E-LETTER on Systems, Control, and Signal Processing
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Welcome to the March issue of the Eletter, available electronically here.
To submit new articles, go “Article Submissions” on the Eletter website.
To unsubscribe, please send an email with the subject line “Eletter Unsubscribe”.

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1. IEEE CSS Headlines

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

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

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

CSS Publications Content Digest
The IEEE Control Systems Society Publications Content Digest is a novel and convenient guide that helps readers keep track of the latest published articles.
The CSS Publications Content Digest, available at http://ieeecss.org/publications-content-digest provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society. Each issue offers readers a rapid means to survey and access the latest peer-reviewed papers of the IEEE Control Systems Society.
The index in the Digest contains the Table of Contents for our 3 journals (Transactions on Automatic Control (TAC), Transactions on Control Systems Technology (TCST), and Control Systems Magazine (CSM)) with hyperlinks to the abstracts as well as the full articles in Xplore. Since TCST and CSM are published bimonthly, and TAC is published monthly, we will post the corresponding two TOCs in each (monthly) Digest. We also include links to the Society’s sponsored Conferences to give readers a preview of upcoming meetings.

1.3. IEEE Multi-Conference on Systems and Control
   Contributed by: Rebecca Deal, rebeccad@icmsaust.com.au

IEEE Multi-Conference on Systems and Control (MSC2015)
21-23 September 2015,
Novotel Manly Pacific, Sydney, Australia
www.msc2015.org

The conference includes two international conferences sponsored and promoted by the IEEE Control Systems Society:

- The IEEE Conference on Control Applications (CCA)
- The IEEE International Symposium on Intelligent Control (ISIC)

MSC 2015 provides a unique opportunity for researchers and practitioners from different areas to formulate new challenges, to discuss the state-of-the-art and the future directions in advanced control technology and intelligent systems. Presentations of theoretical results along with applications and research involving control related experiments are encouraged. MSC 2015 will feature outstanding Plenary and Keynote speakers, contributed and invited papers, special and tutorial sessions, and pre-conference workshops covering a broad range of topics relevant to control applications and methods.
Keynote Speakers:
Frank Allgower: University of Stuttgart; Graham Goodwin: University of Newcastle; Mark Spong: The University of Texas, Dallas

Plenary Speakers:
Danny Abramovitch: Agilent Labs; Richard D. Braatz: Massachusetts Institute of Technology (MIT); Andreas Kugi: Vienna University of Technology, Austria; Ross McAree: University of Queensland

Transition to Practice Award Lecture
Sirish L. Shah: University of Alberta

Author Information:
All conference submissions must be done through PaperPlaza and submitted by April 1, 2015. Authors of accepted papers are expected to attend the MSC and present their work

Contributed Papers:
A contributed paper is intended to be a complete description of finished work. Please be aware of the following guidelines

- Each Regular Registration allows for up to three, six page, papers to be uploaded without additional charge. Up to two extra pages for each paper are allowed for a charge of AU$220 each.
- Each reduced rate student or retiree registration allows for one, six page, paper to be uploaded without additional charge. Up to two extra pages are allowed for a charge of AU$220 each.
- Any additional accepted papers may be uploaded at a rate of $AU385 per paper of six pages. Up to two extra pages are allowed for each paper for a charge of AU$220 each.

Invited Sessions:
Invited session proposals should present a unified theme from diverse viewpoints. Each proposal should consist of a summary statement and six regular papers (not abstracts). The organizer notifies Contributing Authors (CAs) of their invited session code. The corresponding author of each paper submits the paper online (pdf format) as an invited paper. Submission as an invited paper requires the invited session code. An alternative model for an invited session is to start the session with a Tutorial Paper, followed by 5 regular papers. Each tutorial paper is allowed up to 12 pages in the proceedings and 40 minutes for presentation.

Support for Authors:
Author’s Kits with style (.cls) files for LaTeX and templates (.dot) for MS-Word are available from the conference submission site. Go to the the PaperPlaza website and select “Support” for these files and example files, or directly go to support page.

For further information please visit https://css.paperplaza.net/conferences/scripts/start.pl

Venue:
The 2015 IEEE Multi-Conference on Systems and Control (MSC) will be held Monday through Wednesday, September 21 - 23, at the Novotel Manly Pacific Hotel, Manly Beach, Sydney. Manly is one of Sydney’s iconic beaches and the Novotel is directly on the beach overlooking the Pacific Ocean. Manly features numerous cosmopolitan cafes and quality accommodation. Also, Manly is a short ferry ride across Sydney Harbour to Circular Quay in downtown Sydney. The city of Sydney has a wide-ranging cultural life, a dynamic food scene, iconic beaches and a vibrant cityscape of outstanding contemporary and colonial architecture. Sydney’s climate is temperate sub-tropical.
The conference will be held in Spring, which in Sydney runs from September to November. Sydney boasts an enviable outdoor lifestyle because of its sunny weather.
Dates and Deadlines:
Submission of workshop proposals and invited sessions: March 24, 2015
Technical paper submission: April 1, 2015
Notification of acceptance: July 1, 2015
Preliminary program ready: July 15, 2015
Final paper due: August 15, 2015
Early registration ends: August 15, 2015
Conference program ready: September 1, 2015
Conference dates: September 21-23, 2015

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

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IEEE Transactions on Automatic Control
Volume 60 (2015), Issue 3 (March)

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- Scanning-the-issue, p. 599

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

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- 2014 IEEE Transactions on Control Systems Technology Outstanding Paper Award, page 415

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- Neural Active Disturbance Rejection Output Control of Multimotor Servomechanism. G. Sun, X. Ren, and D. Li, page 746
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Contributed by: Elisa Capello, automatica@polito.it
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Vol. 53, March 2015
http://www.sciencedirect.com/science/journal/00051098/53

