportation systems, ecological systems, agriculture and medical systems.

The Congress will also include discussions on the interaction between control systems and biological systems, where there is new multidisciplinary work exploring the application of high-level mathematical concepts in dynamics and control in very complex interactions of biological systems.

Visit the website for the registration packages and rates and to register http://www.ifac2014.org/information-fees-and-deadlines.php

Pre-Congress Tutorials:
A series of in-depth Pre-Congress Tutorials presented by experts are being offered on the weekend preceding...
the Congress. Topics range from smart grids to predictive repetitive control to mechatronics control education to fractional order motion controls, and more.


Technical Tours:
A selection of Technical Tours to major installations of control technology in the Western Cape Province is available. These will take place throughout the Congress week.


Please note that there is an additional charge to attend the Pre-Congress Tutorials and Technical Tours. Pre-registration is required for all.

### 3.4. IEEE Symposium Series on Computational Intelligence

**Contributed by:** Haibo He, he@ele.uri.edu

2014 IEEE Symposium Series on Computational Intelligence
IEEE SSCI 2014
December 9 to 12, 2014, Orlando, Florida, U.S.A.

**Important Announcement:**
The IEEE SSCI 2014 is extending its paper submission deadline to July 15, 2014. Please note this extension will be one-time only and that there will be no further extensions. Therefore, we would like to kindly encourage you to submit your paper(s) early rather than wait until the very end. Thank you for considering to submit to the conference and we look forward to having the opportunity seeing you in Orlando, FL at the exciting IEEE SSCI 2014!

Welcome to the sunshine of Orlando, Florida for the IEEE SSCI 2014, a flagship international conference sponsored by the IEEE Computational Intelligence Society (CIS) promoting all aspects of Computational Intelligence (CI). The IEEE SSCI 2014 co-locates multiple exciting symposiums at one single location, providing a unique opportunity to encourage cross-fertilization and collaborations in all areas of CI. The IEEE SSCI 2014 features a large number of keynotes, tutorials, and special sessions. The IEEE SSCI 2014 will also offer a number of travel grants as well as an exciting Doctoral Consortium.

**Important dates:**
- Paper submission: July 15, 2014 (New and Final!)
- Notification to authors: September 5, 2014
- Final submission: October 5, 2014
- Early registration: October 5, 2014
- Website: [www.ieee-ssci.org](http://www.ieee-ssci.org)

For paper submissions, please go to the conference website: [www.ieee-ssci.org](http://www.ieee-ssci.org) and click the Paper Submission from the left panel, or directly go to the paper submission link at: [www.ieee-ssci.org/submission.html](http://www.ieee-ssci.org/submission.html)

**General Chair:** Haibo He, USA
**General Program Chair:** Cesare Alippi, Italy

### 3.5. IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning

**Contributed by:** Lucian Busoniu, lucian@busoniu.net
An extension until *15 July 2014* was granted for the paper submission deadline to The 2014 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning. We are therefore still welcoming papers for a few more weeks. However, please keep in mind that this extension is final.

We will have exciting talks by Dimitri Bertsekas, Paul Werbos (SSCI plenary), and others, a Doctoral Consortium and travel grant possibilities for students, and of course Orlando itself!

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 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.

Keynote and special sessions:
We are happy to announce that Prof. Dimitri Bertsekas, widely known in all communities connected to ADP and RL for his influential work, will be giving a keynote talk on “Exact and Approximate Dynamic Programming: A Survey and Recent Developments”.

Moreover, several special sessions will be organized by well-known researchers, including e.g.:

* “Reinforcement Learning and Optimization in Stochastic Multi-objective Environments”, by Madalina Drugan and Bernard Manderick
* “Approximate Dynamic Programming for Energy and Sustainability”, by Boris Defourny and Warren Powell
* “Learning Control and Optimization based on Adaptive Dynamic Programming”, by Dongbin Zhao, Haibo He, and Derong Liu
* “Online Learning Control Algorithms Based on ADP for Uncertain Dynamic Systems”, by Xin Xu and Yanhong Luo

Important dates:
Paper submission: 15 July 2014 (extended and final)
Notification to authors: 5 September 2014
Final papers due: 5 October 2014
Early registration: 5 October 2014
Conference: in the interval 9-12 December 2014

3.6. IFAC Conference on Modelling, Identification and Control of Nonlinear Systems
Contributed by: Frank Allgöwer, allgower@ist.uni-stuttgart.de

1st IFAC Conference on Modelling, Identification and Control of Nonlinear Systems (MICNON-2015)
June 24–26, 2015
Saint Petersburg, Russia
http://micnon2015.org

Deadline for electronic submission of full papers and invited session proposals: December 20, 2014

MICNON 2015 is going to be the first event of a new conference series that is organized by the IFAC Technical Committee on Nonlinear Systems.
The scope of the conference will cover all areas of nonlinear systems theory and applications in science and engineering, including control of nonlinear systems, analysis of nonlinear systems, modelling and identification of nonlinear systems and all types of applications in connection to nonlinear systems. The first MICNON is dedicated to the memory of Vladimir Andreevich Yakubovich, one of the founders of modern control theory and will take place in beautiful St. Petersburg during the famous white nights season.
For the upcoming first MICNON conference, contributed papers, invited sessions and workshops are solicited in all areas of nonlinear systems and control.
3.7. IEEE International Conference on Industrial Instrumentation and Control
Contributed by: Dr.Pramod D. Shendge, pds.instru@coep.ac.in

IEEE International Conference on Industrial Instrumentation and Control (ICIC 2015)
Date: 28–30 May 2015, Pune, Maharashtra, India
Website: www.icic2015.com

International Conference on Industrial Instrumentation and Control (ICIC 2015) is organized to promote interdisciplinary understanding of industrial instrumentation and control systems, their application to different fields of science and engineering. The conference will feature a comprehensive technical program offering numerous technical sessions with papers showcasing the latest technologies, applications and services. It will take place at the India’s one of the prestigious engineering institute, College of Engineering Pune between 28th to 30th May 2015. It will cover core Instrumentation topics related to control systems, embedded systems, industrial instrumentation, measurement systems as well as sustainable energy systems.

The objective of the conference is to disperse the latest developments in the interdisciplinary field of Instrumentation to provide a platform for the future developments of the same.

