E-LETTER on Systems, Control, and Signal Processing
Issue 315
December 2014

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Welcome to the December 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 January 2015.

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   6.33 Scientist: ABB Corporate Research Centre, Bangalore, India
1. **IEEE CSS Headlines**

1.1. **IEEE CSS Technical Committees Websites: New release**

   Contributed by: Frank Allgöwer, allgower@ist.uni-stuttgart.de & Maria Prandini, prandini@elet.polimi.it

   It is with great pleasure that we are announcing the new release of the IEEE CSS Technical Committees websites.

   All 19 current TCs did move their individual websites into the CSS website structure with a common technical management, look and feel. Please, visit [http://www.ieeecss.org](http://www.ieeecss.org) from where you can navigate to the new webpages containing a multitude of interesting information.

   Thanks very much to all TC chairs, and the many other TC members involved in this project, for their efforts!

   Frank Allgöwer, CSS VP Technical Activities
   Maria Prandini, CSS electronic publications editor

1.2. **IEEE CSS Video Clip Contest 2015: Early announcement**

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

   Because of the success of the first CSS Video Clip Contest in 2014, the Control systems Society decided to sponsor a second CSS Video Clip Contest for the year 2015 with submission deadline July 1, 2015. All details will be announced at the CSS Video Clip Contest Website at [http://www.ieeecss.org/video-contest](http://www.ieeecss.org/video-contest) by January 1, 2015.

1.3. **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 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.

1.4. **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](http://www.nd.edu/ieeetac/contents.html)
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1.5. The Impact of Control Technology
Contributed by: Tariq Samad, tariq.samad@honeywell.com

The Impact of Control Technology, 2nd Edition
From automotive systems and biomedical devices and communication networks... to xerography and yield maximization and zinc coating... and much else in between!
We are pleased to announce that an updated edition of The Impact of Control Technology, edited by T. Samad and A. Annaswamy, has been published and can be accessed at www.ieeecss.org/general/IoCT2-report
The report, which comprises 68 two-page full-color flyers that highlight success stories and research challenges in the field, is sponsored by the IEEE Control Systems Society and the American Automatic Control Council.

2. Misc

2.1. Book: Regularization, Optimization, Kernels, and Support Vector Machines
Contributed by: Johan Suykens, johan.suykens@esat.kuleuven.be

Regularization, Optimization, Kernels, and Support Vector Machines
Editors: Johan A.K. Suykens, Marco Signoretto, Andreas Argyriou
http://www.crcpress.com/product/isbn/9781482241396

Chapter contributions:
1. An Equivalence between the Lasso and Support Vector Machines; Martin Jaggi
2. Regularized Dictionary Learning; Annalisa Barla, Saverio Salzo, and Alessandro Verri
3. Hybrid Conditional Gradient-Smoothing Algorithms with Applications to Sparse and Low Rank Regularization; Andreas Argyriou, Marco Signoretto, and Johan A.K. Suykens
4. Nonconvex Proximal Splitting with Computational Errors; Suvrit Sra
5. Learning Constrained Task Similarities in Graph-Regularized Multi-Task Learning; Remi Flamary, Alain Rakotomamonjy, and Gilles Gasso
6. The Graph-Guided Group Lasso for Genome-Wide Association Studies; Zi Wang and Giovanni Montana
7. On the Convergence Rate of Stochastic Gradient Descent for Strongly Convex Functions; Cheng Tang and Claire Monteleoni
8. Detecting Ineffective Features for Nonparametric Regression; Kris De Brabanter, Paola Gloria Ferrario, and Laszlo Gyorfi
10. Robust Compressive Sensing; Esa Ollila, Hyon-Jung Kim, and Visa Koivunen
11. Regularized Robust Portfolio Estimation; Theodoros Evgeniou, Massimiliano Pontil, Diomidis Spinellis, Rafal Swiderski, and Nick Nassuphis
12. The Why and How of Nonnegative Matrix Factorization; Nicolas Gillis
13. Rank Constrained Optimization Problems in Computer Vision; Ivan Markovsky
14. Low-Rank Tensor Denoising and Recovery via Convex Optimization; Ryota Tomioka, Taiji Suzuki, Kohei Hayashi, and Hisashi Kashima
2.2. Course on polynomial and LMI optimization with applications in control

Contributed by: Didier Henrion, henrion@laas.fr

Course on polynomial and LMI optimization with applications in control
Didier Henrion, LAAS-CNRS, Toulouse, France and Czech Technical University in Prague, Czech Republic.
http://homepages.laas.fr/henrion/courses/lmi15

Venue and dates:
The course is given at the Charles Square campus of the Czech Technical University, in the historical center of Prague. It consists of six two-hour lectures, given on Monday 16, Thursday 19 and Monday 23 February, 2015, from 10am to noon and from 2pm to 4pm.

Registration:
There is no admission fee, students and researchers from external institutions are particularly welcome, but please send an e-mail to henrion@laas.fr to register.

Target audience:
This is a course for graduate students or researchers with some background in linear algebra, convex optimization and linear control systems.

Outline:
Many problems of systems control theory boil down to solving polynomial equations, polynomial inequalities or polynomial differential equations. Recent advances in convex optimization and real algebraic geometry can be combined to generate approximate solutions in floating point arithmetic. In the first part of the course we describe semidefinite programming (SDP) as an extension of linear programming (LP) to the cone of positive semidefinite matrices. We investigate the geometry of spectrahedra, convex sets defined by linear matrix inequalities (LMIs) or affine sections of the SDP cone. We also introduce spectrahedral shadows, or lifted LMIs, obtained by projecting affine sections of the SDP cones. Then we review existing numerical algorithms for solving SDP problems.

In the second part of the course we describe several recent applications of SDP. First, we explain how to solve polynomial optimization problems, where a real multivariate polynomial must be optimized over a (possibly nonconvex) basic semialgebraic set. Second, we extend these techniques to ordinary differential equations (ODEs) with polynomial dynamics, and the problem of trajectory optimization (analysis of stability or performance of solutions of ODEs). Third, we conclude this part with applications to optimal control (design of a trajectory optimal w.r.t. a given functional).
3. Journals

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

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Mathematics of Control, Signals, and Systems (MCSS)
Volume 26, Number 4, December 2014
http://link.springer.com/journal/498/26/4

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- Numerical schemes for nonlinear predictor feedback, Iasson Karafyllis. Miroslav Krstic, 519-546
- How mild can slow controls be?. O. Cărjă, A. I. Lazu, 547-562
- Stabilization of second-order evolution equations with time delay. Serge Nicaise, Cristina Pignotti, 563-588
- Growth rates for persistently excited linear systems, Yacine Chitour. Fritz Colonius, Mario Sigalotti, 589-616

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

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3.3. Contents: International Journal of Control, Automation, and Systems
Contributed by: Young-Hoon Joo, Editor-in-Chief, journal@ijcas.com

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Vol. 12, No. 6, December 2014
http://www.springer.com/engineering/robotics/journal/12555

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

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Vol.16, No.6 November, 2014

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- Linear Model-based Feedforward Control for Improving Tracking-performance of Linear Motors. Authors: Yan-Jang Li and Szu-Chi Tien
- Active Disturbance Rejection Control for Piezoelectric Beam. Authors: Qinling Zheng, Hanz Richter and Zhiqiang Gao
- Force Control of a Cellular Tensegrity Structure with Model Uncertainties and Partial State Measurability. Authors: Shengfeng Zhou, Peter C. Y. Chen and Chong-Jin Ong
- The Structural Robustness of the Induction Motor Stator Currents Subsystem. Authors: Luis Amezquita-Brooks, Eduardo Liceaga-Castro and Jesús Liceaga-Castro
- Maximally Permissive Petri Net Supervisors for Flexible Manufacturing Systems with Uncontrollable and Unobservable Transitions. Authors: YuFeng Chen and Kamel Barkaou
- Synchronization of Interconnected Multi-valued Logical Networks. Authors: Min Meng, Jun-e Feng and Zhongsheng Hou
- Fault Prediction and Maintenance of Non-Periodic Incipient Fault for Hydraulic Tube Tester. Authors: Zhen Zhao, Jun Zhang, Shu Wang, Yuqing Chang and Mingxing Jia
- Output feedback stabilization for stochastic nonholonomic systems with nonlinear drifts and Markovian switching. Authors: Dongkai Zhang, Chaoli Wang, Guoliang Wei and Hua Chen
- Optimized-Based Stabilization of Constrained Nonlinear Systems: A Receding Horizon Approach. Authors: De-feng He, Li Yu and Xiu-lan Song
- Static Output Feedback Control for Interval Type-2 T-S Fuzzy Systems Based on Fuzzy Lyapunov Functions. Authors: Tao Zhao, Jian Xiao, Lu Han, Cunyong Qiu and Jingchun Huang
- Fault Diagnosis of hydraulic servo system using the unscented Kalman filter. Authors: Hongmei Liu, Dawei Liu, Chen Lu and Xuan Wang
- Delay-dependent Stability and Static Output Feedback Control of 2-D Discrete Systems with Interval Time-varying Delays. Authors: Dan Peng and Changchun Hua
- Policy Gradient Approach of Event-Based Optimization and Its Online Implementation. Authors: Li Xia
- QC Characterizations for the Closed-loop Stability of Time-varying Linear Systems. Authors: Liu Liu and Yufeng Lu
- $L_2_{\infty}$-$L_\infty$ Consensus Control for High-Order Multi-Agent Systems with Nonuniform Time-Varying Delays. Authors: Yan Cui
- Programmable-logical-controllers Synthesis for Automated-guided-vehicle Systems Using Ordinary Petri Nets. Authors: Jiliang Luo and Huijuan Ni
- Flocking of Multi-Agents Following a Leader with Adaptive Protocol in a Noisy Environment. Authors: Shukai Li, Xinzhi Liu, Wansheng Tang and Jianxiong Zhang
- Sliding Mode Control for Uncertain Switched Systems with Partial Actuator Faults. Authors: Yonghui Liu, Yugang Niu, James Lam and Baoyong Zhang
- Extended Elementary Siphons and Their Application to Liveness-Enforcement of Generalized Petri Nets. Authors: YiFan Hou, ZhiWu Li, Abdulrahman M. Al-Ahmari, Abdul-Aziz Mohammed El-Tamimi and Emad Abouel Nasr
- Global Robust Output Regulation for a Class of Switched Nonlinear Systems with Nonlinear Exosystems. Authors: Lijun Long and Jun Zhao
Robust Exponential Stability Analysis of Uncertain Discrete Time-Varying Linear Systems. Authors: Yu Yao, Kai Liu, Venkataramanan Balakrishnan, Wenzue She and Jianhong Zhang