2.2. Mathematics of Control, Signals, and Systems
Contributed by: Lars Gruene, lars.gruene@uni-bayreuth.de
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- Minimizing memory effects of a system, Minh Ngoc Dao, Dominikus Noll, 77-110
- Controller reduction by $H_\infty$ balanced truncation for infinite-dimensional, discrete-time systems, Tilman Selig, 111-147

2.3. Control Engineering Practice
Contributed by: Tobias Glück, cep@acin.tuwien.ac.at
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- Tahar Achour, Mustapha Debbou, Maria Pietrzak-David, Control strategy of a dual induction motor: Anti-slip control application, pages 58-71
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2.4. Journal of Pure and Applied Mathematics
Contributed by: Gamar Manmamova, f_aliev@hotmail.com

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ISSN 2076-2585

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- Some Sequence Spaces and Matrix Transformations in Multiplicative Sense. A.F. Çakmak, F. Başar
- Spline Collocation Method for Solution of Higher Order Linear Boundary Value Problems. J. Rashidinia, M. Khazaei, H. Nikmarvani
- Intuitionistic Fuzzy Ideal Extensions in Semigroups. S.K. Sardar, M. Mandal, S.K. Majumder
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2.5. Applied and Computational Mathematics an International Journal
Contributed by: Fikret Aliev, chief_ed@acmij.az

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www.acmij.az

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- Arab R., Rabbani M., Mollapourasl R. The Solution of a Nonlinear Integral Equation with Deviating Argument Based the on Fixed Point Technique, pages: 38-49
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2.6. Proceedings of the Institute of Applied Mathematics
Contributed by: proceedings.iam@gmail.com

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- N.A. Aliev, Fikret A. Aliev, R.M. Tagiyev. An algorithm for constructing models of Rosser for gas lift process in oil production
- N.Sh. Huseynova, A.A. Niftiyev, M.M. Mutallimov. Numerical algorithm for the inverse problem with respect to the potential
- N.I. Velieva, N.A. Safarova, Sh.A. Farajova. Iterative algorithm to the solution of the optimal stabilization problem for the discrete periodic output systems
- Y.S. Gasimov, N.N. Allahverdiyeva. On an extremal problem for the eigenvalues of Pauli operator
- M.A. Sadygov. Sufficient conditions for the local minimum
- U.Y. Kerimova. Determination of Laplace transforms for distribution of the first passage of zero level of the semi-Markov random process
- Fikret A. Aliev, K.K. Gasanov, A.P. Guliev. Sweep method for solving a system of hyperbolic equations describing the motion of oil production
- Anniversaries
- Events

3. Conferences

3.1. Aerospace Applications Conference

Contributed by: Kamran Turkoglu, kamran.turkoglu@sjsu.edu

Aerospace Applications Conference - AAC 2015
03-05 August, 2015, San Jose, CA, USA
http://www.aac-conf.org/

Call for papers:
Aerospace Applications Conference (AAC), AAC - 2015 is organized by San Jose State University in participation with NASA Ames Research Center and DLR - German Aerospace Center experts. The conference will take place in San Jose State University campus in San Jose, CA, USA on August 03-05, 2015. AAC aims to bring high quality papers, sessions and presentations with specific applications on aerospace and emerging technologies to the heart of the Silicon Valley, San Jose, CA. The venue is located on the historic site of San Jose State University, which is established in 1857.

The technical program of AAC - 2015 will consist of plenary talk(s), technical sessions and oral presentations. Submitted papers should describe original, unpublished work of the authors and contributions are invited from all areas of aerospace related technologies, including (but not limited to):
- Structures and Material science with specific applications in Aerospace; Aerodynamics, Thermodynamics, Computational Fluid Dynamics and specific applications in Aerospace Systems; Guidance, Navigation and Control in Aerospace Systems; Sensor fusion and Big Data processing/applications in Aerospace Systems; Quantum computers and applications in Aerospace Systems; Robotic systems in space exploration; Space mission design and exploration; Avionic systems; Air Traffic Management (ATM); Rocket science and Interplanetary missions; Emerging technologies in commercial use of Aerospace technologies; Unmanned Aerial Systems (UAS/UAV) and technologies; Multi Disciplinary Optimization (MDO); Fault Detection and Algorithms; Federal Aviation regulations & related topics.
Plenary Speaker(s): Nhan Nguyen, NASA Ames Research Center

Important dates:
Mar 16, 2015: Contributed papers/invited sessions submission deadline
May 15, 2015: Notification of acceptance
Jun 24, 2015: Final paper submission deadline
Aug 3-5, 2015: AAC’15 Conference

Paper submission:
Original technical contributions are solicited for presentation at AAC 2015. Accepted papers will be published online and will be freely available by the Aerospace community. Submissions should be 6-8 pages following the classical IEEE double column format.
For more information: http://www.aac-conf.org/

3.2. International Conference on Computational Logistics
Contributed by: Rudy Negenborn, r.r.negenborn@tudelft.nl

6th International Conference on Computational Logistics
September 23-25, 2015 Delft, The Netherlands
Theme: Coordination for real-time logistics
http://realtimelogistics.info/iccl

The 6th International Conference on Computational Logistics (ICCL’15) will be held in Delft (The Netherlands), hosted by Delft University of Technology. This conference provides a remarkable opportunity for academia, industry, and governmental agencies to share solutions, address new challenges, and discuss future research directions on the application of information, communication, optimization and control technologies to logistic activities. The conference will feature keynote lectures, technical sessions, tutorials, on-site computational logistics experience, an optional one-day pre-conference workshop, and a social program, in an informal and inspiring setting.