Important Dates:
Paper submission deadline: 30th November 2014
Notification of acceptance: 31st January 2015
Paper and copyright transfer: 28th February 2015
Author registration deadline: 31st March 2015

Keynote Speakers:
- Prof. L. Fridman, Mexico
- Prof. Robert Bishop, US

Papers submission via easychair through website
Preconference Tutorial: 27th May 2015
Conference Topics include (but are not restricted to):
Industrial Instrumentation; Embedded Systems and Signal Processing; Control Systems; Sustainable Energy Systems; Instrumentation and Measurements

3.8. International Conference on Unmanned Aircraft Systems
Contributed by: Youmin Zhang, Youmin.Zhang@concordia.ca

2015 International Conference on Unmanned Aircraft Systems (ICUAS’15)

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

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

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

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

Important dates
February 6, 2015: Full Papers/Tutorial Proposals Due
April 24, 2015: Acceptance/Rejection Notification
May 11, 2015: Upload Final, Camera Ready Papers
April 24 - May 11, 2015: Early Registration

Paper submission
Papers must be submitted electronically through controls.papercept.net. Go to https://controls.papercept.net. Click on the link “Submit a Contribution to ICUAS’15” and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 12 point fonts, Times New Roman. The maximum number of pages per paper is 10. Illustrations and references are included in the page count. Submitted papers will undergo a peer review process coordinated by the Program Chairs, the ICUAS Advisory Committee Members, the IPC and qualified reviewers. Authors will be notified of acceptance at the latest by April 24, 2015. Accepted papers must be uploaded electronically no later than May 11, 2015. Authors are encouraged to accompany their presentations with multimedia material (i.e., videos), which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.

General chairs
- Fulvia Quagliotti, Politecnico di Torino, fulvia.quagliotti@polito.it
- Youmin Zhang, Concordia University, youmin.zhang@concordia.ca
- Kimon Valavanis, University of Denver, kimon.valavanis@du.edu

Program chairs
- Didier Theilliol, Univ. of Lorraine, Didier.Theilliol@univ-lorraine.fr
- Roberto Sabatini, RMIT Univ. AU, roberto.sabatini@rmit.edu.au
- Srikanth Saripalli, Arizona State U., Srikanth.Saripalli@asu.edu

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4. Workshops

4.1. Robustness in Identification, Control... and Beyond!
Contributed by: Andrea Garulli, garulli@ing.unisi.it

Robustness in Identification, Control... and Beyond!
A workshop on the Occasion of Antonio Vicino’s 60th Birthday
September 25-26, 2014 - Siena, Italy
Workshop homepage: http://www.congressi.unisi.it/robustness/
It is well-known that classical as well as modern research problems in the control field face the omnipresent issue that the available models for analysis and design are known only partially, due to the presence of uncertainties. This is even more evident when considering emerging research areas, such as networked control, energy systems and systems biology, in which the uncertainty affecting the models plays a key role. This calls for new approaches both to systems modeling, that has to devise suitable uncertainty representations, and to the resulting control problems, which have to face the challenges related to the presence of uncertainty.
The aim of this workshop is to gather problems, ideas, and potential solutions in this context, from very well-known experts of the field, in order to provide educational opportunities and catalyze research discussions for the attendees.
The workshop will take place in Siena in occasion of the celebration of the 60th birthday of Prof. Antonio Vicino.
The list of invited speakers and the program of the workshop are available at:
http://www.congressi.unisi.it/robustness/program/
Participation in the workshop is free of charge. However, registration is needed for attending the workshop.
The registration deadline is September 10, 2014.
Organizing committee: Andrea Garulli (Università di Siena), Graziano Chesi (University of Hong Kong), Domenico Prattichizzo (Università di Siena)

4.2. Randomized methods for analysis and design of control systems
Contributed by: Marco Campi, marco.campi@ing.unibs.it
Pre-Congress Tutorial @IFAC14
Randomized methods for analysis and design of control systems
Sunday August 24, 2014
Full day: 8.30 - 16.30
http://www.sct.ieiit.cnr.it/index.php?amp;sec=3&art=200
The objective of this tutorial is to introduce the attendee to randomized methods for the analysis and design of control systems. Randomized methods are an emerging technology to address problems that are otherwise difficult to solve along more traditional approaches. The main underlying idea is to replace the normally infinite set of possible uncertainty outcomes with finitely many samples that are representative of the uncertainty domain. One of the main properties which makes randomized methods attractive is that the solutions they provide come accompanied by precise probabilistic guarantees that also refer to unseen cases in the uncertainty domain. This is relevant to probabilistic performance guarantees, as well as to a certified satisfaction of control constraints. Depending on the application at hand, the samples can be drawn from a probabilistic model of uncertainty, or they can be obtained as observations. The latter situation covers data-based approaches in learning and identification.
Samples can be used all at the same time (batch or scenario approach) or in succession (sequential methods). This tutorial covers both situations. The scenario approach is a well-established paradigm that can be used to solve convex uncertain optimization problems arising in control. Sequential methods are instead very well suited for feasibility problems, and the presentation will emphasize the many pros and achievements obtained in this direction. The presentation will be gradual to allow an in-depth understanding of the fundamental concepts. Practical examples will illustrate the main ideas, and a presentation of open problems will complete the tutorial.

Speakers:
Marco Campi, University of Brescia, Italy
Fabrizio Dabbene, CNR IEIIT Torino, Italy
Simone Garatti, Politecnico di Milano, Italy
Maria Prandini, Politecnico di Milano, Italy
Roberto Tempo, CNR IEIIT Torino, Italy

4.3. Control and Dynamical Systems program workshop
Contributed by: Richard Murray, murray@cds.caltech.edu

The Control and Dynamical Systems (CDS) program at Caltech will celebrate its 20th anniversary in August 2014. We will hold a "directions" workshop for the control and dynamical systems community to recognize some of the success of the field in the past 20 years and to talk about new opportunities in the next 20 years, both within core CDS areas but also by making connections to other areas of science, engineering and mathematics. The workshop will bring together leaders from the field for a three day event on 5-7 August 2014 in Pasadena, California, with talks, panel sessions and networking events.