Adaptive Stabilization for a Class of Stochastic Nonlinearly Parameterized Nonholonomic Systems with Unknown Control Coefficients. Authors: Fangzheng Gao, Fushun Yuan and Yuqiang Wu

A Discrete-Time Global Quasi-Sliding Mode Control Scheme with Bounded External Disturbance Rejection. Authors: M. Wu and J. S. Chen

Trajectory Tracking Control of a PVTOL Aircraft Based on Linear Algebra Theory. Authors: D. Gandolfo, C. Rosales, D. Patiño, G. Scaglia and M. Jordan

Fixed-Structure $H_{\infty}$ Controller Design for Systems with Polytopic Uncertainty: An LMI Solution. Authors: Arash Sadeghzadeh

Almost Asymptotic Regulation of Markovian Jumping Linear Systems in Discrete Time. Authors: Shuping He, Zheng-tao Ding and Fei Liu

Brief Paper

Sliding-Mode Velocity Control of a Two-Wheeled Self-Balancing Vehicle. Authors: Chih-Chen Yih

A Computing Approach for Delay Margin of Linear Fractional-Order Retarded Systems with Commensurate Time Delays. Authors: Zhe Gao and Xiaozhong Liao


3.5. CFP: Intelligent Service Robotics
Contributed by: Hyungpil Moon hyungpil@me.skku.ac.kr

Call for Papers: Intelligent Service Robotics
Special Issue on Multi-scale Manipulation Toward Robotic Manufacturing Technologies

Micro-nanorobotics for robotic manufacturing faces tough challenges from uncertain interaction forces, environmental complexities and variability, to potential operational failures. These challenges render current efforts based on automatic control ineffective, and the level of automation is so far rather limited, not much beyond telemanipulation and basic visual servoing. Machine learning has been proven very promising in increasing the autonomy of macro robotic systems. Due to the low reliability of models at micro-nanoscale, machine learning becomes an especially attractive approach. Nano/micro manipulation can be benefited from recent developments in macro-scale manipulation. At the same time, handling problems in nano/micro scale particles would inspire researchers in macro-manipulation for further innovation in their methodologies. This issue will be unique in bringing new ideas in both micro and macro scale manipulation and build original cooperation between micro-nanorobotics and manufacturing or machine learning fields. The central theme of the Special Issue is on recent advances in Multi-scale Manipulation Toward Robotic Manufacturing Technologies and will capture the surge of interest in the application of machine learning technologies to manipulation in multi-scale. We plan to welcome original, significant and visionary papers describing scientific methods and technologies that improve the efficiency of manipulation in multi-scale. The content could also present surveys and reviews that summarize state-of-the-art practices in this arena. Special attention will be paid to papers focusing on microassembly of microdevices, contactless manipulation, nanoparticle applications, dexterous handling in multiple scales, machine learning for manipulation, active touch, micro-manipulation: transportation and assembly, intention prediction approaches to interact naturally with the
microworld. Submissions of scientific results from experts in academia and industry worldwide will be strongly encouraged.

Topics to be covered include, but are not limited to: Micro-nanorobotics, Nano/micro particle manufacturing, Machine learning for manipulation, Micro/macro manipulation, Sensing for manipulation in multiple scales, Microdevices for microassembly, Contactless manipulation, Haptic issues in micro/meso/macro part handling.

Important Dates
- February 15, 2015: Paper submission deadline.
- March 15, 2015: Completion of the first round paper review.
- April 15, 2015: Completion of the second round paper review.
- May 1, 2015: Final manuscripts due.
- July 1, 2015: Tentative publication date.

Guest Editors
- Hyungpil Moon (hyungpil@me.skku.ac.kr), Associate Professor, Sungkyunkwan University, Korea
- Michael Gauthier (Michael.gauthier@femto-st.fr), Head of the AS2M department, FEMTO-ST Institute, France

Paper Submission
All papers are to be submitted through the journal, Intelligent Service Robotics submission site at http://www.editorialmanager.com/jist. Please select “S.I.: MMRMT” in the article type menu of your submission. All manuscripts must be prepared according to the JISR publication guidelines. Please address all inquiries via e-mail to hyungpil@me.skku.ac.kr.

4. Conferences

4.1. Chinese Control and Decision Conference
Contributed by: Changyun Wen, ecyw@ntu.edu.sg

27th Chinese Control and Decision Conference (2015CCDC)
http://www.ccdc.neu.edu.cn

Per the requests of numerous authors, the organizing committee has decided a final extension of the deadline for 2015CCDC paper submission to 30 December 2014, after taking every factor into account.

Chinese Control and Decision Conference (CCDC) is an annual international conference. The 27th Chinese Control and Decision Conference (2015CCDC) will be held in Qingdao, China, during May 23 - 25, 2015. Its purpose is to create a forum for scientists, engineers and practitioners from all over the world to present the latest advancement in Control, Decision, Automation, Robotics and Emerging Technologies. A special session on Intelligent Building Control and Management is also organized with details available in the conference website.

Conference content will be submitted for inclusion into IEEE Xplore as well as other Abstracting and Indexing (A&I) databases. Note that conference content of 2014 CCDC has been indexed by EI Compendex. High-quality papers in 2015 CCDC will be recommended for submission to the Journal of Control and Decision published quarterly by Taylor & Francis group.
There will be keynote addresses and distinguished lectures covering the State-of-the-Art in both theory and applications of Systems, Control and Decision.

Invited Keynote Addresses will be delivered by
- Prof. Weihua Gui, Central South University, China;
- Prof. K. J. Ray Liu, University of Maryland, USA;
- Prof. Iven Mareels, The University of Melbourne, Australia;
- Prof. Maria Elena Valcher, Universita’ di Padova, Italy.

Invited Distinguished Lectures will be delivered by
- Prof. Shyh-Leh Chen, National Chung Cheng University, Taiwan;
- Prof. Zhisheng Duan, Peking University, China;
- Prof. Huijun Gao, Harbin Institute of Technology, China;
- Prof. Xiaoming Hu, Royal Institute of Technology, Sweden;
- Prof. Derong Liu, University of Illinois at Chicago, USA;
- Prof. Xinzhi Liu, University of Waterloo, Canada;
- Prof. Max Meng, Chinese University of Hong Kong, Hong Kong, China;
- Prof. Yuan Wang, Florida Atlantic University, USA.

Important Dates:
Deadline for Full Paper Submission 30 December 2014
Deadline for Invited Session Proposals 30 December 2014
Notification of Acceptance/Rejection 10 February 2015
Deadline for Camera Ready Manuscript Submission 10 March 2015
Deadline for Advance Registration 10 March 2015

Highlight of Qingdao Attractions
Apart from participating in 2015 CCDC, you may also visit the numerous attractions of Qingdao, Shandong Province, China. Qingdao is changing every minute. The former Germany colony has developed to a charming seafront metropolis. Qingdao is called as “China’s Switzerland” because of its Bavarian appearance. With its cool sea breezes, clear air and excellent sea food. Qingdao is where china’s rich businessmen come to build sand villas. Qingdao is to hold the sailing events of the 2008 Olympic, which will allow more west people to learn this picturesque city. The most noted sights in Qingdao are various sea beaches, ocean park and the colonial-era buildings dotted around the urban landscape.

For further information, please refer to Website
http://www.ccdc.neu.edu.cn, E-mail secretary_ccdc@ise.neu.edu.cn.

The Call for Papers of 2015CCDC can be downloaded from the website
http://www.ccdc.neu.edu.cn/pdf/2015%20CCDC%20Call%20for%20Papers.pdf The Call for Paper of the special session on Intelligent Building Control and Management can be downloaded from the website

We are looking forward to receiving your submissions
4.2. International Conference on Systems and Control

Contributed by: Driss Mehdi, driss.mehdi@univ-poitiers.fr

The 4th International Conference on Systems and Control (ICSC’15)
April 28-30, 2015, Hammamet, Tunisia

Deadlines
Paper decision notification : February 8, 2015.
Final Paper Submission due : March 9, 2015.
Registration : February 16, 2015.

The Program Chairs are soliciting contributed technical papers for presentation at the Conference and publication in the Conference Proceedings, as well as proposals for invited sessions/papers/talks by topic of interest.

For more information please visit the website of the conference http://lias.lab.univ-poitiers.fr/icsc/icsc2015

Two plenary sessions are on the program:

- Disturbance rejection: A central issue in process control by Prof Pedro Albertos from Universidad Politécnica de Valencia, Spain
- Toward nonlinear tracking and rejection using LPV control, by Prof. Gérard SCORLETI from Ecole Centrale de Lyon, France

4.3. IFAC Symposium on Biological and Medical Systems

Contributed by: Berno Misgeld, misgeld@hia.rwth-aachen.de

August 31 - September 2, 2015
Berlin, Germany
http://www.bms2015.org/

IFAC BMS 2015 is the ninth IFAC symposium on Biological and Medical Systems. The symposium will provide a forum for the presentation of new developments in the important interdisciplinary field of biological and medical systems. This involves the development and application of concepts, methods and techniques of modelling, informatics and control of complex biomedical and biological systems, as well as advances in medical technology.

Important dates:
December 01, 2014: Deadline for invited session proposals
February 02, 2015: Paper submission deadline
May 11, 2015: Notification of acceptance
June 8, 2015: Final paper submission
June 8, 2015: Early bird registration deadline

All papers must be submitted through the conference submission website PaperPlaza:
https://ifac.papercept.net/conferences/scripts/start.pl

Contributed by: Sebastian Trimpe, strimpe@tuebingen.mpg.de

June 17-19, 2015
Krakow, Poland
www.ebccsp2015.org
Call for papers

The last decade has witnessed an upsurge in the scientific interest to harness the benefits of the event-based paradigm applied to a wide spectrum of engineering disciplines including control, communication, signal processing, and electronic instrumentation. The aim of the conference is to bring together researchers and practitioners from the industry and academia, and provide them with a platform to report on recent advances and developments in event-based systems and architectures applied in a wide spectrum of engineering disciplines.

Topics within the scope of the conference include: Event-based control & systems; Event-based communication, computing & systems; Event-based signal processing & systems.