High quality papers in the field of logistics management, operations, control, and information systems are welcomed. Of particular interest are papers on heuristic and formal approaches as well as on innovative ICT tools for decision support and control for improving coordination in logistic systems at the operational level. Full papers presented at the conference will be published in the conference proceedings, published in Springer’s Lecture Notes in Computer Science (LNCS), indexed by ISI Web of Science, Scopus, ACM Digital Library, DBLP, MathSciNet, a.o. Authors of selected high-quality papers will be invited to submit extended versions of their papers for possible publication in a special issue of a journal.

Technical topics of the conference include but are not limited to:
Innovative concepts for transport over water, rail, road, and air; Integrated planning and control of logistic nodes, their interconnections and their processes; Formal methods for decision support in operational (port, terminal, hinterland) logistics; Planning tools and tool-based environments for design of logistics supra- and infrastructure; Industrial applications of optimization and control for logistics; Multi-agent systems and distributed control for logistics; Automatic control and autonomous (water, road, air) transport systems for efficient logistics; Heuristics and meta-heuristics implementations in logistics related models; Computational analysis and evaluation of logistics induced environmental impact; Theoretical and empirical analysis of logistics operations; Modeling, simulation and evaluation of the involved actors and organizations; Optimal strategies and operations of logistics service providers; Consolidation and distribution for agents or shippers within the logistics business; Cooperation and negotiation in maritime supply chains; Integration of
ports in intermodal hinterland systems; Concurrent and parallel computing for large-scale logistics planning; Information systems supporting big data/cloud technology for logistical decision support.

Paper submission
Manuscripts and session proposals should follow the style guidelines provided on the conference’s website (http://realtimelogistics.info/iccl) (with max 15 pages for full papers and 2 for abstracts) and submitted via Easychair.

Important dates
February 15, 2014 - Submission deadline special session / tutorial proposals
March 1, 2015 - Notification of acceptance/rejection proposals
April 1, 2015 - Submission deadline full papers for proceedings
May 1, 2015 - Submission deadline abstracts for presentation only
May 15, 2015 - Notification of acceptance/rejection
July 1, 2015 - Submission of camera-ready papers
September 22, 2015 - ICCL’15 pre-conference workshop
September 23-25, 2015 - ICCL’15 conference

More information or questions:
Contact us via http://realtimelogistics.info/iccl/ or iccl-2015@tudelft.nl.

3.3. IFAC Symposium on Robot Control
Contributed by: Walter Fetter Lages, fetter@ece.ufrgs.br

Second Call for Papers SYROCO 2015
11th IFAC Symposium on Robot Control - SYROCO 2015
Salvador, BA, Brazil - August 26-28, 2015
http://www.syroco2015.org
Sponsored by:
IFAC TC 4.3 Robotics
Co-Sponsored by: IFAC TC 3.2 Computational Intelligence in Control; IFAC TC 4.2 Mechatronic Systems; IFAC TC 7.5 Intelligent Autonomous Vehicles; IFAC TC 9.2 Social Impact of Automation

Important Dates:
Extended deadline for submission: March 13, 2015
Notification of acceptance: May 25, 2015
Final paper submission: June 26, 2015

General Information:
Robot control technology is widely used for space, surgery, rehabilitation, micro machine, entertainment, underwater, civil engineering, professional and domestic services, security etc. It will continue to play an increasing role in the areas of robot-robot and human-robot cooperation in various dynamic scenarios.
Topics of interest include, but are not limited to:
Haptic interaction; Telemanipulation; Micro/Nano manipulation; Networked robots; Robot control: adaptive, robust, learning; Force and compliance control; Multi-fingered hand control; Multi-cooperative robot control; Sensory based robot control; Modeling and identification; Mobile robots and vehicles; Humanoid
robots; Aerial robots; Advanced Applications: space, surgery, rehabilitation, entertainment, underwater, civil engineering, security, professional and domestic services, transport and delivery etc.

Papers: Papers describing original work are invited. The number of pages and the file size must respect the following limits: 6 pages, 2 MB (up to two additional pages are permitted at an extra charge of EUR 100 per additional page). More details, instructions and template files for IFAC papers can be found at http://www.ifac-control.org/events/information-for-ifac-author.

All paper submissions should be carried out through the official conference manuscript management system at http://ifac.papercept.net/. The submitted papers will go through a peer review process. Accepted papers will be included in the final symposium program provided that at least one of its author completes a full registration fee by the deadline for submission of the final version of the paper.

Invited Sessions: The program committee encourages the proposal of invited sessions. In each session, four or six papers will be presented, and these papers must be original, unpublished papers. The invited papers will be reviewed through a regular review process. An organizer will be added as a member of International Program Committee and expected to handle invited papers. The invited person should also register with the same process of regular sessions.

The working language of the symposium is English.

National Organizing Committee:
Chair: Walter Fetter Lages (UFRGS)
Vice-e-Chair: André Gustavo Socolari Conceição (UFBA)

International Program Committee:
Chair: Claudio Melchiorri, Italia
Vice-Chair: Jurek Sassiadek, Canada
Vice-Chair from Industry: Trygve Thomessen, Norway

Accepted papers will be published in the proceedings of the event using the open-access IFAC-PapersOnLine (http://www.ifac-papersonline.net/).

To this end, the author(s) must confer the copyright to IFAC when they submit the final version of the paper through the paper submission process. See also http://www.ifac-papersonline.net/static/copyright.html for the personal permission rights to reproduce the published paper on a personal or institutional www-site.

3.4. Dynamic Systems and Control Conference
Contributed by: Rifat Sipahi, rifat@coe.neu.edu

The 2015 Dynamic Systems and Control (DSC) Conference will be held Wednesday through Friday, October 28-30, at the Hilton Columbus Downtown Hotel in Columbus, Ohio, under the leadership of General Chair Giorgio Rizzoni and Rama Yedavalli both from The Ohio State University. On behalf of the 2015 DSCC Operating Committee and the Dynamic Systems and Control Division (DSCD) of ASME International, we cordially invite you to enjoy an exciting technical program and a unique opportunity to network in the eclectic urban hub of Columbus, Ohio.