5. Online Courses and Graduate Schools

5.1. Online Course on Dynamics and Control
Contributed by: Pedro Albertos, pedro@aii.upv.es

With the idea of motivation for freshmen students and non specialist in control, I am very glad to inform you that the new course Dynamics and Control has been launched at the UPVx platform www.upvx.es. Starting June 17th, lasting for 6 weeks and being fully ran in English. The course is a very basic one, avoiding the use of mathematics and focusing on concepts and examples. You can enter anytime you want. You can also find it on its direct link http://cursodynamicsandcontrol.appspot.com/ficha where anyone interested may register. Of course, feel free to send the link to whoever you consider appropriate, as the course is aimed at the non-specialist willing to grasp the basic notions of it.

5.2. International Summer School on Modern Tools for Nonlinear Control
Contributed by: Mirko Fiacchini, mirko.fiacchini@gipsa-lab.fr
The 35th International Summer School of Automatic will focus on Modern Tools for Nonlinear Control. The goal is to expose a large community of students and researchers to novel nonlinear control tools developed in the last decade by internationally renowned experts. The Summer School is dedicated to PhD students, but it is open to researchers and teachers in control engineering or in applied mathematics. The registration is open until 15 July 2014. During the five days of the school, several breakthrough topics in the context of nonlinear observers design, hybrid control systems and nonlinear optimization will be illustrated by the three speakers.

Lecturers:
D. Henrion, LAAS-CNRS, Toulouse, France and Czech Technical University in Prague, Czech Republic
L. Praly, Paris School of Mines, France
A. R. Teel, University of California at Santa Barbara, U.S.A.

Important dates:
Pre-registration Deadline: July 1st, 2014
Registration Deadline: July 15, 2014
Summer School: September 8-12, 2014

6. Positions

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

Open PhD Positions
Advanced Systems Research Laboratory (http://www.asrl.us)
Missouri University of Science and Technology (http://www.mst.edu)

We are searching for exceptional PhD students with a strong background in systems, controls, and robotics. These students are expected to perform research on (1) safety-critical autonomous systems, (2) multiagent systems and robotics, and (3) modular large-scale systems. 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 Prof. Tansel Yucelen at yucelen@mst.edu including your background, your interests and strengths (theoretical and experimental), your resume, and a publication of yours. You can visit http://www.asrl.us for our webpage.

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 human 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 and training science-based engineers and professionals to shape the future of our society.
6.2. PhD: Schneider Electric Industrie / University of Grenoble, France
Contributed by: Mazen Alamir, mazen.alamir@grenoble-inp.fr

PhD Position Schneider Electric Industrie (Grenoble) / Gipsa-lab Control Systems Department
Title: Stability Analysis and Distributed Control Design for A Micro Grid Including renewable Energy Producers.
Context: Industrial PhD (3 years). Successful applicant will work at Schneider Electric Company (Grenoble) with a scientific advisor from Gipsa-lab (Control System Department of the university of Grenoble).
Please, download the PhD description at http://www.mazenalamir.fr/files/MGPhD.pdf
Send CV and Background details (followed courses and related marks) simultaneously to the following addresses:
David Gualino
Schneider Electric, Technology Innovation
Advanced Mechatronics and Control Manager.
Tel : 0476391423
Email : david.gualino@schneider-electric.com
Mazen Alamir
Directeur de recherche CNRS
Gipsa lab, Département automatique
Tel : 0476826326
Email : mazen.alamir@grenoble-inp.fr

6.3. PhD: Coventry University, UK
Contributed by: Olivier Haas, o.haas@coventry.ac.uk

PhD Studentship: Efficient, cost effective and on-demand Quality Control for NHS radiotherapy equipment
Eligibility: UK/EU Students Only
Award Details: Tuition Fees +Bursary £13863 per year (tax-free)
Duration: 3 years Fixed Term (Sept 2014 start)
Application deadline: 25th July 2014
Application to: o.haas@coventry.ac.uk
Interview Dates: week commencing 18th August 2014

Coventry University has a long tradition as a provider of education. Our roots go as far back as Coventry College of Design in 1843. Founded as an industrial university focused on the needs of major multinational manufacturing companies based locally, Coventry prides itself for its tradition of industry-facing research that is developed through close collaboration with organisations and meets international excellence standards. This studentship will be based at the Faculty of Engineering and Computing which has a distinguished record of research with teams working across a range of subject areas including medical technology applied to radiotherapy, control theory and condition monitoring, optimisation, sensing and dosimetry.

The Project:
External beam radiotherapy using digital linear accelerators is the most widely used cancer treatment technique. Under the supervision of Dr Olivier Haas (Reader in Applied Control Systems, and leading expert in applying systems modelling control and optimisation to radiotherapy physics: http://www.coventry.ac.uk/research/experts-directory/ec-staff/olivier-haas/), this innovative and unique multidisciplinary doctoral research project will aim to optimise digital linear accelerators performances and pre-
dict component failures in order to achieve 100% digital linear accelerators availability through on demand quality control. A control engineering methodology will be employed to model digital linear accelerators in view to automate the equipment tuning. Statistical modelling, expert systems and Bayesian network will then be combined with the control approach to identify appropriate maintenance schedules based on expected component failures.

This research studentship is in collaboration with and will benefit from the active supervision, support and participation of the University Hospital, Coventry, UK as well as the digital linear accelerators manufacturer Elekta Limited, Crawley, UK. It is expected that the research student will spend a proportion of time at University Hospital’s facilities to ensure that the solutions developed are novel, practical and will result in measurable clinical impacts.

Successful applicants will have:

- A first or good upper second class undergraduate degree in related engineering, physics, mathematics, computer science subject or a related degree with a strong interest in pursuing research in this field.
- A minimum of a merit profile: 60% overall module average and a minimum of a 60% dissertation mark. Knowledge and/or experience in radiotherapy physics.
- A good knowledge of systems modelling and statistics.
- A taught Masters degree in a relevant discipline, involving a dissertation of standard length written in English in the relevant subject area with some experimental, modelling or analytical component; we expect applicants to have gained at least at merit level (or equivalent).
- Experience of (or a willingness to quickly learn) simulation, modelling and analysis (using MATLAB/Simulink), and implementation in languages such as C or Java.
- The potential to engage in innovative research and to complete the PhD within a three-year period of study.
- Have a minimum of English language proficiency (IELTS 7, or equivalent, in all skills).