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

Keynote and plenary presentations:
- Panos Antsaklis, University of Notre Dame, USA
- Tobi Delbrück, ETH Zurich, Switzerland
- Maurice Heemels, Eindhoven University of Technology, Netherlands
- Karl Henrik Johansson, KTH Royal Institute of Technology, Sweden
- Jan Lunze, Ruhr-University Bochum, Germany
- Yannis Tsividis, Columbia University, USA

Please consult the conference web page for more details: www.ebccsp2015.org

Important dates for authors:
Deadline for submission of regular and special session papers: January 15, 2015
Notification of acceptance of regular and special session papers: March 15, 2015
Deadline for submission of work-in-progress papers: March 20, 2015
Notification of acceptance of work-in-progress papers: April 10, 2015
Final manuscripts due: May 1, 2015

4.5. IFAC Conference on Analysis and Design of Hybrid Systems

Contributed by: Magnus Egerstedt, magnus@gatech.edu

5th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS)
Atlanta, GA, USA, October 14-16 2015
http://adhss15.gatech.edu
Important Dates:
Papers Due: Apr. 15, 2015
Author Notification: July 1, 2015
Final Papers Due: Sept. 1, 2015

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

General Chairs:
Magnus Egerstedt and Yorai Wardi

Program Chairs:
Bengt Lennartson and Paulo Tabuada

Plenary Speakers:
Jessy Grizzle, Pramod Khargonekar, and Christoforos Hadjicostis

4.6. International Conference on Advanced Robotics

Contributed by: Veysel Gazi, veysel.gazi@kemerburgaz.edu.tr

17th International Conference on Advanced Robotics, ICAR 2015
27-31 July, 2015, Istanbul, Turkey
http://www.icar2015.org/

Call for papers
The 17th International Conference on Advanced Robotics, ICAR 2015 is organized by Middle East Technical University in collaboration with Kadir Has University. The conference will take place in Kadir Has University campus in Istanbul, Turkey, on July 27-31, 2015.

Keeping up with the same spirit of innovation, ICAR wants to bring high quality papers, workshops and tutorials to the geographical areas where the larger robotics conferences have not been organized yet. After the successful conference last year in Montevideo, Uruguay (www.icar2013.org), next year, the 17th ICAR will be held in Istanbul, Turkey where “the east meets the west”. The conference is organized by Middle East Technical University (METU) in collaboration with Kadir Has University.
The venue is Kadir Has Campus situated on the historic peninsula along Halic bay (www.icar2015.org).

ICAR 2015 will be technically co-sponsored by the IEEE Robotics and Automation Society. The technical program of ICAR 2015 will consist of plenary talks, workshops and oral presentations. Submitted papers should describe original work in the form of theoretical modelling, design, experimental validation, or case studies from all areas of robotics, focusing on emerging paradigms and application areas including but not limited to: Robotics Vision, Adversarial Planning, Cognitive Robotics, Robot Operating Systems, Robotics Architectures, Simulation and Visualization, Mobile Robots, Robot Swarms, Humanoid Robots Biologically-Inspired Robots, Self-Localization and Navigation, Embedded and Mobile Hardware, Spatial Cognition,

Keynote speakers
- Danica Kragic, Royal Institute of Technology (KTH), Sweden, http://www.csc.kth.se/danik/
- Oussama Khatib, Stanford University, USA, http://cs.stanford.edu/groups/manips/ok.html
- Todd P. Coleman, University of California, San Diego, USA, http://coleman.ucsd.edu/
- Noah J. Cowan, Johns Hopkins University, USA, http://limbs.lcsr.jhu.edu/people/cowan/

Important dates
Paper submission February 1, 2015
Workshop and tutorial proposals February 1, 2015
Notification of paper acceptance April 15, 2015
Camera-ready papers May 15, 2015

Paper submission
Original technical paper contributions are solicited for presentation at ICAR 2015. Accepted papers will be published in IEEE Xplore conference proceedings.

Submissions should be 6-8 pages following the IEEE Xplore format available at:
http://www.ieee.org/conferences_events/conferences/publishing/templates.html

Papers will be submitted online via EasyChair:
https://www.easychair.org/conferences/?conf=icar2015 For more information http://www.icar2015.org/

4.7. International Conference on Control, Automation and Systems
Contributed by: Jae Weon Choi, conference@icros.org

2015 15th International Conference on Control, Automation and Systems (ICCAS 2015)
October 13(TUE)-16(FRI), 2015
BEXCO, Busan, Korea
Email: conference@icros.org

ICCAS 2015 will be held at BEXCO, Busan Korea on October 13-16, 2015.
The aim of the ICCAS is to bring together researchers and engineers worldwide to present their latest works, and disseminate the state-of-the-art technologies related to control, automation, robotics, and systems.

Important Dates
April 10, 2015: Submission of organized session proposals
April 17, 2015: Submission of full papers
June 19, 2015: Notification of paper acceptance
July 17, 2015: Submission of final camera-ready papers

Organizing Chair: Myo Taeg Lim (Korea Univ., Korea)
Program Chair: Jae Weon Choi (Pusan Natl. Univ., Korea)

Busan, the venue, is famed as Northeast Asia’s perfect mix of natural beauty and modern infrastructure. With 3.6 million residents, Busan is Korea’s second largest city, and the world’s 5th busiest port, making it
the center of Korean global trade. The charm of Busan goes beyond beautiful beaches, a stunning skyline, incredible food, natural scenery, world-class infrastructure, and endless shopping. Feel the Ocean Beat!

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


4.8. Iranian Conference on Electrical Engineering

Contributed by: Amin Nobakhti, nobakhti@shairf.ir

CALL FOR PAPERS

23rd Iranian Conference on Electrical Engineering (ICEE 2015)
Sharif University of Technology, Tehran, Iran
May 10-14, 2015
http://icee2015.conf.sharif.ir/EN/

The 23rd Iranian Conference on Electrical Engineering (ICEE 2015) will take place at Sharif University of Technology, Tehran, Iran from Sunday May 10th to Thursday May 14th, 2015. The ICEE gathers annually researchers and practitioners in all fields of Electrical and Computer Engineering to discuss the latest developments and exchange their research results and novel accomplishments. Prospective authors are invited to submit high-quality, original, and unpublished contributions to ICEE 2015. All submitted papers will be subject to peer review. In addition to oral presentation of contributed papers, the 23rd ICEE will feature workshops, panel discussions, keynote speeches and exhibitions.

The scope of the conference includes the following topics: Biomedical Eng., Communication, Computer, Control, Electronic, Power.

Paper submission:
- Paper submissions should demonstrate original unpublished research in the scope of the conference.
- All submitted papers must be prepared based on the given format in the conference website.
- Paper submission is only available via the conference website.
- All accepted papers will be submitted for publication in IEEE Xplore.
- Oral presentation is mandatory for publication of the paper in the Proceedings and IEEE Xplore.

Important dates:
Extended Paper submission deadline: December 6th, 2014
Workshop proposal deadline: January 5th, 2015
Notification of acceptance: February 20th, 2015
Camera ready submission: March 9th, 2015

Exhibitions & special events:
Exhibition of products, equipment and software related to the ECE field is planned. Companies and manufacturers are invited to submit proposal for participating in the exhibition. Special events, tours, sightseeing of historical places are also planned for the participants. Further details will be announced at the conference.

VISA:
Special assistance will be provided for foreign participants through the Iranian Consulate offices.

Contacts:
Address: Secretariat of ICEE 2015, Room 505, Dept. of Electrical Engineering, Sharif University of Technology, Tehran, Iran.
4.9. International Conference on System Theory, Control and Computing

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

19th International Conference on System Theory, Control and Computing - ICSTCC 2015
October 14-16, 2015, Cheile Gradistei - Fundata Resort, Romania
Website: http://www.aie.ugal.ro/icstcc2015

ICSTCC 2015 aims at bringing together under a unique forum, scientists from Academia and Industry, to discuss the state of the art and the new trends in System Theory, Control and Computer Engineering, promoting professional interactions and fellowship.
ICSTCC 2015 is technically co-sponsored by IEEE Control Systems Society.
The Proceedings will be published in IEEE Xplore Digital Library and will be submitted for indexing in Thomson Reuters Conference Proceedings Citation Index (formerly ISI Proceedings).

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

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

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

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

4.10. International Conference on Unmanned Aircraft Systems

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

2nd Call for Papers: 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.unsconferences.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
June 9-12, 2015: Conference Period

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

General chairs:
Fulvia Quagliotti, Politecnico di Torino, fulvia.quagliotti@polito.it
Younmin 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
4.11. Conference on Modelling, Identification and Control of Nonlinear Systems  
Contributed by: Frank Allgöwer, frank.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 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, modeling 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.  
See the webpage at http://micnon2015.org for more details.

5. Workshops

5.1. Advances and Wish Lists in Control Research  
Contributed by: Kai Cai, kai.cai@info.eng.osaka-cu.ac.jp

Advances and Wish Lists in Control Research, Celebrating Professor W. Murray Wonham’s 80th Birthday  
Half-day Workshop at CDC’14  
December 14, 2014 (Sunday), 13:00-17:15  
J.W. Marriott Hotel, Los Angeles, CA  
https://sites.google.com/site/kaikai627/cdc-14-workshop-wmw

This workshop is to celebrate Professor Murray Wonham’s 80th birthday at the CDC’14, in honor of his seminal contributions to systems and control theory. The workshop also aims to create an intellectual wish list of exciting research questions in the long term.  
First proved pole assignment theorem, initiated internal model principle, systematized geometric control theory, pioneered supervisory control of discrete-event systems: Professor Murray Wonham has made a number of major contributions in the field of systems and control. He is a Professor Emeritus in the University of Toronto, a Life Fellow of the IEEE, a Fellow of the Royal Society of Canada, and a Foreign Associate of the National Academy of Engineering of USA.  
To celebrate the special event of Professor Wonham’s 80th birthday, this workshop gathers 14 of his friends, colleagues, and former students who will present a range of topics in linear, nonlinear, and discrete-event systems. A main focus of the workshop is on composing a ‘wish list’ of exciting problems for future control research.  
The list of speakers is: Alberto Isidori, A. Stephen Morse, Harry Trentelman, Peter Caine, Jan van Schuppen, Peter Ramadge, Feng Lin, Karen Rudie, Rong Su, Kai Cai, Edward Davison, Raymond Kwong, Mireille Broucke, and Bruce Francis.  
All are welcome to join us in this celebration of Professor Wonham’s 80th birthday.
5.2. Workshop on Applied Verification for Continuous and Hybrid Systems (ARCH 2015)
Contributed by: Matthias Althoff, althoff@in.tum.de

April 13, 2015, Seattle, USA
http://cps-vo.org/group/ARCH

Verification of continuous and hybrid systems is increasing in importance due to new cyber-physical systems that are safety- or operation-critical. This workshop addresses verification techniques for continuous and hybrid systems with a special focus on the transfer from theory to practice.

Topics include, but are not limited to: Proposals for new benchmark problems (not necessarily yet solvable); Tool presentations; Tool executions and evaluations based on ARCH benchmarks; Experience reports including open issues for industrial success.