Among regular and invited sessions, the conference will feature frontiers sessions, workshops, events for graduate students, best student paper competition, and a robotics/mechatronics challenge competition for undergraduate students.

Draft Paper Submissions are due April 3, 2015.
Details can be found at http://www.asmeconferences.org/DSCC2015/
3.5. **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  

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.

In accordance with the Letter of Acquisition signed with IEEE, the Proceedings of ICSTCC 2015 will be submitted for inclusion in IEEE Xplore Digital Library. The Proceedings will also be submitted for indexing in Thomson Reuters Conference Proceedings Citation Index (formerly ISI Proceedings).

ICSTCC 2015 location is Cheile Grădiștei - Fundata Resort. The resort offers beautiful panoramas for the Piatra Craiului mountains and Bucegi mountains, the freshness and the privacy make the complex to be a place full of beauty and peace. We are planning a number of field trips: Bran Castle (Dracula’s Castle), Brasov City or hiking on the surrounding mountains.

Confirmed keynote speakers:
- Ioan Dumitrache (Romania)
- Visakan Kadirkamanathan (UK): “Spatio-Temporal Model Estimation and Identification - Applications in Engineering, Life and Social Sciences”
- Markos Papageorgiou (Greece): “Freeway Traffic Control”
- Olivier Sename (France): “The LPV approach: the key to controlling vehicle dynamics?”
- Alain Vande Wouver (Belgium): “Modeling and control of SMB chromatographic separation plants”

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](http://controls.papercept.net/conferences/scripts/start.pl#STCC15) For further information please contact the organizing committee at: icstcc2015@ugal.ro

3.6. **Australian Control Conference**
Contributed by: Ljubo Vlacic, l.vlacic@griffith.edu.au

The 2015 Australian Control Conference (AUCC 2015)  
05-06 November 2015  
Gold Coast, Australia  
The Australian Control Conference is a conference series that is organised by the Australian National Committee on Automation, Control and Instrumentation, Engineers Australia. Technical Co-sponsorship is provided by IEEE-CSS, IFAC and ACA (the Asian Control Association).

Important Dates:
- Papers Due: 01 June 2015
- Author Notification: 31 August 2015
- Final Papers Due: 28 September 2015
- Conference: 05 - 06 November 2015

Submission Types:
Two types of contributions are sought:
- Regular papers; Initial submission: up to 6 pages; Final submission: 3 pages (recommended); up to 6 pages (permitted); and Practitioner papers; Initial submission: an abstract; Final submission: 2 pages (recommended); up to 6 pages (permitted)

The proceedings will be available from IEEE Xplore

Submissions are invited in all areas pertaining to control systems theory and engineering. Contributions on applications of control systems in various fields, including robotics, mechatronics, quantum control, process control, etc, are particularly encouraged.

Paper Awards:
AUCC 2015 provides awards to honour outstanding papers submitted to and presented at the conference. The awards are the Best Student Paper Award, and the Best Poster Paper Award.

Plenary Speakers:
Howard Wiseman, Griffith University and Dragan Nesic, the University of Melbourne

Conference Destination:
The Gold Coast is a celebrated holiday experience set on one of Australia’s most spectacular natural stages. From pure, adrenalin-packed fun to natural indulgence, the contrasts of Australia’s Gold Coast unite to deliver every holiday experience you could desire in one friendly place.

Should you have any question, please feel free to contact the Conference General Chair via email at l.vlacic@griffith.edu.au

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3.7. IFAC Conference on Analysis and Design of Hybrid Systems
Contributed by: Magnus Egerstedt, magnus@gatech.edu

ADHS’15 Call for Papers: 5th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS)
Atlanta, GA, USA, October 14-16 2015
http://adhs15.gatech.edu

Important Dates:
- Papers Due: 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

3.8. 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
http://2015.iccas.org

ICCAS 2015 will be held at Bexco, Busan Korea on October 13-16, 2015.
The aim of the ICCAS is to bring together researchers and engineers worldwide to present their latest works, and disseminate the state-of-the-art technologies related to control, automation, robotics, and systems.
It is our pleasure to announce that a number of high-profile plenary speakers have confirmed their participation and will give their lectures at the conference:
Karl Johansson, KTH Royal Institute of Technology, Sweden; Pheng Shi, University of Adelaide, Australia; Jay Farrell, University of California, Riverside, USA; Yoshihiko Nakamura, University of Tokyo, Japan; Sangbae Kim, Massachusetts Institute of Technology, USA; David Boas, Harvard Medical School, USA; Taek Lyul Song, Hanyang University, Korea.

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

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

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

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

4. Workshops

4.1. Stochastic Model Predictive Control

Contributed by: Stefan Streif, stefan.streif@tu-ilmenau.de

Stochastic Model Predictive Control
Tuesday, June 30, 2015 (8:30am-5:30pm)

Organizers:
Stefan Streif (Technische Universität Ilmenau, Germany) and Ali Mesbah (UC Berkeley, USA)

Additional Speakers:
Mark Cannon (University of Oxford, UK); Frauke Oldewurtel (UC Berkeley, USA); Roberto Tempo (CNR-IEIIT, Politecnico di Torino, Italy)

Overview:
Stochastic MPC is an emerging stochastic optimal control approach that takes into account statistical descriptions of uncertainties, which can often be readily obtained during model development. Stochastic MPC approaches allow for systematically seeking tradeoffs between robustness (i.e. probabilistic constraint satisfaction) and control performance. In this workshop, several approaches to (linear and nonlinear) SMPC will be covered, including randomized and sampling based approaches, polynomial chaos, adaptive constraint tightening, and methods based on polytopic tubes. Different approaches will be demonstrated using various examples including energy building systems, wind turbine control, ecosystem-based management, manufacturing systems, and chemical and pharmaceutical processes.