Eligibility:
Only UK/EU citizens may apply with the academic requirements as listed on:  
http://www.coventry.ac.uk/research/research-students/research-entry-criteria/

Application Procedure:
For an application form please visit http://www.coventry.ac.uk/research/research-students/phd/
Additionally submit the following:
(1) full CV,
(2) an abstract of your last research/postgraduate project,
(3) publications if any,
(4) marks transcripts if available,
(5) proof of qualifications to date,
(6) a clear statement of skills in response to above

Applications will be evaluated on the academic strength of the candidates and the match between the candidate and the project. Shortlisted applicants will be invited to interview, brief presentation and skills test.

For any further enquiries please contact Dr. Olivier Haas at o.haas@coventry.ac.uk
For further information on the university, please visit www.coventry.ac.uk
6.4. PhD: Aalborg University, Denmark  
Contributed by: Rafael Wisniewski, raf@es.aau.dk

PhD Stipends in computer-aided controller design for nonlinear systems.

Section for Automation Control at Aalborg University has two PhD stipends in computer-aided controller design for nonlinear systems available from October 1, 2014 or as soon as possible thereafter.

A critical bottleneck in industrial automation is the lack of efficient numerical methods for designing controls for nonlinear systems. As a result, controllers for nonlinear systems are being designed based on trial-and-error and rule-of-thumb approaches in conjunction with extensive simulation studies.

This project is concerned with the development of efficient algorithms for designing controls of high-dimensional nonlinear systems. The proposed methods must be implemented in software, and applied to industrial applications proposed by the project’s three industrial partners. The project is carried out within the CodeMe project, funded by the Danish Council for Independent Research, and led by Professor Rafael Wisniewski.

The aim of the project is to develop certificates of positivity for polynomial systems. As an example, a certificate of positivity for a quadratic form is the positive definiteness of its defining matrix. This is the cornerstone in LMI-based controller design. Issues in state-of-the-art numerical methods for nonlinear systems are scalability and numerical stability. Our hypothesis is that the representation of polynomials in the Bernstein basis can alleviate some of these issues. In short, this project will develop scalable numerical methods that will enable the design of controls for nonlinear industrial applications.

The candidate is expected to be independent, and to have demonstrated excellence in her/his MSc. The applicants must have a solid background in control theory, numerical methods, mathematical optimization, mathematical analysis, and programming. Good skills in oral and written English are also required.

You may obtain further information from Professor Rafael Wisniewski (raf@es.aau.dk) concerning the scientific aspects of the PhD stipend.


6.5. PhD/Post-Doc: Georgia Institute of Technology, USA  
Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Applications are invited for a doctoral and/or post-doctoral position in the general area of dynamics and control of automotive systems.

Students with a strong background in systems and control and a clear interest in the general area of automotive systems are encouraged to apply.

Specific areas of interest include:
- Active safety system design for passenger vehicles using robust or optimization-based (ie, MPC) methods
- Driver modeling and driver-in-the-loop simulation and control
- Application of hybrid control and finite-state automata in automotive

Excellent mathematical and analytic skills are necessary. Candidates with a demonstrated track record in one or more of the previous area(s) will be preferred.

Interested students should send a short resume and the names of three references, along with representative relevant publications, if applicable, to:
Prof. Panagiotis Tsiotras
School of Aerospace Engineering
6.6. PhD/Post-Doc: Technische Universität München, Germany
Contributed by: Matthias Althoff, althoff@in.tum.de

The Research Group “Cyber-Physical Systems” of Prof. Matthias Althoff at the Technische Universität München offers a doctoral/postdoctoral position in the DFG-funded project “Analysis und Synthesis of Robustly Controlled Smart-Grid-Systems (ROCS-Grid)”.

The offered position has a strong focus on formal verification of power systems, which is especially interesting to applicants with expertise in control theory and power systems.

Technische Universität München is one of the top research universities in Europe. The university fosters a strong entrepreneurial spirit and international culture that places it at the forefront of research in a diversity of disciplines.

Detailed information of the job offer can be found at http://portal.mytum.de/jobs/wissenschaftler/NewsArticle20140618144306

6.7. PhD/Post-Doc: ETH Zurich, Switzerland
Contributed by: John Lygeros, jlygeros@ethz.ch

Research Positions, Automatic Control Laboratory, ETH Zurich

The Automatic Control Laboratory of ETH Zurich is looking to recruit researchers in the following areas:

1. Postdoctoral researcher on energy efficiency for buildings and urban areas. Topics of interest include methodological approaches to the control of buildings, system identification and state estimation for building dynamics, control of building clusters and energy hubs, and interaction of building clusters with the energy grids.

2. Postdoctoral researcher on the interface between machine learning and automatic control. Topics of interest include randomized optimization, data driven state estimation, system identification and model predictive control, as well as applications of these to transportation and credit card fraud detection.

3. PhD student or postdoctoral researcher in systems biology. Topics of interest include methodological development for modeling and analysis of stochastic biochemical systems and population systems, as well as the applications of such methodologies to model identification/discrimination for molecular signaling cascades and their interaction with yeast metabolism.

Qualifications:
The successful candidate should hold a Ph.D in automatic control or a closely related area.

Administrative details:
This is intended as a two-year or more position. The salary depends on experience and will range from 85,750.00 CHF to 94,400.00 CHF plus social costs (insurance and retirement, typically 14.3%). The working language of the laboratory is English.
To apply:
Please email the following information (in PDF format) to Prof. Roy Smith (rsmith@control.ee.ethz.ch) or Prof. John Lygeros (jlygeros@ethz.ch):

1. A current curriculum vitae;
2. A one page statement summarising your research and career interests;
3. A copy of your Ph.D. thesis and your two most significant publications.
4. The names and contact information for 2 or 3 references who are in a position to assess your research potential.

Additional information about the positions may be obtained by contacting Prof. Smith or Prof. Lygeros directly.

Deadlines:
The position is open from June 2014 and will remain open until the ideal candidate is found. The start date is negotiable, but would ideally be in July or August 2014.

6.8. Post-Doc: University of Minnesota, USA
Contributed by: Volkan Isler, isler@cs.umn.edu

We are looking for a post-doctoral researcher for our NSF-funded project on designing a network of autonomous vehicles to find and track radio-tagged fish.