The deadlines are as below and the details are available on the web site.
Submission deadline: February 12, 2015
Notification of acceptance: March 9, 2015
Final version: March 31, 2015
Workshop: April 13, 2015

5.3. International Workshop on Numerical Software Verification
Contributed by: Sergiy Bogomolov, bogom@informatik.uni-freiburg.de

8th International Workshop on Numerical Software Verification (NSV 2015)
April 13, 2015
Cyber-Physical Week 2015
Seattle, WA, USA
Web Page: http://nsv2015.informatik.uni-freiburg.de/

Important dates
Submissions deadline: January 30, 2015
Notification: Feb 27, 2015
Final version: March 8, 2015
Workshop: April 13, 2015

Description of the workshop
Numerical computations are ubiquitous in digital systems: supervision, prediction, simulation and signal processing rely heavily on numerical calculus to achieve desired goals. Design and verification of numerical algorithms has a unique set of challenges, which set it apart from rest of software verification.

To achieve the verification and validation of global properties, numerical techniques need to precisely represent local behaviors of each component.

The implementation of numerical techniques on modern hardware adds another layer of approximation because of the use of finite representations of infinite precision numbers that usually lack basic arithmetic properties such as commutativity and associativity. Finally, the development and analysis of cyber-physical systems (CPS) which involve the interacting continuous and discrete components pose a further challenge. It is hence imperative to develop logical and mathematical techniques for the reasoning about programmability and reliability.

The NSV workshop is dedicated to the development of such techniques.
Topics
The scope of the workshop includes, but is not restricted to, the following topics: Quantitative and qualitative analysis of hybrid systems; Models and abstraction techniques; Optimal control of dynamical systems; Parameter identification for hybrid systems; Numerical optimization methods; Hybrid systems verification; Applications of hybrid systems to systems biology; Propagation of uncertainties, deterministic and probabilistic models; Specifications of correctness for numerical programs; Formal specification and verification of numerical programs; Quality of finite precision implementations; Numerical properties of control software; Validation for space, avionics, automotive and real-time applications; Validation for scientific computing programs

Submission information
We solicit regular and short papers. Paper submission must be performed via the EasyChair system: http://easychair.org/conferences/?conf=nsv2015

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

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

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

Short papers are also welcomed, they should present tools, benchmarks, case-studies or be extended abstracts of ongoing research. Short papers should not exceed 6 pages.

Accepted papers will be published electronically by Elsevier in the Electronic Notes in Theoretical Computer Science series (ENTCS).

Chairs
Sergiy Bogomolov (University of Freiburg, Germany)
Matthieu Martel (Université de Perpignan, France)

5.4. Workshop on Neural Population Dynamics
Contributed by: Antoine Chaill, antoine.chaill@supelec.fr

We are pleased to announce the Workshop on Neural Population Dynamics, to be held in Supélec (Gif sur Yvette) on February, 4th 2015: http://neural-pops.sciencesconf.org

This workshop aims at gathering neuroscientists and control theoreticians around the dynamics of neural populations. Its topics cover: Modeling; Identification of parameters based on experimental data; Link between models; Mathematical analysis; Feedback control.

The list of confirmed speakers is:
- Bruno Cessac, INRIA
- David Hansel, Univ. Paris 5
- Axel Hutt, INRIA
- Dimitris Pinotsis, UCL
- Peter Wellstead, Hamilton Institute.

Registration is free but mandatory. Posters are welcomed. See website for details.
The workshop is organized in the framework of the Research Initiative “Control and Neuroscience” of the iCODE institute of Paris-Saclay and the ANR project SynchNeuro.

We look forward to seeing you there!

The organizers,

Georgios Detorakis and Antoine Chailllet

http://neural-pops.sciencesconf.org

5.5. Workshop GeoLMI

Contributed by: Didier Henrion, henrion@laas.fr

Workshop GeoLMI 2015
22-24 June 2015, Paris

http://homepages.laas.fr/henrion/geolmi15

This is a workshop organized by Didier Henrion and Mohab Safey El Din as a closing event for the GeoLMI project funded by the French National Research Agency. The project deals with the following research topics: geometry of determinantal varieties; positive polynomials; computational algebraic geometry; semidefinite programming; systems control applications.

The workshop takes place from Monday 22 to Wednesday 24 June 2015 in the Durand lecture hall of the Esclangon building on the Jussieu Campus of Universite Pierre et Marie Curie in Paris, France.

Confirmed invited speakers:

Erwan Brugalle, Ecole Polytechnique, Paris
Stephane Gaubert, INRIA Saclay and Ecole Polytechnique, Paris
Eric Goubault, CEA Saclay and Ecole Polytechnique, Paris
Ilya Itenberg, Universite Pierre et Marie Curie, Paris
Alain Jacquemard, Universite de Bourgogne, Dijon
Jean-Philippe Monnier, Universite d’Angers
Alban Quadrat, INRIA Saclay
Marie-Francoise Roy, Universite de Rennes

6. Positions

6.1. PhD: Wichita State University, USA

Contributed by: Zheng Chen, zheng.chen@wichita.edu

The Bio-inspired Robotics and Control Lab in the Department of Electrical Engineering and Computer Science at Wichita State University, which is located in Wichita, KS, USA, has available funding to support one PhD student in the general area of Bio-inspired Robotics, Smart Sensors and Actuators, Bio-mechatronics, and Dynamics and Control. The successful candidate is expected to have a strong background in control theory, modeling of complex dynamic systems, real-time control system design, system identification, micro/nano fabrication. Good programming skills and experience with C/C++, MATLAB/Simulink is an asset. A background in smart materials and structures as well as prior working experience with underwater robot design will be an advantage. Applicant to this position should already have completed (or will soon complete) a Master degree in systems and controls, electrical engineering, and/or mechanical engineering. The funding covers the cost of full tuition and stipends at a competitive rate and can start as early as Fall
2015. The position will remain open until filled. Interested individuals should send their detailed curriculum vitae, copies of their recent transcripts, personal statement, a copy of their best publication in English, and if applicable GRE/TOFEL test scores to Dr. Zheng Chen (zheng.chen@wichita.edu).

6.2. PhD: University of California, USA
Contributed by: Ricardo Sanfelice, ricardo@ucsc.edu

PhD position available in Dynamical Systems and Control with Prof. Ricardo Sanfelice at the Computer Engineering Department at the University of California, Santa Cruz, USA

Research in Prof. Sanfelice’s group is focused on the analysis of hybrid dynamical and cyber-physical systems, as well as on the design of hybrid feedback algorithms for estimation and control. Particular emphasis is given to dynamical systems and algorithms featuring nonsmooth and continuous/discrete dynamics due to the combination of physics, computer systems, and networks emerging in the areas of robotics, aerospace, power systems, and biology. For more information, visit https://hybrid.soe.ucsc.edu

The Computer Engineering program at UCSC benefits from a close relationship with other graduate programs in the School of Engineering and UCSC as a whole. It maintains strong ties to local industry in the Silicon Valley and Monterey Bay areas. The major areas of research concentration in Computer Engineering are computer networks; embedded and autonomous systems; computer systems design; robotics and control, mobile and pervasive computing; computer-aided design; and sensing and interaction.

Applications for the 2015-16 academic year are due January 3, 2015.

For more details on the application procedure, visit http://ga.soe.ucsc.edu/admissions/faq and http://graddiv.ucsc.edu/prospective-students/index.html

6.3. PhD: Luleå University of Technology, Sweden
Contributed by: George Nikolakopoulos, geonik@ltu.se

The Control Engineering Group (CEG) group at the Department of Computer Science, Electrical and Space Engineering at Luleå University of Technology (www.ltu.se) has a focus on analysis, estimation, and control of complex dynamical systems with applications in the process industry, field robotics, medicine and health sciences.

The group is leading and participating in several large European research projects and has well-established relationships with both academia and industry.

A new state of the art lab with unique equipment for motion analysis is used for analysis in areas as diverse as autonomous mobile robots and balance and stability in humans.

The Control Engineering Group (CEG) group is having the following opening positions, the full advertise can be located here: http://www.ltu.se/Letu/Lediga-jobb?rmjob=1370&i=en

- an opening for a PhD position in the area of Stochastic Model Predictive Control Algorithms for data driven integrated process control, as part of the European Horizon 2020 research project “Integrated Process Control based on Distributed In-Situ Sensors into Raw Material and Energy Feedstock - DISIRE”. When applying please mark your application with the keyword [DISIRE]; application deadline is on the 18th of December 2014.

- two openings for PhD positions in the area of autonomous aerial collaborative manipulation and inspection by unmanned aerial vehicles, as part of the European Horizon 2020 Research Project “Collaborative
Aerial Robotic Workers - AEROWORKS™. When applying please mark your application with the keyword [AEROWORKS]; application deadline is on the 18th of December 2014.

- an opening for a PhD position in the area of autonomous unmanned ground vehicles and especially in the area of search and rescue using real life full scale vehicles in unstructured and unknown territory as a part of the EU-project “Reconfigurable ROS-based Resilient Reasoning Robotic Cooperating Systems” (R5-COP). The position includes software design and implementation in Robotic Operation System (ROS) as well as extended hands on field experimentations. When applying please mark your application with the keyword [R5-COP]; application deadline is on the 18th of December 2014.

- an opening for a PhD position in the area of modelling and replication of human motion and fall accidents by novel postural sway analysis, robotics and mathematical modeling. The position is in cooperation with researchers in Physiotherapy, as a part of a research project funded by the Swedish Research Council (VR). The position will also include research in the area of Pneumatic Muscle Actuators and in the design, modeling and implementation of a balancing lower part humanoid. When applying please mark your application with the keyword [BART]; application deadline is on the 18th of December 2014.

For further information please contact Prof. George Nikolakopoulos DISIRE and AEROWORKS Coordinator, LTU Project Manager for R5-COP, (Email: geonik@ltu.se) or the Automatic Control Chair, Professor Thomas Gustafsson (Email: tgu@ltu.se).

6.4. PhD: University of Oxford, UK
Contributed by: Alessandro Abate, aabate@cs.ox.ac.uk

EPSRC Centre for Doctoral Training In Autonomous Intelligent Machines and Systems (AIMS)
4-Year PhD (DPhil) Programme
Up to 10 fully-funded studentships for Doctoral Research

Candidates are invited to apply to the University of Oxford’s 4-year Autonomous Intelligent Machines and Systems (AIMS) PhD (DPhil) programme. This new and exciting programme provides a completely new perspective to solving the issues of intelligent, autonomous systems by adopting an inter-disciplinary approach.

In the next decade our society will be revolutionised by Autonomous, Intelligent Machines and Systems, which can learn, adapt and act independently of human control.

The UK has the opportunity to become a world-leader in developing these technologies for sectors as diverse as energy, transport, environment, manufacturing and aerospace. Our CDT will deliver highly-trained individuals versed in the underpinning sciences of robotics, computer vision, wireless embedded systems, machine learning, control and verification. The CDT will advance practical models and techniques to enable computers and robots to make decisions under uncertainty, scale to large problem domains and be verified and validated. Holding one of these studentships will allow you to study the problems and opportunities in Autonomous, Intelligent Systems from many different perspectives, to understand the real-world challenges, and to make a contribution to solving some of the most significant problems society faces today. Applications will be considered from those with degrees at undergraduate (1st or 2:1) and master’s level (distinction).