Outline:
The workshop is designed for researchers with a basic knowledge of MPC who intend to get an overview of the main concepts, (potentially) promising approaches, and real-world applications of stochastic MPC. The first part of the workshop will provide a concise overview and introduction to stochastic (linear and nonlinear) MPC, and will highlight differences to deterministic robust MPC approaches. In the second part, a selection of well-established as well as promising new approaches to stochastic MPC will be presented. In the different talks, an introduction to each method as well as details and examples of specific real-life application of stochastic MPC will be given. The different pros and cons of the presented approaches will be actively discussed in the workshop, and open research problems will be pointed out. The outline of the workshop is as follows:

* Motivation for stochastic MPC (Ali Mesbah)
* Approaches to deal with chance constraints (Stefan Streif)
* Stochastic MPC with adaptive constraint tightening and applications to energy systems (Frauke Oldewurtel)
* Randomized techniques for analysis and design of uncertain systems, with applications to stochastic MPC (Roberto Tempo)
* Polynomial Chaos approach to stochastic MPC, with applications to chemical and pharmaceutical manufacturing processes (Ali Mesbah and Stefan Streif)
* Polytopic tubes and probabilistic set inclusions (Mark Cannon)

For additional details, please visit:
http://www.tu-ilmenau.de/at/events/SMPC_workshop_ACC15/
4.2. Model-based Estimation, Fault Diagnosis, and Control of Uncertain Nonlinear Systems Using Polynomial Chaos
Contributed by: Ali Mesbah, mesbah@berkeley.edu

ADCHEM 2015 Workshop:
Model-based Estimation, Fault Diagnosis, and Control of Uncertain Nonlinear Systems Using Polynomial Chaos
Sunday, June 7, 2015 (Whistler, Canada)

Organizers and Speakers:
Ali Mesbah (University of California, Berkeley, USA) and Stefan Streif (Technische Universität Ilmenau, Germany)

Overview:
Uncertainties are ubiquitous in complex chemical and biological systems. System uncertainties typically arise from measurement noise, parametric uncertainties, and exogenous disturbances. Systematic consideration of uncertainties in model-based estimation and control of complex systems is a particularly challenging problem, and has been the subject of extensive research in the systems and control community. Polynomial chaos is a potentially promising tool for uncertainty characterization and propagation through nonlinear dynamical systems with probabilistic uncertainties that possess arbitrary probability distributions. Rooted in the pioneering work of Norbert Wiener in 1938, polynomial chaos provides a computationally tractable spectral framework for uncertainty propagation by replacing the implicit mappings between the uncertain variables/parameters and the system states with an expansion of orthogonal polynomials. This allows efficient computation of uncertain variables’ statistics using the expansion coefficients. This workshop is intended to present the promises and challenges of the polynomial chaos framework for estimation and control of a general class of complex systems to the process systems engineering and control community.

Outline:
The first part of the workshop will provide an overview of the theory of polynomial chaos. In addition, a Matlab-based polynomial chaos toolbox will be introduced. The toolbox will be used in the subsequent talks to demonstrate the use of the polynomial chaos framework. In the second part, the application of the polynomial chaos framework to several model-based estimation, fault diagnosis, and control problems for uncertain, nonlinear systems will be presented. The estimation and control approaches will be illustrated using real-world applications. The outline of the workshop is as follows:

* Introduction to the generalized polynomial chaos framework
* Introduction to the polynomial chaos Matlab toolbox
* Input design for optimal experimental design and active fault diagnosis
* Stochastic MPC with chance constraints
* Dual identification and MPC

For additional details, please visit: http://adchem2015.org/wp2015/?page_id=244

5. Online Courses and Graduate Schools

5.1. Control Systems Forum
Contributed by: Tansel Yucelen, yucelen@mst.edu
Online Seminars by Drs. Brockett, Nedich, and Fierro

Started in April 2014, we have initiated a novel online forum, Control Systems Forum (http://consys.forum.mst.edu/), which is dedicated to the dissemination of cutting-edge research results and education perspectives of control systems. This nonprofit forum enables individuals from academia, government, and industry to follow the state of the art approaches being developed by experts. The audience of these seminars have a chance not only to watch speakers' talks but also to ask “live” questions to them.

The upcoming online seminars on March 2015 include:

- Roger Brockett (Harvard University): Synchronization of Oscillators as a Feedback Stabilization Problem (March 2)
- Angelia Nedich (University of Illinois at Urbana-Champaign): Lyapunov Approach to Consensus Problems (March 10)
- Rafael Fierro (University of New Mexico): Efficient Load Transportation Using Aerial Robots (March 26)

To register for free (and learn more about these talks), please visit the Control Systems Forum: http://consys.forum.mst.edu/upcomingwebinars/

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

5.2. Second ExCAPE Summer School on Software Synthesis

Contributed by: Stephane Lafortune, stephane@umich.edu

Call for Participation
Second ExCAPE Summer School on Software Synthesis
June 23-26, 2015
MIT, Cambridge, USA
https://excape.cis.upenn.edu/summer-school.html

ExCAPE (Expeditions in Computer Augmented Program Engineering) is pleased to announce that its Second Summer School on Software Synthesis will be held at MIT, June 23-26, 2015.

Program synthesis aims to change programming from a purely manual task to one in which a programmer and an automated program synthesis tool collaborate to generate software that meets its specification. As such, it has the potential to revolutionize computing by allowing developers to create programs from incomplete sketches, declarative specifications of high-level requirements, positive and negative examples, or domain-specific optimization criteria.