Within this project, our group focuses on three sets of problems:
(1) Search: how to find tagged fish as quickly as possible
(2) Active Tracking: estimating the fish movement from bearing measurements
(3) Energy efficiency to enable long term autonomy

The post-doc is expected to perform cutting edge research on one or more of these problems and help with coordination across collaborating groups. More information about the project, publications, videos is available at: http://rsn.cs.umn.edu/index.php/Carp_Tracking

More information about the position is available through: http://employment.umn.edu/
Please search for Requisition Number: 190964

Interested applicants can contact Volkan Isler for further questions (contact information at: http://www-users.cs.umn.edu/~isler/).

The University of Minnesota is home to one of the strongest robotics programs in the country. It has recently launched a new initiative funded by the State of Minnesota called MnDRIVE (Minnesota Discovery, Research and InnoVation Economy) focused on advancing Minnesota’s economy and positioning the state as a leader in key industries. One of the four focus areas is robotics. See: http://cse.umn.edu/research/mndrive/

6.9. Post-Doc: Delft University of Technology, The Netherlands
Contributed by: Simone Baldi, s.baldi@tudelft.nl

Post-doc at the Delft Center for Systems and Control
The Delft Center for Systems and Control (http://www.desc.tudelft.nl) of Delft University of Technology, The Netherlands, is seeking qualified candidates for a one-year position as a post-doctoral fellow within the research area of adaptive optimization for control of piecewise affine systems.
The challenge:
A large class of hybrid systems can be described by a max-min-plus-scaling (MMPS) model (i.e., using the operations maximisation, minimisation, addition and scalar multiplication). The class of MMPS systems is equivalent to the class of continuous Piecewise Affine (PWA) systems. The development of optimal control techniques for MMPS or PWA systems with uncertain dynamics or even unknown state partitions is the scientific objective of this post-doctoral position, a challenging task for which no definite answer has been provided. State-of-the-art methods for optimal control of MMPS or PWA systems typically assume the perfect knowledge of the system dynamics and of its state-space partitions. Furthermore, these methods lead in general to nonlinear, nonconvex optimisation problems, with high computational burden. To deal with the uncertainty and tame the computational complexity we propose an adaptive optimization methodology where the Hamilton-Jacobi-Bellman (HJB) equation associated with the optimal control problem is adaptively solved online. The developed adaptive algorithms should be fast and efficient to handle uncertain systems with dimensionality and complexity of practical interest.

Requirements:
We are looking for a candidate with a PhD degree in Systems and Control, Applied Mathematics, Mechanical Engineering or a closely related discipline, with a strong background in identification and control of hybrid systems and/or classification and pattern recognition. An excellent publication record will be evaluated very positively. A good command of the English language is required.

Conditions of employment:
We offer the opportunity to do scientifically challenging research in a multi-disciplinary research group. TU Delft also offers an attractive benefits package, including a flexible work week, free highspeed Internet access from home, and the option of assembling a customised compensation and benefits package (the IKA). Salary and benefits are in accordance with the Collective Labour Agreement (CAO) of the Association of Universities in the Netherlands (VSNU), and are depending on the qualifications and experience of the candidate selected.

Information and application:
For more information about this position, please contact Dr. Simone Baldi (s.baldi@tudelft.nl) or Dr. Ton van den Boom (a.j.j.vandenBoom@tudelft.nl). Applicants should submit their letter of application along with a detailed curriculum vitae, a research statement indicating your background and interests and how they align with the position (around one page long), a list of publications, title and abstract of your PhD dissertation, the PDF files of two key publications, your BSc and MSc course program and the corresponding marks, contact information for at least two academic references and all other information that might be relevant to your application to Dr. Simone Baldi and Dr. Ton van den Boom. A first selection will be made based on the submitted material, and selected candidates will undergo a Skype interview.

The initial application deadline for the position is August 1, 2014, but the position will stay open until a suitable candidate has been appointed.

6.10. Post-Doc: Delft University of Technology, The Netherlands

Contributed by: Prof. Michel Verhaegen, m.verhaegen@tudelft.nl

In the scope of the ERC Advanced Grant Integrated Feedback Control and High Resolution Imaging Prof. M. Verhaegen of the Delft University of Technology - Department of Systems and Control is seeking an outstanding Postdoc in Objective 2 of the ERC program.
Distributed Control for Extreme Adaptive Optics

Extreme Adaptive Optics is a real-time feedback control problem with degrees of freedom (sensors, actuators and systems dynamics) in the order 10,000 or more. In the group of Prof. M. Verhaegen new data driven methods for identification and control of large scale systems are being developed. Some of these developments have lead to prestigious prices such as the best PhD in Europe in the field of Control for Complex and Heterogeneous Systems in 2011. The goal is to built on this expertise to develop 2D distributed control methodologies and validate these methods for the Extreme Adaptive Optics problems of the future, such as in the European Extreme Large Telescope (E-ELT).

The ultimate goal of this research program is to develop a 2D data driven control design methodology for integrated real-time and post-processing image restoration. This comprises both research on methods that can be distributed as well as on the distributed implementation of these methods using state of the art developments in GPUs.

Successful completion of this project will lead to a fundamental step forward in both the identification of large scale network connected systems as well as in the data driven control of these methods.

We seek a candidate with a strong background in distributed systems and control, numerical method development for large scale systems and their implementation on GPUs; a researcher who is eager to invent new solutions for challenging new problems.

The position is a 3 year research position and will be mainly carried out at the Delft Center for Systems and Control, the Netherlands. In addition there is the possibility for short external visits at top institutes worldwide.

For further inquiries please contact M.Verhaegen@tudelft.nl

6.11. Post-Doc: Chalmers University of Technology, Sweden

Contributed by: Balazs Kulcsar, kulcsar@chalmers.se

Postdoc position at Chalmers University of Technology on “Enhanced traffic flow optimization using on-car sensors”

The Department of Signals and Systems within the Chalmers University of Technology, Sweden, Gothenburg, consist of several divisions such as Automatic Control, Automation and Mechatronics, Communication Systems, Biomedical Engineering, Information Theory, and Signal Processing and Antennas. Among many activities, we perform high quality vehicle-oriented research. This research knowledge is complemented by a new initiative from Chalmers, through the Transport Area of Advance aiming at promoting cross-fertilized transportation related research and by the research hub SAFER focusing on safe and efficient transportation solutions.