The application deadlines are 23rd January 2015 and 13th March 2015.

For more details, to ask questions, or to learn how to apply, please contact the CDT administrator at wendy.adams@eng.ox.ac.uk, or visit http://aims.robots.ox.ac.uk
6.5. PhD: NYU Polytechnic School of Engineering, USA
Contributed by: Vikram Kapila, vkapila@nyu.edu

Positions Available: Two Doctoral Research Assistants in Robotics and Engineering Education
Mechanical Engineering Department, NYU Polytechnic School of Engineering

We are seeking to recruit two doctoral research assistants, with a start date of January 2015, under an externally funded project. The project will research, identify, and build an effective model of teacher education and associated curriculum to facilitate the integration of robotics in science and math learning in middle school classrooms. Applicants must have a B.S. and an M.S. degree in mechanical engineering or a closely related field with research experience in robotics. They should have a strong aptitude in mathematics and engineering as well as interests in engineering education and learning science. The following areas of academic expertise are essential: i) robotics, ii) mechatronics, iii) system dynamics, and iv) automatic control.

The research assistants are expected to excel in their academic work. Their dissertation research will focus on robotics and STEM education. The project begins in January 2015 and requires highly motivated and dedicated individuals who are self-driven to excel in education and research. For further information, please contact Prof. Vikram Kapila, vkapila@nyu.edu. Applicants can send a single pdf file containing a letter of interest, curriculum vitae, and statement of research interest to Prof. Kapila.

6.6. PhD/Post-Doc: Technion - Israel Institute of Technology, Israel
Contributed by: Daniel Zelazo, dzelazo@technion.ac.il

Postdoctoral Research Associate and PhD Positions

Positions for postdoctoral and PhD students are currently available with the Faculty of Aerospace Engineering at the Technion - Israel Institute of Technology (Haifa, Israel, http://aerospace.technion.ac.il/).

Postdoctoral Researcher:

Funding for a postdoctoral candidate is available for projects related to the analysis and synthesis of networked dynamic and multi-agent systems. The scope of this project is broad, and thus has potential to explore many topics based on the expertise of the candidate.

Topics include:

- analysis of uncertain multi-agent systems; robustness and H-inf methods
- fault detection and isolation methods for networked systems
- synthesis strategies of network and controller design in uncertain networks
- passivity-based frameworks for multi-agent systems
- network optimization theory for multi-agent systems
- distributed optimization

Successful candidates should have a Ph.D. (or will graduate soon) in Electrical, Aerospace, or Mechanical engineering (or related discipline) with a strong foundation in systems & control theory, optimization theory, and familiarity with the broad area of multi-agent networked dynamical systems.

PhD Position:

We are eager to recruit exceptional PhD students with a strong interest and background in systems and control theory, robotics, and optimization. Students will be expected to perform research on topics related to multi-agent and multi-robot systems.

Interested applicants for both positions should submit a detailed CV with a list of publications and a research
statement to:
Asst. Prof. Daniel Zelazo
e-mail: dzelazo@technion.ac.il

6.7. PhD/Post-Doc: Clemson University, USA
Contributed by: Yongqiang Wang, yongqiw@clemson.edu

Applications are invited for doctoral and/or post-doctoral positions in the general area of dynamics and control of network systems. Competitive financial supports will be provided. Students with a strong background in systems and control and a clear interest in the general area of network systems are encouraged to apply. Specific areas of research include: - analysis of dynamical engineered or biochemical networks - hybrid systems - oscillator networks or synchronization Clemson University is ranked 20th among national public universities by U.S. News & World Report (tie with Purdue University-West Lafayette and University of Maryland-College Park). It is described by students and faculty as an inclusive, student-centered community characterized by high academic standards, a culture of collaboration, school spirit, and a competitive drive to excel.
Clemson is located on Lake Hartwell in the foothills of the Blue Ridge Mountains, an area of outstanding natural beauty and temperate climate. It is 30 miles from Greenville, SC, a vibrant and growing city which provides many opportunities for entertainment, culture, and fine dining. Strong mathematical and analytic skills are desired.
Candidates with a demonstrated track record in one or more of the previous area(s) will be preferred. Interested students should send a short resume, along with representative relevant publications, if applicable, to yongqiw@clemson.edu

6.8. Post-Doc: Louisiana State University, USA
Contributed by: Michael Malisoff, malisoff@lsu.edu

One or more Postdoctoral Researcher positions are available in the Louisiana State University Department of Mathematics, starting in January or August 2015.
Applications are welcomed in any area of interest to the departmental faculty, including the areas of control and optimization. A required qualification for the positions is a Ph.D or equivalent degree in mathematics or a related area. The department seeks candidates who have potential for research excellence as well as a commitment to graduate and undergraduate education. Minorities and women are strongly encouraged to apply. Application review will begin upon receipt and applications will be accepted until candidates are selected. To apply, please go to https://www.mathjobs.org/jobs/jobs/6609.

6.9. Post-Doc: University of California, USA
Contributed by: Bassam Bamieh, bamieh@engineering.ucsb.edu

Post-Doc: University of California at Santa Barbara
Applicants are sought for a two-year post-doc position with the Department of Mechanical Engineering (with an affiliation with the Center for Control, Dynamical Systems and Computation (CCDC: http://www.ccdc.ucsb.edu)) at the University of California at Santa Barbara.
The postdoctoral fellow will join in an exciting interdisciplinary effort exploring the interface between Distributed Control Theory and Statistical Physics. Recent research advances have shown that many-body phenomena such as phase transitions appear in the design and analysis of distributed control systems, with implications for the engineering of distributed networks as well as for the analysis of biological neural networks. The goal of this research effort is to advance this relatively new area of research.

This position requires a sound theoretical background, and the ability to carry out both analytical calculations and numerical simulations. The candidate should have experience with doing calculations in statistical field theory using approximate techniques (mean field theory, diagrammatic perturbation theory, renormalization group) in theoretical Condensed Matter Physics/Particle Physics or String Theory. Ideally, the candidate should also have some experience in Robust and Optimal Control theory and a strong interest in this interdisciplinary area.

The successful candidate will be located primarily at UCSB working with Prof. Bassam Bamieh in collaboration with Prof. Partha Mitra of the Cold Spring Harbor Laboratory.

The application by email (to bamieh@engr.ucsb.edu) should include the following documents (in a single PDF file):

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

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or any other characteristic protected by law including protected Veterans and individuals with disabilities.
6.11. Post-Doc: University of California, USA
Contributed by: Ali Mesbah, mesbah@berkeley.edu

Multiple Postdoctoral Openings in the Process Systems and Control Lab at the University of California, Berkeley

There are multiple postdoctoral openings in the Process Systems and Control Lab at the University of California, Berkeley. The positions are in the broad area of dynamic modeling and control of nonlinear, uncertain systems. The specific systems under study include 1) continuous ABE fermentation processes for biofuel production (in collaboration with the Energy Biosciences Institute), and 2) active regulation of cell-signaling pathways in living cells (in collaboration with the Department of Bioengineering).

The candidates are expected to hold a doctoral degree in Chemical Engineering (or related disciplines). Strong background in dynamic modeling, advanced control, and uncertainty analysis is required. Prior experience with biomass conversion processes and biological systems will be preferred.

Interested candidates should submit a cover letter (clearly indicating the project of interest), CV, and the contact details of three references to Dr. Ali Mesbah at mesbah@berkeley.edu. The positions are available starting immediately and will be open until filled. An initial appointment will be made for one year, and will be renewable contingent on performance and availability of funding.

6.12. Post-Doc: Politecnico di Milano, Italy
Contributed by: Alessandro Colombo, alessandro.colombo@polimi.it

One postdoctoral position is available for an 18-month project in cooperative vehicle collision avoidance at Politecnico di Milano (Italy).

The candidate will be designing control algorithms for cooperative collision avoidance and running full scale tests on real vehicles. The candidate should have a strong background in nonlinear dynamics and control, hybrid systems dynamics, discrete optimization, and be comfortable with algorithm writing and coding. The position is for 18 months starting at the beginning of 2015.

To apply, please send me an email (alessandro.colombo@polimi.it) with your CV, publications list, and list of at least three references.

6.13. Post-Doc: University of Michigan, USA
Contributed by: Dawn Tilbury, tilbury@umich.edu

Physiological Signal Modeling Postdoctoral Fellow
University of Michigan, Ann Arbor

The Departments of Anesthesiology and Mechanical Engineering of the University of Michigan are looking to hire a Postdoctoral Research Fellow to develop and test novel physiological network and forecasting systems.
Our current work uses dynamic systems modeling techniques to study how the human body responds to various physiological stimuli. The postdoctoral fellow will work in an interdisciplinary environment with focus on the development and application of computational solutions to biomedical problems, involving signal processing of time series physiological data, data-driven and physiological-based models, and data mining. The position has the potential for long term professional employment.

To qualify for this 2-year Postdoctoral Fellowship, the applicant must have received a Ph.D. degree in a science, technology, engineering or mathematical discipline in the three years prior to the application date.

Responsibilities:
- Formulates experimental hypotheses leading to design and implementation of experimental protocols related to computational models.
- Develops necessary new technologies and protocols.
- Develops and creates models from data sets collected by the medical collaborators.
- Collects, processes and interprets experimental data and model outputs.
- Trains, and in some instances supervises, graduate and undergraduate students.
- Collaborates with other scientists and computational staff on research projects and development of new approaches to existing research problems.
- Prepares research proposals, progress reports, and manuscripts for submission to scientific journals.
- Presents research methods and findings at appropriate scientific conferences.
- Completes other projects as needed.

Required qualifications:
- Ph.D. in Computer Science, Math, Control Engineering or related field
- Experience in developing and evaluating models for dynamic systems. Excellent mathematical and analytical skills
- Demonstrable products (publications, applications, patents) showing creative and independent problem solving skills
- Strong programming skills, including some or all of Matlab, C/C++, databases (MySQL), python

Desired Knowledge:
- Experience in working with physiological data sets and models
- Experience with cloud computing services (AWS, Rackspace, etc.)
- Experience in machine learning
- Expertise in decision trees, inductive logic programming, unsupervised learning, independent component analysis, Bayesian learning systems, and hidden Markov models
- Big data analysis
- Signal Processing

Interested candidates should send a CV, cover letter summarizing their capabilities and interest, and the names and contact information for three professional references to Prof. Krishna Ramachandran rsatyak@med.umich.edu and Prof. Dawn Tilbury tilbury@umich.edu Applications received by January 15 will receive full consideration, although the position will remain open until filled.