The goal of the school is to expose graduate students and junior researchers to new ideas in program synthesis. The school provides a unique opportunity for students to engage with cutting-edge research in courses taught by experts in the field. Topics will be drawn from theoretical foundations (reactive synthesis, inductive learning, probabilistic programming), design methodology (syntax-guided synthesis), and applications (software-defined networks, robotics).

Format: 18 one-hour lectures over four days, with a group excursion on the afternoon of day 3. These lectures will be organized in tutorials with hands on sessions on tools and problem solving, supplemented by invited lectures on theory and applications of synthesis.
Tutorials: (2 to 4 hours each)

* Reactive synthesis: Roderick Bloem (Graz)
* Inductive learning and constraint solving: Sanjit Seshia (UC Berkeley)
* Syntax-Guided Synthesis (SyGuS): Armando Solar-Lezama (MIT)
* Probabilistic programming: Vikash K. Mansinghka (MIT)
* Synthesis for robotics (speaker TBA)

Speakers:
Viktor Kuncak (EPFL); Ashish Tiwari (SRI); Martin Vechev (ETH); David Walker (Princeton); Keith Weinstei (Stanford)

Venue:
The school will be held on the campus of MIT, Cambridge, USA.

Organizers:
Armando Solar-Lezama (MIT); Stéphane Lafontune (University of Michigan); Steve Zdancewic (University of Pennsylvania)

Registration:
Registration information is available from the summer school’s web page at:
https://excape.cis.upenn.edu/summer-school.html
Registration is free and will include lunches and coffee breaks. Participants will assume their transportation and lodging expenses. Limited need-based financial assistance to cover attendance costs is available to student enrollees.
Capacity is limited, so early registration is encouraged.

Lodging:
Dorm-style lodging will be available for the event through MIT housing. More information about this option will be posted in mid March.

ExCAPE:
The first ExCAPE Summer School on Software Synthesis was held at UC Berkeley in June 2013 and attracted about 90 participants from 12 countries.
The ExCAPE project is sponsored by the National Science Foundation.
For more information, see: https://excape.cis.upenn.edu

5.3. PhD School on Control for Cyber-Physical Systems
Contributed by: Maurice Heemels, m.heemels@tue.nl

DISC PhD School on Control for Cyber-Physical Systems
Zandvoort, The Netherlands, June 1-4, 2015

Maurice Heemels and Alberto Bemporad have the pleasure to invite you to participate in the DISC PhD School on “Control for Cyber-Physical Systems”, which is scheduled to take place from June 1-4, 2015, at “Centerparcs park Zandvoort”, Zandvoort, The Netherlands.
The invitation is aimed at research students, staff members, researchers and engineers engaged in the systems and control area. Distinguished speakers will each present a series of tutorial lectures.

Venue:
The school will be held in Centerparcs park Zandvoort, which is a beach resort right at the beach of the
North Sea, see
Zandvoort is a nice and vibrant beach town, very close to Amsterdam.

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

Particular attention will be given to:
Control over communication networks; Security of CPS; Resource-aware control; Formal methods in control of CPS; Hybrid systems; Multi-agent systems; Distributed and decentralized control and MPC; and important applications.

Lecturers:
Keynote lectures will be given by:
Girish Nair, University of Melbourne, Australia; Ricardo Sanfelice, University of California, Santa Cruz, USA; Paulo Tabuada , University of California, Los Angeles, USA; Alberto Bemporad , IMT Lucca, Italy; Sebastian Engell, University of Dortmund, Germany; Kim Larsen, Aalborg University, Denmark; Kanat Camlibel, University of Groningen, NL; Ming Cao, University of Groningen, NL; Bart De Schutter, Delft University of Technology, NL; Maurice Heemels, Eindhoven University of Technology, NL

Registration:
The registration fee, which includes full boarding and lodging, is 1000,- Euro for non-DISC members (before April 15 - early bird) and 1150,- Euro (after April 15); and for DISC students/members 800,- Euro (before April 15 - early bird) and 950,- Euro (after April 15).
You stay in a comfort cottage with three people. You have your own bedroom. Sheet package, towel package, kitchen package and swimming pool access are included. For cottage details check the website.
The school is limited to 55 participants based on a first-come first-serve policy. The registration deadline is May 15, 2015 (Early bird deadline April 15).
You can register at the following website: https://disc-forum.nl. Non-DISC members can also sent an email to: secr@disc.tudelft.nl for registration. (Please mention your full name and university including address).
For further information, contact the DISC administrative office: Martha Otte (m.w.otte@tudelft.nl) or the organizers: Maurice Heemels (m.heemels@tue.nl) and Alberto Bemporad (alberto.bemporad@imtlucca.it)

6. Positions

6.1. PhD: Eindhoven University of Technology, The Netherlands
Contributed by: Roland Tóth, r.toth@tue.nl

Data-driven modeling using Symbolic methods
level: Phd position
duration: 4 years
institution: Eindhoven University of Technology
Project description:
Symbolic regression is a novel evolutionary optimization technique that searches for analytical expressions that fit measured numerical data. Symbolic regression has gained much attention recently in the scientific community for its ability to find mathematical laws that explain observed physical phenomena automatically, without human intervention. This has opened the path for the creation of a “robot scientist” where mathematical expressions are manipulated by a machine in a similar way as humans do. Symbolic regression has the potential to change many fields of science, in particular solving many challenges of system identification and control.