We invite candidates to apply for one post-doctoral position in the research field of decentralized sensing and control algorithms for large-scale transportation networks. We aim to approach key challenges in the field of enhanced flow optimization with on-site and on-car data fusion. The main objective is to develop and apply valuable cooperative sensing and communication methodologies to derive distributed urban traffic control solutions. The topics include the duality of theoretical and application-oriented research (urban traffic). The postdoc will be located at the Automatic Control group, while the research activity will be shared between the Automatic Control Group and the Communication Systems Groups. In both of these groups, enthusiastic teams of PhD students, post-docs and senior researchers work on solving different research aspects of traffic modeling, control, and sensing, vehicle control, hybrid vehicle design.
Co-supervision of undergraduate (B.Sc., M.Sc., PhD) students, participation in national/international projects and conferences will be part of the candidate’s duties. The working time of post-doctoral staff is mainly devoted to research and might include undergraduate teaching duties, not exceeding 20% of the total working time.

The position is jointly funded by SAFER, Transport Chalmers Area of Advance, and the Department of Signals and Systems. The appointment is a full-time employment (not a scholarship), with an attractive salary and full social benefits, for a period not exceeding 17 months.

A PhD (or close to completion) in control, communication theory, transportation science or a relevant field to the description is required. Background in at least one of the following research areas will be preferred: modeling of transportation network, decentralized or distributed control, cooperative sensing and communication, constrained and optimal control. Ability to initiate new research collaborations, work in a team and be open for the application of results is important. Good communication skills, good command of English is essential. We especially encourage female candidate to apply.

Contact: For further information contact prof. Balazs Kulcsar (kulcsar@chalmers.se), or prof. Henk Wymeersch (henkw@chalmers.se). Applications will be continuously evaluated up to the application deadline, August 31, 2014.

Online application at: http://www.chalmers.se/en/about-chalmers/vacancies/?rmpage=job&rmjob=2231

6.12. Post-Doc: IFP Energies nouvelles, Lyon, France

Contributed by: Olivier Lepreux, recruit.ifpen.03@gmail.com

2 postdoctoral positions
Workplace: IFPEN Lyon, France
Position: 12 months (possible extension to 18 months)
Contact: recruit.ifpen.03@gmail.com

* Process control

Context:
Process Experimentation Division of IFPEN develops and operates experimentation facilities for pre-industrial catalysts. We provide qualification tests and models during the development phases of industrial catalysts. In a context of continuous improvement, we are constantly developing new methods and techniques to make our test units more efficient and more reliable.

Job description:
We are looking for postdoc researcher to join our team. This position entails process control for catalyst screening pilot plants, process modeling for control, experimental data analysis, and experimental tests of control algorithms. The job is in close cooperation with researchers from the Process Experimentation Division and the Control, Signal and System Department.

We are seeking highly motivated individuals with excellent track record. Candidates are required to have a completed PhD in the area of control science. Ideal applicants should have a background on control of distributed parameter systems, and/or on process control and process modeling for control. Proficiency in computer programming (Matlab, Fortran, C/C++,...) is essential. Applicants should have a taste for experimental applications and proven ability to work effectively independently and as part of a multidisciplinary team.

* Controls and diagnostics of exhaust gas aftertreatment systems
Context:
Regulation standards for pollutants emissions of vehicles are becoming more stringent and constraints of manufacturers are increasing. In this context, it is of major interest to use exhaust gas aftertreatment systems “optimally”. IFPEN has been involved in the development of these systems for more than 10 years. Exhaust gas aftertreatment systems are governed by systems of partial derivative equations (PDEs). Physical phenomena taking place in aftertreatment systems are, inherently, very variable and highly localized. It is therefore difficult to reduce these systems to ordinary differential equations (ODEs), classically used for control and estimation algorithms. Other works have highlighted the need to take into account the infinite-dimensional structure of aftertreatment systems to design control algorithms.

Job description:
We are looking for a postdoc researcher to join our team. This position entails controls and diagnostics for exhaust gas aftertreatment systems, modeling for control, experimental data analysis, and experimental tests of control algorithms. Control and diagnostic algorithms will be validated on an engine test bench and a prototype vehicle. The job is in close cooperation with researchers from three departments of IFPEN: Control, Signal and System - Simulation - Engines laboratory.

We are seeking highly motivated individuals with excellent track record. Candidates are required to have a completed PhD in the area of control science. Ideal applicants should have a background on control of distributed parameter systems, and/or on aftertreatment control and aftertreatment modeling for control. Proficiency in computer programming (Matlab, C/C++, ...) is essential. Applicants should have a taste for experimental applications and proven ability to work effectively independently and as part of a multidisciplinary team.

IFP Energies nouvelles (IFPEN) is a public research and training player. It has an international scope, covering the fields of energy, transport and the environment. From research to industry, technological innovation is central to all its activities.

As part of the public-interest mission with which it has been tasked by the public authorities, IFPEN focuses on:

- providing solutions to take up the challenges facing society in terms of energy and the climate, promoting the emergence of a sustainable energy mix;
- creating wealth and jobs by supporting French and European economic activity, and the competitiveness of related industrial sectors.

Its programs are hinged around 5 complementary, inextricably-linked strategic priorities:

- renewable energies: producing fuels, chemical intermediates and energy from renewable sources,
- eco-friendly production: producing energy while mitigating the environmental footprint,
- innovative transport: developing fuel-efficient, environmentally-friendly transport,
- eco-efficient processes: producing environmentally-friendly fuels and chemical intermediates from fossil resources,
- sustainable resources: providing environmentally-friendly technologies and pushing back the current boundaries of oil and gas reserves.

An integral part of IFPEN, its graduate engineering school prepares future generations to take up these challenges.
6.13. Post-Doc: San Jose State University, USA
Contributed by: Kamran Turkoglu, kamran.turkoglu@sjsu.edu

Post-Doctoral Researcher position is available at Control Science and Dynamical Systems Laboratory, at Aerospace Engineering, San Jose State University, San Jose, CA, USA - Kamran Turkoglu (hrefmailto:kamran.turkoglu@sjsu.edu)

Starting Fall 2014 (or earlier), we are looking for a potential Post-Doctoral researcher candidates in the areas of
i) Real-time model predictive control of non-linear systems,
ii) Convex optimization and applications in aerospace and related fields,
iii) Real-time guidance strategies

Candidates holding a Ph.D. degree in Aerospace/Control/Mechanical/Electrical Engineering or Applied Mathematics with a focus on control theory and/or optimization are desired. Our ideal candidate is expected to have a solid knowledge of advanced applied mathematics, control theory and optimization methods. Strong interest in multi-disciplinary work, theoretical research and applications to practical problems is a plus. Candidate is expected to publish their work, assist in funding/grant proposal writing process and guide students. Applicants with proven track record of won grant proposals and/or attracted funding, will be given priority.