Contributed by: Guoqiang Hu, gqhu@ntu.edu.sg

Post-doc positions in “Control, Optimization, and Management of Smart Grid” at Nanyang Technological University, Singapore.
Several post-doc positions are available at Nanyang Technological University, Singapore, for a three-year project “Hub-wide Grid Planning and Management System for Industrial Hubs”. The positions can start immediately. The scope of the positions cover:

- Modeling, control, and stability analysis of microgrid for industrial hubs
- Planning, operations, and control of hub-wide grid
- Demand response and demand-side management
- Resilient control algorithms for smart grid under failure and attack
- Distributed control and optimization of multi-agent systems
- Software design and analysis of hub-wide grid for industrial hubs

Applicants should hold Ph.D degrees in control systems or power/energy systems and have strong track records of competitive research experience. Salaries are highly competitive depending on qualifications and experience.

Application Procedure:
Interested applicants can email full CVs and supporting documents (e.g., description of previous related experiences and achievements, pdf files of representative publications) to Prof. Guoqiang Hu (http://ntu.edu.sg/home/gqhu/) via gqhu@ntu.edu.sg.
The positions will stay open until suitable candidates have been appointed.

6.15. Post-Doc: KU Leuven, Belgium
Contributed by: Johan Suykens, johan.suykens@esat.kuleuven.be

Postdoc positions ERC Advanced Grant A-DATADRIVE-B
The research group KU Leuven ESAT-STADIUS is currently offering 2 Postdoc positions (1-year, extendable) within the framework of the ERC Advanced Grant A-DATADRIVE-B


The research positions relate to the following possible topics:

1. Prior knowledge incorporation
2. Kernels and tensors
3. Modelling structured dynamical systems
4. Sparsity
5. Optimization algorithms
6. Core models and mathematical foundations
7. Next generation software tool

The research group ESAT-STADIUS http://www.esat.kuleuven.be/stadius at the university KU Leuven Belgium provides an excellent research environment being active in the broad area of mathematical engineering, including systems and control theory, neural networks and machine learning, nonlinear systems and complex networks, optimization, signal processing, bioinformatics and biomedicine.
The research will be conducted under the supervision of Prof. Johan Suykens. Interested candidates having a solid mathematical background and PhD degree can online apply at the website https://icts.kuleuven.be/apps/jobsite/vacatures/53177117?lang=en by including CV and motivation letter. For further information on these positions you may contact johan.suykens@esat.kuleuven.be.

6.16. Post-Doc: MINES ParisTech, France
Contributed by: Philippe Martin, philippe.martin@mines-paristech.fr

Post-Doc position at Centre Automatique, MINES ParisTech, FRANCE

The “Centre Automatique et Systèmes”, MINES ParisTech, PSL Research University, invites applications for a post-doctoral position in Control Theory/Robotics for a duration of 12 months. The net salary is about 25000 euros a year, depending on work experience, including health insurance. Starting date no later than March 2015.

The lab is located in the center of Paris, in the Latin Quarter.

This position is connected with a research project on methods for estimating position/velocity/attitude of flying robots for the purpose of closed-loop control.

The goal is to design real-time algorithms (so-called “observers”) fusing the measurements of various sensors (inertial sensors, cameras, range sensors, etc.) with some guaranteed convergence properties. Up to now the design methods used in the project have been relying on the geometric structure of the system (see e.g. [BMR2008,EMMH2013]), but any other efficient approach is conceivable. Also are investigated observers based either on a generic model (i.e. a generic rigid body) or an a dedicated model (e.g. using a force model for a quadrotor as in [MS2010]). The project is part of a collaboration with ISIR (Institut des Systèmes Intelligents et de Robotique”), which is located within walking distance of MINES ParisTech.

The candidate must have a PhD or equivalent in Control theory, robotics, or applied mathematics. A knowledge of inertial sensors and/or computer vision will be appreciated. As the content of the work is relatively open, candidates with various backgrounds and tastes (theory- and/or application-inclined) will be considered.

Non French-speaking candidates are welcome, provided they have a good command of English.

For applications or further inquiries about the project, please contact Philippe Martin philippe.martin@mines-paristech.fr. The application should comprise a letter outlining past research and future projects, a CV, and 2-3 recommendation letters.

Bibliography:

Address:
Centre Automatique et Systèmes, MINES ParisTech, 60 boulevard Saint-Michel, 75006 Paris, FRANCE

6.17. Post-Doc: Technion - Israel Institute of Technology, Israel
Contributed by: Vadim Indelman, vadim.indelman@technion.ac.il
Post-doc Position in Autonomous Navigation and Perception at the Technion, Israel

The department of Aerospace Engineering at the Technion - Israel Institute of Technology invites applications for a postdoctoral research position in the area of single- and multi-robot autonomous navigation under uncertainty, including visual SLAM, planning under uncertainty, probabilistic perception, joint inference and control, and sensor fusion.

The successful candidate will work with Assist. Prof. Vadim Indelman and will have the opportunity to contribute to ongoing multi-disciplinary research efforts while also developing his/her own research line. Applicants should have a Ph.D. (or about to graduate) in Electrical, Aerospace or Mechanical Engineering, Computer Science or Applied Mathematics. A strong background in at least one of the areas mentioned above is required. Hands on experience and programming skills are an advantage. This is a full-time, one-year, non-tenure-track appointment with possibility of extension subject to available funding and satisfactory performance. Funds for some conference travel and research expenses will also be provided.

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

For more information please visit http://vindelman.technion.ac.il or contact Assist. Prof. Vadim Indelman via email (vadim.indelman@technion.ac.il)

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6.18. Post-Doc: NYU Polytechnic School of Engineering, USA

Contributed by: Vikram Kapila, vkapila@nyu.edu

Postdoctoral Research Associate Positions Available: Robotics Research and Curriculum Design

Mechanical Engineering Department, NYU Polytechnic School of Engineering

We are seeking to recruit two postdoctoral research associates, with a start date of January 2015, under an externally funded project.

The project will research, identify, and build an effective model of teacher education and associated curriculum to facilitate the integration of robotics in science and math learning in middle school classrooms.

Applicants must have a Ph.D. degree in mechanical engineering, electrical engineering, or a closely related field (robotics research) or in STEM education (curriculum design). They should have a strong aptitude in their disciplinary specializations as well as interests in STEM education and learning science.

The research engineer and curriculum designer are expected to conduct scholarly research in robotics and STEM education. They will have opportunities for broad training including graduate student mentoring.

The project begins in January 2015 and requires highly motivated and dedicated individuals who are self-driven to excel in education and research.

For further information, please contact Prof. Vikram Kapila, vkapila@nyu.edu.

Applicants can send a single pdf file containing a letter of interest, curriculum vitae, statement of research interest, and a list of three references to Prof. Kapila.

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6.19. Research Fellow: National University of Singapore, Singapore

Contributed by: Chee Khiang Pang (Justin), justinpang@nus.edu.sg

Research Fellow/Senior Research Fellow

Company Name: National University of Singapore
Job Description:
As part of the NUS Aerospace Systems Initiative, the Candidate will be hired under the project titled “Energy-Efficient Flight Control Strategies and Multi-Agent Treatment for Nano-Satellites”. The Candidate will be responsible to conduct systems-level research on the control aspects of a swarm of nano-satellites.

Requirements:
We are looking for an intelligent, hardworking, and motivated post-doctoral researcher who is interested in doing high-quality and high-impact research to join our research group. The Candidate should possess a Ph.D. degree from a renowned university (or submitted his/her Ph.D. dissertation) with a strong publication record. The Candidate should also have a good mastery of control theory and mathematics, particularly in areas of graph theory and multi-agent systems.

The Candidate will work closely with the PI to develop the essential high-endurance control and mathematical machineries in path-planning and collision avoidance, which are fully justified with mathematical rigour.

Remuneration & Benefits:
Remuneration will be based on qualifications and experience. Leave, medical, and dental benefits will be provided based on NUS guidelines.

Term of Appointment:
The initial appointment is one year with a possible extension.

Contact Person:
Interested candidates shall send their detailed curriculum vitae to Prof. Pang (justinpang@nus.edu.sg).

Application Deadline:
Open till filled.

6.20. Research Fellow: University of Melbourne, Australia
Contributed by: Peter Dower, pdower@unimelb.edu.au

RESEARCH FELLOW-MAX-PLUS METHODS FOR OPTIMAL CONTROL
Department of Electrical & Electronic Engineering, University of Melbourne, Australia
A post-doctoral research fellow with an outstanding research background in applied mathematics (or equivalent) is sought to conduct mathematical systems theory research with emphasis on the development of new theory, tools and efficient numerical algorithms for the solution of nonlinear optimal control problems, integro-differential differential equations, and two-point boundary value problems via max-plus / idempotent methods. The successful applicant must have a PhD in Applied Mathematics, Electrical Engineering, or equivalent qualification. Candidates with experience in optimal control theory, dissipative systems theory, max-plus / idempotent methods, or infinite dimensional systems theory are strongly encouraged to apply.
For further details, see the position description at http://www.jobs.unimelb.edu.au (search for position no. 0028405).

Salary: $62,973 - $85,452 p.a. (Level A) or $89,955 - $106,817 p.a. (Level B) plus 9.5% superannuation. The level of appointment is subject to the appointee’s research record, qualifications and experience.

Employment type: Full-time fixed term (research) position available for 1 year.

For further details, please contact Associate Professor Peter M. Dower (pdower@unimelb.edu.au)
Position description is available at http://www.jobs.unimelb.edu.au (search for position no. 0028405)
Applications must be submitted to http://www.jobs.unimelb.edu.au
Closing date: 25 January 2015
6.21. Faculty: Harbin Institute of Technology, Shenzhen Graduate School, China
Contributed by: Ms. Zhao, scc.hitsz@gmail.com

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

The Division of Control and Mechatronics Engineering at Harbin Institute of Technology, Shenzhen Graduate School (HITSZ) invites applications for several faculty positions at all ranks. We are seeking candidates with excellent credentials in the areas of systems and control, wind energy, power systems and smart grids. Applicants must have a Ph.D. or equivalent in electrical, mechanical and power systems engineering and need to show strong research record and potential.

Successful candidates will be received a joint appointment in the Center of Systems and Control. The Division currently has 11 full-time faculty members, and is expected to grow to 20 faculties in the next few years.

HITSZ offers a competitive salary and the salary levels at 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

6.22. Faculty: Georgia Institute of Technology, USA
Contributed by: Mark Costello, mark.costello@ae.gatech.edu

Open Faculty Positions in Aerospace Engineering at Georgia Tech: The Daniel Guggenheim School of Aerospace Engineering at the Georgia Institute of Technology in Atlanta, GA, invites nominations and applications for five tenure-track faculty positions. Applications are sought from candidates with expertise in the traditional aerospace disciplines, promising new research areas, and cross-cutting interdisciplinary fields. Areas of interest may include, but are not limited to, aerodynamics, design and manufacturing, structures and solid mechanics, and autonomy for aerospace systems. Preference is given for candidates seeking tenure-track Assistant Professor appointments, but exceptional candidates at all ranks will be considered.