System identification, also known as data-driven modeling, aims at extracting low-complexity, but highly accurate, mathematical models of systems directly from measured data. Such models are crucial to synthesize controllers or to predict the response of the system under study. The major handicap of the state-of-the-art of system identification is the selection a priori of an actual model class. This involves imposing assumptions on the structural relationships of the model, which requires vast experience from the user and often leads to costly iterative processes to arrive at valid structural knowledge. For these reasons, system identification remains an arduous and challenging task.

The goal of this project, which is a joint initiative of TUDelft and industrial partners ASML, National Instruments, Evolved Analytics and FMTC, is to fully automate the process of system identification jointly with control synthesis. To this end, we will parameterize the different ingredients involved in system identification and control and employ evolutionary symbolic methods to produce succinct and interpretable models and control laws with minimal required human supervision. The symbolic nature of these methods enables the representation and manipulation of models containing continuous dynamical elements alongside with logic expressions, typical of cyber-physical systems. Our main objective is to develop a novel game-changing software tool, which, by employing techniques from artificial intelligence (namely, symbolic regression), enables to automatically manipulate models and/or control laws in order to satisfy complex modeling and/or control objectives dictated by economical, performance and safety specifications.

Requirements:
We are looking for a candidate who meets the following requirements:
- You are a talented and enthusiastic researcher.
- You have experience with or a strong background in systems and control, machine learning, mathematics, statistics and signal processing. Preferably you finished a master in Systems and Control, Electrical Engineering or Mechanical Engineering, (Applied) Mathematics, Information Technologies.
- You have good programming skills and experience (knowledge in Julia/Python, C++, Mathematica and/or Matlab is an asset).
- You have good communicative skills, and the attitude to partake successfully in the work of a research team.
- You are creative and ambitious, hardworking and persistent.
- You are a team player.
- You have good command of the English language (knowledge of Dutch is not required).

Application:
Online application via:

Information:
More information on the vacancy and project can be obtained from dr. ir. Roland Tóth (r.toth@tue.nl).
6.2. PhD: Western University, Canada
Contribution by: Abdelhamid Tayebi, atayebi@lakeheadu.ca

A Ph.D. position is available at the Department of Electrical and Computer Engineering, Western University (http://www.uwo.ca/), London, Ontario, Canada, starting Fall 2015.
The project is sponsored by NSERC and involves state estimation and nonlinear control of multi-agent systems with applications to unmanned aerial vehicles (UAVs).
Successful candidates should have strong mathematical skills with background in nonlinear control theory.
Hands on experience with UAVs will be an asset.
Applicants should submit a CV, a sample of publications (if available), and the names and contacts for three references via email to Dr. A. Tayebi: atayebi@lakeheadu.ca, website: http://flash.lakeheadu.ca/tayebi/.

6.3. PhD: Missouri University of Science and Engineering, USA
Contribution by: Tansel Yucelen, yucelen@mst.edu

We are searching for exceptional PhD students with a strong background in systems, controls, and robotics. These students are expected to perform research on (1) safety-critical autonomous systems, (2) multiagent systems and robotics, and (3) modular large-scale systems. Our intention is to give our strong guidance in order to maximize the chances of our students of building a rewarding research career. If you are interested, please send an email to Prof. Tansel Yucelen at yucelen@mst.edu including your background, your interests and strengths (theoretical and experimental), your resume, and a publication of yours. You can visit http://www.asrl.us/ for our webpage.

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

Dr. Tansel Yucelen
Assistant Professor of the Mechanical and Aerospace Engineering Department
Director of the Advanced Systems Research Lab. (http://www.asrl.us)
Missouri University of Science and Engineering

6.4. PhD: INRIA Lille, France
Contribution by: Gang Zheng, gang.zheng@inria.fr

PhD in Automatic Control
Title: Identification and estimation of time-delay systems
Mission: Time-delay systems are widely used to model concrete systems in engineering sciences, such as biology, chemistry, mechanics, and so on. Many results have been reported for the purpose of stability and observability analysis, by assuming that the delay of the studied systems is known. It makes the delay identification be one of the most important topics in the field of time-delay systems. Besides identifiability, the observability property and observer design for those systems are essential when dealing with state feedback control.
Under the direct command responsibility of the team leader, he/she will be in charge of the analysis of identifiability and observability for time-delay systems.

For more details, see http://tinyurl.com/non-a-phd

Please contact Gang Zheng (gang.zheng@inria.fr) before your application online.

Skills and profile:
The candidate should have a master in Mathematics/Applied Mathematics or in Automatic Control. A good background in control and estimation of systems and signal processing is appreciated.

Benefits:
Duration: 36 months - starting date of the contract: October 1st, 2015
Salary: 1958 EUR (~ 2600$) the first two years and 2059 EUR (~ 2700$) the third year
Monthly salary after taxes: around 1584 EUR (~ 2100$) the 1st two years and 1665 EUR (~ 2200$) the 3rd year
Social security is included.
Possibility of French courses; Help for housing; Participation in transport costs; Scientific Resident card and help for visa

6.5. PhD: University of Luxembourg, Luxembourg

Contributed by: Jorge Goncalves, jmg@uni.lu

Doctoral Candidate (PhD student) in Systems Control

The Systems Control Group (SCG) of the Luxembourg Centre of Systems Biomedicine (LCSB) has the following fully funded vacancy:

Description:
The SCG specialises in theoretical control systems and applications thereof. The group is interested in understanding the complexity inherent to biological systems from a dynamical perspective, typically captured with differential equations or stochastic processes. Theoretically, we develop mathematical tools aimed at efficiently collect, process and analyse biological data. Examples are tools to infer causal networks between measurements with guaranteed certificates and systematic engineering control tools for synthetic biology design. Applied, we closely collaborate with experimental biologists to generate mathematical models, which offer new biological insights that can subsequently be tested experimentally, hence closing the loop between experiments and modelling. Examples range from the understanding the role of cytoplasmic Ca2+ in plant circadian rhythms to modelling the natural history of Huntington’s disease progression.