A highly competitive salary will be between the range of $32,063 - $40,254. Final salary will be determined according to candidates’ profile, background and experience. The postdoctoral position is offered for the initial period of one year, with an option to renew for subsequent years depending on performance.

Interested candidates are asked to send their inquiries (via e-mail) in a single PDF file/document to karen.wilcox@sjsu.edu, including (but not limited to) the followings:

1. Cover letter explaining candidates fit to the announced position
2. Detailed CV (resume) including all research background and interests
3. List of publications
4. Proven track record of previous grant/funding opportunities
5. Two reference letters (have your reference letters to be sent electronically via email to karen.wilcox@sjsu.edu)
6. Any other supporting documents that can display the working abilities and experiences of the applicants in related areas.

Review of applicants will begin immediately and will continue until the position is filled.

San Jose State University, founded in 1857, is the oldest public institution of higher education on the West Coast of the United States and is a comprehensive public university located at the heart of Silicon Valley, San Jose, California.

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

A post-doctoral position in the area of guidance of unmanned vehicles is available at the Faculty of Aerospace Engineering, Technion - Israel Institute of Technology, in Haifa, Israel.

The work will involve both theoretical and algorithmic aspects. Emphasis will be given to cooperative problems involving teams of unmanned vehicles, mainly aerial.

Candidates for this position should have a Ph.D. in either engineering (aerospace, mechanical, electrical, or
similar), computer science or applied math, with an emphasis on optimal control/differential games and/or planning algorithms.

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

6.15. Research Assistant/Associate: The University of Sheffield, UK
Contributed by: Debbie Proctor, d.proctor@sheffield.ac.uk

We are seeking to appoint a Research Assistant or Research Associate to develop advanced control systems that will optimise the performance of the next generation of large civil gas turbine engines.

This post is within the Rolls-Royce University Technology Centre (UTC), a world-class research centre in Control and Monitoring Systems Engineering. The UTC is housed in the Department of Automatic Control and Systems Engineering, belonging to one of the UK’s top 3 Engineering Faculties, at the University of Sheffield. The successful candidate will be part of a 20-year collaboration with Rolls-Royce which has consistently delivered high impact research, such as the control laws for Trent 1000 engines, and a strong record of recruitment into the company supporting our industrial relationships.

Closely integrated control and monitoring systems will be developed to solve a hybrid control problem to ensure that future engines will continue to deliver better fuel efficiency and emissions. This airborne intelligent adaptation is a generational advancement in engine control capability, but must be consider in the context of safety critical applications. Consideration of stability and deterministic operation will be given particular attention and the candidate will leverage their expertise in autonomous systems and cyber-physical systems for verifiable control law designs applied in a potentially distributed architecture. This project is part of a UK wide £2 billion investment to maintain its world-leading position of UK aerospace.

Applicants should provide evidence of initiative in applying their technical skills in control, optimisation and algorithm design to real world problems. Above all we are seeking a highly motivated and numerate candidate with a strong interest in technology and thirst to explore, learn and apply their engineering skills to real-world problems.

For further information and to submit an on-line application please see: www.sheffield.ac.uk/jobs

6.16. Faculty: Julius-Maximilians-Universitaet Wuerzburg, Germany
Contributed by: Knut Hueper, hueper@mathematik.uni-wuerzburg.de

Faculty: Julius-Maximilians-Universitaet Wuerzburg, Department of Mathematics, Germany
Julius-Maximilians-Universitaet Wuerzburg, Department of Mathematics, Germany, invites applications for a Professorship (W2) in Mathematics (Dynamical Systems) to be filled by October 1, 2014.

Applications must include CV, copies of certificates, research statement, publication list, teaching activity, grants, and should be sent to
6.17. Faculty: Harbin Institute of Technology, China

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

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

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

HITSZ offers a competitive salary and the salary levels at 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
Available positions:
- Lecturer/Senior Lecturer/Reader in Aerospace Engineering or Mechanical Engineering
- Chair in Mechanical Engineering

Queen Mary University of London is one of the UK’s leading research-focused higher education institutions, a member of the elite Russell Group of UK universities and ranked 11th in the UK in the 2008 Research Assessment Exercise (RAE) according to the Guardian.

Following a successful earlier recruitment phase, the University has released further posts in the School of Engineering and Materials Science as part of the wider, on-going investment in research excellence.

* Lecturer/Senior Lecturer/Reader in Aerospace Engineering or Mechanical Engineering
School of Engineering and Materials Science, Queen Mary University of London

These posts are part of a strategy to expand research and teaching in Aerospace and Mechanical Engineering. Applicants with research interests in the areas of Aerodynamics, Aerospace Structures, Spacecraft Engineering, Thermofluids, Robotics, Solid Mechanics, Control and Optimization are particularly encouraged.

The School is therefore seeking to make two appointments at either Reader, Senior Lecturer or Lecturer level. The successful applicants will have a proven track record or outstanding potential for research income generation and research achievement demonstrated through publications. At senior levels the ability to provide research leadership is expected. Research should enhance and/or complement existing research strengths within the School’s research centres (Modelling Simulation in Engineering Systems, Biomedical Engineering & Materials, and Functional Nanomaterials). A commitment to high quality teaching is also essential to support our undergraduate and postgraduate taught programmes in the areas of Aerospace Engineering, Mechanical Engineering and Sustainable Energy Engineering.

The School has excellent computational facilities including access to in-house parallel computing, as well as experimental facilities including heat and mass transfer labs, high vacuum chambers suitable for space propulsion studies, mechanical testing facilities and wind tunnels.

The salary for a Reader and Senior Lecturer will be within the range of £50,770- £56,747 per annum, and that for a Lecturer in the range of £38,579-£48,035 per annum. A generous academic support package will be available. Benefits include 30 days annual leave, interest free season ticket loan and defined benefit pension scheme.