Successful candidates will be expected to teach graduate and undergraduate courses; supervise graduate students; interact collaboratively with faculty in teaching, research, and service; and develop a strong, independent, externally funded research program. An earned doctorate in aerospace engineering or a related
field is required at the time of hire, and successful candidates will have outstanding records of research accomplishments.

Applicants should submit a cover letter, curriculum vitae, statements of research and teaching interests, and contact information for four professional references to Prof. Mark Costello, Faculty Search Committee Chair, at ae-faculty-search@aerospace.gatech.edu.

The Aerospace Engineering program at Georgia Tech is the largest program of its kind in the US, having approximately 40 full-time faculty members, more than 800 undergraduate students, and over 500 graduate students. Its undergraduate and graduate programs are ranked among the top aerospace engineering programs in the nation.

Information about the School can be found at www.ae.gatech.edu.

6.23. Faculty: University of California, USA
Contributed by: Kelsey Ibach, kelsey.ibach@ece.ucsb.edu

The Electrical and Computer Engineering Department in the College of Engineering at the University of California, Santa Barbara invites applications for a tenure-track faculty position in control and dynamical systems, with an effective appointment date of July 1, 2015. Expertise is sought to complement existing strengths in the College’s Center for Control, Dynamical Systems, and Computation.

Responsibilities include teaching at both the undergraduate and graduate levels, recruitment and supervision of graduate students, and the development of an actively funded research program of the highest quality. A Ph.D. or equivalent degree and a demonstrated potential for excellence in teaching and research are required. Screening will begin December 15, 2014 and will continue until the position is filled.

The department is especially interested in candidates who can contribute to the diversity and excellence of the academic community through research, teaching and service.

Applicants should send a resume containing teaching and research accomplishments and contact information for three references to: http://www.ece.ucsb.edu/employment/

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or any other characteristic protected by law including protected Veterans and individuals with disabilities.

6.24. Faculty: Boston University, USA
Contributed by: Cheryl Stewart, cstewart@bu.edu

Faculty Search - Professor or Associate Professor, Division of Systems Engineering

The Division of Systems Engineering (SE) at Boston University (BU) is seeking candidates for a tenured faculty position at the rank of Professor or Associate Professor in the area of Network Systems. The Division of Systems Engineering is seeking a proven accomplished researcher to provide leadership in the area of network systems and to develop a research program that enhances and complements a number of existing activities that span the ECE and ME Departments. The Division, in conjunction with the Center for Information and Systems Engineering (CISE), has established widely recognized research excellence in areas such as Sensor Networks, Multi-Agent Systems, and Mobile Robotics. These and other areas where Division faculty are active represent instances of a broader emerging class of network systems. Beyond traditional computer and communication networks, this new class is characterized by network structures whose nodes are complex dynamic systems in themselves (wireless physical devices, robots, power supply
centers in a smart grid, vehicles in smart cities, factories/warehouse in supply chains, etc). Candidates with research interests that transcend the traditional boundaries of SE are strongly encouraged to apply. The successful candidate will be given a primary appointment in our Mechanical Engineering or Electrical and Computer Engineering departments as applicable. Additional appointments with other BU departments and the Division of Materials Science and Engineering are available for candidates with appropriate experience and interests.

To apply and for further details, please visit and follow application instructions online at https://academicjobsonline.org/ajo/jobs/4665.

Applications will be accepted until the position is filled. Preferred deadline for full consideration is December 31, 2014. Therefore, applicants are encouraged to apply early.

We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law. We are a VEVRAA Federal Contractor.

6.25. Faculty: United States Naval Academy, USA
Contributed by: Joel Esposito, esposito@usna.edu

The Naval Academy’s Systems Engineering Department (http://www.usna.edu/WSE/) invites applications for multiple tenure track faculty positions. Appointments at all ranks will be considered, but the preference is for junior faculty at the rank of Assistant Professor. This position may begin as early as the fall of 2015. A Ph.D. in electrical, mechanical, or closely related engineering field is required.

The Systems Engineering major seeks candidates that can contribute to a broad field of study including dynamics and control, mechatronics, robotics, and embedded computers. The successful candidate is expected to teach and, eventually, develop course material in one or more of these areas, to advise student projects, and to maintain a research program and a technical publication record. Additional technical expertise and/or previous technical research in areas of bioengineering, cyber-physical systems, human machine interface, engineering management, or military technology is highly desirable. The Systems Engineering curriculum (accredited by ABET) is laboratory intensive and emphasizes design for autonomy.

Class sizes are small and laboratories are state-of-the-art.

Applications should consist of a cover letter and CV accompanied by teaching and research statements, and sent to Search Committee, c/o Prof. Joel Esposito, esposito@usna.edu. We will begin reviewing applications on December 1st 2014 and continue until the position is filled.

The United States Naval Academy (USNA) is a four year undergraduate institution with a mission to prepare midshipmen morally, mentally, and physically for commissioning as officers in the naval services and is located in Annapolis, MD, within the Baltimore Washington Metropolitan area, known for its top-rated schools and range of amenities. The United States Naval Academy is an equal opportunity employer.

See https://www.usna.edu/HRO/jobinfo/WSEAsstProf%20-%202014.php for more details.

6.26. Faculty: Ohio State University, USA
Contributed by: Wei Zhang, zhang.491@osu.edu

The Ohio State University invites applications from outstanding candidates for multiple tenure track faculty positions in the Department of Electrical and Computer Engineering. All areas and ranks in electrical and
computer engineering will be considered. We are especially interested in the areas of (i) control systems, (ii) biomedical applications including cancer detection and imaging, (iii) cloud computing, machine learning, and data analytics, and (iv) senior candidates in electromagnetics, microwave theory, RF systems, or remote sensing; all positions may involve joint appointments with other engineering departments. Applicants must have a Ph.D. degree and outstanding academic credentials. Successful candidates will be expected to develop a vigorous externally-funded research program, show excellence and leadership in academic and scholarly activities, and demonstrate outstanding teaching at the undergraduate and graduate levels.

Applicants are requested to send (1) a letter of application, (2) curriculum vitae, (3) statement of research plans in the context of prior research accomplishments, (4) brief statement of teaching philosophy, and (5) names of four references (name, address and e-mail address) to Professor Roberto Rojas at search@ece.osu.edu.

The Ohio State University is an ADVANCE University. To build a diverse workforce Ohio State encourages applications from individuals with disabilities, minorities, veterans, and women. EEO/AA employer.

6.27. Faculty: University of Waterloo, Canada
Contributed by: Daniel Miller, miller@uwaterloo.ca

Faculty Position in Mechatronics and Systems Control at the University of Waterloo
The Department of Electrical and Computer Engineering at the University of Waterloo is seeking an exceptional candidate for a tenure-track/tenured position at the rank of Assistant, Associate, or Full Professor, in the broad area of mechatronics and systems control beginning May 2015. The applicant should have a strong record of high quality research, and, ideally, expertise in a significant application area. The applicant should have earned a doctoral degree in electrical and computer engineering or a closely related discipline, and should have expertise in mechatronics and systems control. Duties include research, teaching at the undergraduate and graduate level, and supervision of graduate students. Based on qualifications and the rank hired at, an annual salary will range from $100,000 to $150,000. For exceptionally qualified candidates a higher annual salary will be considered.

The Department currently has more than 85 faculty members and is in the process of expanding to more than 90 faculty members, making it one of the largest ECE departments in Canada. The graduate programs of the Department attract outstanding Canadian and international applicants, with an enrolment of more than 600 graduate students. The undergraduate programs in computer engineering, electrical engineering, software engineering (offered jointly with the David R. Cheriton School of Computer Science), mechatronics engineering (offered jointly with the Departments of Mechanical & Mechatronics Engineering and Systems Design Engineering), and nanotechnology engineering (offered jointly with the Departments of Chemistry and Chemical Engineering) draw the top students from across Canada.

The University of Waterloo has been named the “Best Overall” university by reputation in Canada; researchers benefit from close connections with many high-technology companies in the Waterloo area and from the very generous intellectual property policy of the University, which vests the rights with the inventor. The University is located in the attractive two-university community of the Region of Waterloo (population of 450,000) in southwestern Ontario. The city of Toronto is within easy driving distance, as are the many recreational opportunities offered by the Great Lakes and numerous provincial and national parks.

Interested candidates should send a curriculum vitae, statements of teaching and research interests, and the names of at least three references to the Faculty Search Coordinator via the online system at https://eceadmin.uwaterloo.ca/DACA/php/

Applications will be accepted until the position is filled. All qualified candidates are encouraged to apply;
however, Canadians and permanent residents will be given priority. The University of Waterloo encourages applications from all qualified individuals, members of visible minorities, native peoples, and persons with disabilities. Only candidates licensed as a P.Eng. in the Province of Ontario, or eligible to be licensed as a P.Eng. in the Province of Ontario within the first 3 years of employment, will be considered.

6.28. Faculty: University of Waterloo, Canada
Contributed by: Daniel Miller, miller@uwaterloo.ca

Lecturer Position in Mechatronics at the University of Waterloo

The Department of Electrical and Computer Engineering at the University of Waterloo seeks applications for a three-year definite-term faculty position at the rank of Lecturer beginning May 2015. Candidates should possess a graduate degree in electrical engineering, computer engineering, mechatronics engineering, or a closely related discipline, and be licensed or eligible to be licensed as a P.Eng. in the Province of Ontario. Based on qualifications and experience, an annual salary will range from $85,000 to $100,000. Negotiations beyond this salary range will be considered for exceptionally qualified candidates.

The successful candidate will teach and mentor students in the mechatronics engineering program. The successful candidate must have a strong understanding of electro-magnetics, electric circuits, digital design, bus interfaces, real-time system design/development, and embedded software development for micro-controllers and micro-processors. Preference will be given to candidates who have exceptional teaching skills and a demonstrated ability to teach large engineering courses effectively.

This position also requires a willingness to explore and be conversant in the many sub-disciplines of mechatronics engineering and the opportunities for students provided through the department, faculty, university, and community at large. Examples include involvement with undergraduate engineering student teams, fourth year design projects and student entrepreneurship programs. The successful candidate should seek involvement in student outreach activities, and have a strong interest in knowing and engaging students so as to guide them to realize their full potential. The successful candidate should have a positive outlook and be committed to professional development and community building.

There are regular non-teaching terms of four-month duration every two years for scholarly rejuvenation and development activities. Over time, there may exist opportunities to serve in other capacities, teach other subjects in our academic programs, or supervise undergraduate student projects.