Additional Information:
Candidates must be able to demonstrate their eligibility to work in the UK in accordance with the Immigration, Asylum and Nationality Act 2006. Where required this may include entry clearance or continued leave to remain under the Points Based Immigration Scheme.

Informal enquiries may be addressed to Professor David Lee, Head of School at d.a.lee@qmul.ac.uk. Further details about the College and School are available at: http://www.qmul.ac.uk and http://www.sems.qmul.ac.uk. Application enquiries should be directed to recruitment@qmul.ac.uk

For a full job description, person specification and application form please visit the Human Resources website on http://www.jobs.qmul.ac.uk and search for references QMUL3454 (R), QMUL3455 (SL), QMUL3456 (L).

Deadline for receipt of applications is 30 September 2014. Interviews are expected to be held on 19 November 2014

* Chair in Mechanical Engineering
Queen Mary, University of London

The post is part of a strategy to expand research and teaching in Mechanical Engineering and enhance the School as a centre of research of international standing. Applicants with research interests in the areas of Thermofluids, Robotics, Solid Mechanics, Control and Optimization are particularly encouraged.
The post-holder is expected to provide research leadership in the Mechanical Engineering area and will have a proven track record in research income generation and research achievement demonstrated through publications. Research should enhance and/or complement existing research strengths within the School’s research centres (Modelling & Simulation in Engineering Systems, Biomedical Engineering & Materials, and Functional Nanomaterials). A commitment to high quality teaching is also essential to support our undergraduate and postgraduate taught programmes in Mechanical Engineering and Sustainable Energy Engineering.

The School has excellent computational facilities including access to in-house parallel computing, as well as experimental facilities including heat and mass transfer labs, mechanical testing facilities and wind tunnels. The post is full time and permanent. The professorial salary will be by negotiation within the professorial range. A generous academic support package will also be available.

Additional Information:
Candidates must be able to demonstrate their eligibility to work in the UK in accordance with the Immigration, Asylum and Nationality Act 2006. Where required this may include entry clearance or continued leave to remain under the Points Based Immigration Scheme.

Informal enquiries may be addressed to Professor David Lee, Head of School at d.a.lee@qmul.ac.uk. Further details about the College and School are available at: http://www.qmul.ac.uk and http://www.sems.qmul.ac.uk
Application enquiries should be directed to recruitment@qmul.ac.uk
For a full job description, person specification and to apply online please visit the Human Resources website on http://www.jobs.qmul.ac.uk and search for reference QMUL3453
Deadline for receipt of applications is 30 September 2014. Interviews are expected to be held on 17 November 2014.

6.19. Faculty: KU Leuven, Belgium
Contributed by: Marc Moonen, marc.moonen@esat.kuleuven.be

KU Leuven Professorship in “Optimization for Dynamical Systems and Control”
The KU Leuven Department of Electrical Engineering (ESAT), STADIUS Center for Dynamical Systems, Signal Processing and Data Analytics (http://www.esat.kuleuven.be/stadius/) is inviting applications for a professorship in “Optimization for Dynamical Systems and Control”.
More information can be found in:

6.20. Senior Research Engineer: United Technologies Research Center, China
Contributed by: Zhen Jia, jiaz@utrc.utc.com

Senior Research Engineer: Electronic Controls
United Technologies Research Center (China) - Shanghai
United Technologies Research Center (China) Ltd. invites qualified individuals to apply for a position as Senior Research Engineer in Electronic Controls in the Shanghai office. This position will compensate the chosen candidate at competitive local Shanghai market wage rate, and benefits will be administered based on local Shanghai benefit practices.
Job Description:

- Develop and implement novel control system architecture and algorithms for Heating, Ventilation, and Air-Conditioning (HVAC), security and building related applications.
- Team up with modeling engineers to perform simulation analysis using physics-based and data-driven models as well as design experiments to calibrate physics-based models and verify control performance.
- Interact with UTRC customers for requirements definition, controllers design and implementation for different UTC applications and system solutions.
- Define control algorithms and tuning rules based on system stability analyses, control objectives, sound theoretical principles for both MIMO and SISO control systems.
- Lead and participate in multidisciplinary projects, ensuring high quality deliverables and seamless integration with other UTRC and UTC business unit teams, as well as university partners.
- Enhance UTRC's recognition through the writing of technical papers and support the recruitment of world-class talent to UTRC.

Minimum Qualifications Required:

- Master with 5+ years experience or Ph.D with 3+ years experience in controls engineering, electrical engineering, applied mathematics, or a closely related field.
- Strong experience in system identification, control system architecture, and algorithm development and implementation.
- Experience in system modeling and identification with data-driven or physics-based models and sensor networks and optimization. Windows or Linux OS based software design.
- Experience in integration solution development in C/C++ and Matlab / Simulink / Stateflow.
- Fluent English (both written and spoken) and excellent communication skills.

Preferred Qualifications:

- Expert knowledge with 10+ years experience in controls technology and implementation, and system optimization.
- Strong experience with model-based control development, including rapid prototyping implementation.
- Demonstrated ability to work effectively with multi-disciplinary teams in dispersed locations.
- Solid technical writing, presentation, project management, and communication skills. Record of technical contributions including patents and publications.
- Strong leadership skills and entrepreneurial attitude towards innovation.

For further information or to submit credentials please contact jiaz@utrc.utc.com

United Technologies Research Center (UTRC) is an internationally recognized corporate research organization of United Technologies Corporation (UTC) that conducts research and development across a range of technology areas to drive its mission of “growth through innovation”. UTRC partners with UTC business units and renowned external research organizations to impact organic growth of the Corporation through new product and process innovations. The operating units of UTC include: Pratt & Whitney (aircraft engines), Sikorsky (helicopters), Otis (elevators and escalators), UTC Climate Controls & Security (HVAC, building controls and security solutions), UTC Aerospace Systems (aerospace products), and UTC Power (environmentally advanced power solutions). Our headquarters is in East Hartford, USA with partnerships worldwide and a research and development center in Shanghai, China.
United Technologies Research Center (China) Ltd. was established in Shanghai in 1997 to provide a technology base for UTC business units via partnerships and collaborative R&D (universities and government institutes). Our engineers and scientists work on global projects in conjunction with other UTC business units and renowned research organizations to bring product and process innovation to enhance UTC products competitiveness in Asia and world-wide. We are a world-class research center advancing technologies that serve energy, environment, controls, security, and embedded systems.