The university is a vibrant community built around teaching excellence and scholarship in teaching, with direct and active institutional support through its Centre for Teaching Excellence and resources deployed in the faculties and departments. There is a strategic commitment to research-enhanced, technology-enhanced, and entrepreneurship-enhanced learning. Waterloo excels at experiential learning via the world’s largest post-secondary co-operative education program. For the past two decades, the University of Waterloo has been recognized in a national reputation survey of universities as 'best overall', 'most innovative', and producing 'leaders of tomorrow'. A recent survey of business leaders ranked Waterloo Engineering as number one in Canada.

The department currently has more than 85 faculty members and is one of the largest engineering departments in Canada. The undergraduate programs in Computer Engineering, Electrical Engineering, Software Engineering (offered jointly with the David R. Cheriton School of Computer Science), Mechatronics Engineering (offered jointly with the Departments of Mechanical and Mechatronics Engineering and Systems Design Engineering), and Nanotechnology Engineering (offered jointly with the Departments of Chemistry and Chemical Engineering) attract outstanding students, both domestic and international.

Interested candidates should send a curriculum vita, a statement of teaching philosophy, and the names of
at least three references to the Faculty Search Coordinator via the online system at https://eceadmin.uwaterloo.ca/DACA/php/

Applications will be considered as they are received. All qualified candidates are encouraged to apply; however Canadian citizens and permanent residents will be given priority. The University of Waterloo encourages applications from all qualified individuals, members of visible minorities, native people and persons with disabilities. Only candidates licensed as a P.Eng. in the Province of Ontario, or eligible to be licensed as a P.Eng. in the Province of Ontario within the first 3 years of employment, will be considered.

6.29. Faculty: University of Southampton, UK
Contribution by: Ati Sharma, a.sharma@soton.ac.uk

Lecturer / Associate Professor in Fluid Dynamics
Aerodynamics & Flight Mechanics Research Group
Location: Highfield Campus
Salary: £36,309 to £59,486 - Dependent on job level
Full Time - Permanent
Closing Date: Saturday 31 January 2015
Reference: 489514AK

Faculty of Engineering and the Environment
Aerodynamics and Flight Mechanics Research Group
Lecturer in Fluid Dynamics
Salary range: £36,309 - £45,954 per annum

Associate Professor in Fluid Dynamics
Salary range: £47,328 - £59,486 per annum

The Faculty of Engineering and the Environment at the University of Southampton is seeking outstanding candidates in the area of fluid dynamics for multiple academic positions. We invite applicants with research interests in all areas of fluid dynamics including propulsion, heat- and mass-transfer, multi-phase flows, flow control and unsteady aerodynamics. Candidates with expertise in the development and application of high-fidelity experimental and/or computational techniques to problems in these areas are particularly encouraged to apply. You will have a PhD (or equivalent) in an appropriate field and will be expected to establish an externally funded research program as well as contribute fully to both undergraduate and graduate teaching across the faculty.

You will join the Aerodynamics and Flight Mechanics research group that has world-leading expertise in transition and turbulence, aeroacoustics, atmospheric flows, multi-phase flows and combustion. We are based within the Faculty of Engineering and the Environment at the University of Southampton, which is in the top 1% of Universities in the world and is one of UK's top 15 research-intensive universities. We have an international reputation for research, teaching and enterprise activities. The University and Faculty are dedicated to maintaining world-leading expertise in fluid dynamics and have recently invested in computational and experimental resources. We have upgraded our high-performance computing infrastructure to a 12,200 core supercomputer (IRIDIS-4). In addition, the Faculty has invested £25m in a state-of-the-art Experimental Fluid Mechanics Complex that includes a 140m long towing tank, an anechoic wind tunnel, a Refractive Index Matched Facility, a boundary layer wind tunnel as well as a range of other unique facilities.

In September 2013 we were awarded with an Athena SWAN bronze award in recognition of our continued commitment to improving equality for women in science and engineering.
Informal enquiries are encouraged; please contact Professor Bharath Ganapathisubramani via email at g.bharath@soton.ac.uk

Application Procedure:
You should submit your completed application form online at www.jobs.soton.ac.uk. The application deadline will be midnight on the closing date stated above. References are requested along with your application, so please allow time for these to be received prior to the close date, to assist the department with shortlisting. If you need any assistance, please call Geraldine Lewis (Recruitment Team) on +44 (0) 23 8059 2507. Please quote vacancy reference number 489514AK on all correspondence.

https://jobs.soton.ac.uk/Vacancy.aspx?ref=489514AK

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6.30. Faculty: Michigan State University, USA
Contributed by: Xiaobo Tan, xbtan@egr.msu.edu

Michigan State University Department Chair Electrical and Computer Engineering
Michigan State University invites nominations and applications for the position of Chair of the Department of Electrical and Computer Engineering in the College of Engineering, with a preferred starting date of August 15, 2015.

The Electrical and Computer Engineering faculty has a strong interdisciplinary research and educational program built on a foundation of core electrical and computer engineering disciplines and provides first-class education while engaging in research at the frontiers of knowledge. The Chair of the Department of Electrical and Computer Engineering will promote the development of this departmental vision of academic leadership and excellence and represent the Department to the academic community, industry, and government. The Chair will actively work with faculty in the Department and across the University to identify and pursue innovations in research, education, and service. This individual will lead the Department and the College in strategic planning in the above context. The Chair is also responsible for promoting cultural diversity throughout the University.

The Department has 48 tenure system faculty members, including two National Academy of Engineering members, 17 IEEE Fellows, and 13 NSF CAREER awardees. The Department has strong research programs in all major areas of electrical and computer engineering, with annual research expenditure of over $14M. Faculty in the Department are leading several federal and industry-supported centers, including the NSF Science and Technology Center BEACON, and the Fraunhofer Center for Coatings and Laser Applications. The Department has accredited B.S. degree programs in both Electrical Engineering and Computer Engineering. The current enrollment is approximately 260 full-time graduate students and 770 undergraduate students.

MSU enjoys a park-like campus with outlying research facilities and natural areas. The campus is adjacent to the city of East Lansing and the capital city of Lansing.

The Lansing metropolitan area has a diverse population of approximately 450,000. Local communities have excellent school systems and place a high value on education. Michigan State University is pro-active in exploring opportunities for employment for dual career couples, both inside and outside the University. Information about MSU’s dual career support can be found at http://miwin.msu.edu/. Information about WorkLife at MSU and the College of Engineering can be found at http://www.egr.msu.edu/WE.

The successful candidate must have an earned PhD in Electrical or Computer Engineering or a closely related field and be qualified to receive an annual appointment at the rank of Full Professor with tenure. The candidate must provide evidence of scientific and organizational leadership and educational innovation.
He/she should have outstanding communication and interpersonal skills, and a distinguished track record of research and funding from diverse sources.

Interested individuals should submit an application for this position through: http://jobs.msu.edu/ and refer to position #0441 http://jobs.msu.edu/. Applicants must submit a detailed resume, a cover letter summarizing qualifications and leadership approach, and the names and contact information for five references. Applications will be reviewed on a continuing basis until the position is filled. For full consideration, applications should be received before February 1st, 2015. Nominations or questions are welcome by contacting the search committee chair through email at ece-chair-search@egr.msu.edu.

MSU is an affirmative-action, equal opportunity employer. MSU is committed to achieving excellence through a diverse workforce and inclusive culture that encourages all people to reach their full potential. The university actively encourages applications and/or nominations of women, persons of color, veterans, and persons with disabilities.

6.31. Faculty: Texas A&M University, USA
Contributed by: Reza Langari, rlangari@tamu.edu

Two faculty positions are currently open in Engineering Technology and Industrial Distribution (ETID) Department at Texas A&M:

1. Mechatronics, electromechanical systems design, as well as development of products and processes especially in one of the following areas: oil/gas, manufacturing, robotics and automation, healthcare or energy.
2. Embedded systems hardware and software engineering, electronic-based product and systems design, and mobile device software development.

The application process is through www.tamengineeringjobs.com. These positions are primarily focused on undergraduate education. For reference, however, the Department faculty do conduct scholarly research by supervising graduate students in traditional engineering departments in the Dwight Look College of Engineering at TAMU, where the ETID Department is also housed. This is usually accomplished via joint (typically courtesy) appointments in these departments although the ETID faculty can serve as co-chairs of graduate (thesis/dissertation) committees in other department without such affiliations. Furthermore, tenured and tenure-track faculty in the ETID Department are expected to be engaged in teaching, scholarly research/industry outreach/educational development as well as service activities as part of their regular duties as College of Engineering faculty members while the distribution of their workload among these activities may differ from those of the traditional engineering faculty in the College.

For further information please contact me directly at rlangari@tamu.edu or by phone at +1-979-845-4949 during normal business hours.
Reza Langari, Ph.D., Professor and JR Thompson Department Head Chair
Engineering Technology and Industrial Distribution (ETID)
Texas A&M University
College Station, TX 77843-3367
979-845-4949
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rlangari@tamu.edu
6.32. **Engineer: INRIA, Grenoble, France**
Contributed by: Hassen Fourati, hassen.fourati@gipsa-lab.fr

The NeCS team (INRIA, Grenoble, France) open an Engineer position for 2 years. More details about the position in the following link:

6.33. **Scientist: ABB Corporate Research Centre, Bangalore, India**
Contributed by: Vinay Kariwala, vinay.kariwala@in.abb.com

Scientist/Senior Scientist at ABB Corporate Research Centre, Bangalore, India in Data Analytics

Description:
You as a Scientist will be part of ABB Corporate Research, working in close collaboration with ABB business units. Corporate Research develops the foundations for the next generation of ABB products. As a part of Control & Optimization Group at ABB Corporate Research Centre in Bangalore, you will work in a dynamic, motivating and creative team with a wide range of experience and expertise. Your opportunities for career growth will be excellent, both nationally and internationally. The Control & Optimization (C&O) group focuses on the application of control, optimization, data analytics, process design and modelling techniques for solving problems of business interest.

Tasks:
As a Scientist in C&O Group, you will be responsible for development of Condition and Performance Monitoring techniques and their application to both process (e.g., chemicals, oil and gas, metals, pulp and paper and cement) and power plants (including Renewables). The work would require analyzing large structured/unstructured data sets using data analytics and machine learning algorithms to discover hidden trends. Appropriate visualization techniques would need to be developed to display the findings to operators and engineers.

Requirements:
Candidate with a PhD/MS/MTech degree in an Engineering discipline, including (but not restricted to) Chemical Engineering, Mechanical Engineering, Electrical Engineering and Control Engineering is desirable. Experience with engineering software like R and Matlab, and platforms like Hadoop will be considered to be an advantage.

Interested candidates can mail their CVs to Vinay Kariwala at vinay.kariwala@in.abb.com