Mission:
Obtain a PhD in Systems biology or biomedicine. There is flexibility in the choice of projects, which can be more theoretical or applied. The PhD student will be a member of the highly interdisciplinary research centre, integrating experimental biological and system biology approaches in order to develop the foundation of a future predictive, preventive and personalised medicine.

Your Profile:
Strong mathematical background is a requirement! Hence, the student must hold a mathematics, engineering or physics degree. The ideal candidate would hold a Master in Mathematics, Control Systems or Machine Learning. If not already covered in their background, students must also learn advanced mathematical courses from the mathematics department including analysis, functional analysis and linear algebra. Biological knowledge is not essential. Excellent working knowledge of English.
We offer:
Fully funded PhD with a very competitive salary.

Further Information at online application at http://emea3.mrted.ly/klx4

Applications should contain the following documents:
A detailed Curriculum vitae. A motivation letter, including a brief description of past research experience and future interests. Copies of diploma. Please ask at least two references to email their confidential letters directly to Mrs Brigitte Melchior (brigitte.melchior@uni.lu) within two weeks of submitting the application. Review of applicants will begin immediately and will continue until the position is filled.
For further information, please contact Jorge Goncalves (jmg@uni.lu).
The University of Luxembourg is an equal opportunity employer. All applications will be treated in the strictest confidence.

6.6. PhD: University of Lorraine and ONERA-Toulouse, France
Contributed by: Hugues Garnier, hugues.garnier@univ-lorraine.fr

The Centre de Recherche en Automatique de Nancy (CRAN) at University of Lorraine and ONERA research center in Toulouse, France, announce a vacancy for a three year PhD position to be started in October 2015.

Project description:
The successful candidate will carry out research in the field of space robotics. The aim is to develop closed-loop identification methods for efficient and robust control of flexible joint space robotic manipulators. The research will have both theoretical as well as applied components.

As an employee of the University you will receive about EUR 2000 gross salary per month. Requirements include a solid background in mathematics, systems, control and robotics; a strong Master's degree and experience in Matlab. The candidate should also have excellent oral and written communication skills in English and should preferably be a European citizen.

If you are interested, please submit your application before March 31, 2015 to Prof. Hugues Garnier at hugues.garnier@univ-lorraine.fr and Dr Alexandre Janot at alexandre.janot@onera.fr.

Your application should include:
1. Your curriculum vitae
2. A motivation letter
3. Undergraduate and MS course programs and certified results
4. One or two contact referees (including name, e-mail, and phone number) for recommendation requests

6.7. PhD: University of New South Wales, Australia
Contributed by: Daoyi Dong, d.dong@unsw.edu.au

PhD scholarship
Project title: Robust control of quantum ensembles
Supervisors: Dr Daoyi Dong and Prof Ian Petersen
https://research.unsw.edu.au/people/mr-daoyi-dong
http://seit.unsw.adfa.edu.au/staff/sites/petersen/P1.html
Quantum ensembles have wide applications in emerging quantum technology including quantum computation, long-distance quantum communication, and magnetic resonance imaging. The thesis project aims to develop new theories and control algorithms to enhance control capabilities and robustness in the engineering of quantum ensembles.

The project also involves possible collaboration with Professor Herschel Rabitz’s group at Princeton University.

The successful applicant, subject to admission to the PhD degree program, will be awarded a UNSW Canberra Research Training Scholarship with an annual tax-free stipend of $26,392 (2014 rate). This scholarship is for a period of 3 years, subject to satisfactory progress reviews. The successful applicant would be expected to be available to commence their studies no later than Session 2, 2015 and must be on campus and enrolled at UNSW Canberra in the relevant PhD program by August 2015.

Potential students with strong background of mathematics, quantum physics or control theory are encouraged to apply for this scholarship. Prospective students should contact Daoyi Dong (daoyidong@gmail.com) with their academic transcript, a CV and English test scores (if necessary). Applications will be accepted until the position is filled.

UNSW Australia (the University of New South Wales) is one of Australia’s leading research and teaching universities and a founding member of the prestigious Group of Eight (Go8) research-intensive universities in Australia and a member of the Universities 21 international consortium. UNSW Australia is an Australian university with a global vision to bring our students a truly world-class learning experience; we regularly collaborate with pioneering universities around the world. The Canberra campus of UNSW Australia is located at the Australian Defence Force Academy (ADFA).

For further information, please contact:
Dr Daoyi Dong
Email: d.dong@unsw.edu.au or daoyidong@gmail.com
Phone: +61 2 6268 6285
School of Engineering and Information Technology
UNSW Australia, Canberra ACT 2600 Australia

6.8. PhD: University of Southern Denmark, Denmark
Contribution by: Hamid Reza Shaker, hrsh@mmmi.sdu.dk

PhD position in Building Energy Performance Diagnostics

The Center for Energy Informatics, The Maersk Mc-Kinney Moller Institute, University of Southern Denmark, invites applications for a three-year PhD position. The starting date of the position is June 1, 2015 or as soon as possible thereafter.

Recently the Center obtained funding from the Danish Innovation Fund for a large research project COORDICY: ICT-driven Coordination for Reaching 2020 Energy Efficiency Goals in Public and Commercial Buildings.

COORDICY is a strategic DK-US interdisciplinary research project for advancing ICT-driven research and innovation in energy efficiency of public and commercial buildings that links universities, technological service institutes, public bodies, municipalities and industrial partners in a joint international research effort. We seek an energetic and dynamic candidate who will be able to contribute to developing new software tools for Building Energy Performance Diagnostics. The work will be done in close collaboration with the other members of the project team.
The work will focus on using and advancing methods for fault detection and diagnosis of building energy performance. The ideal candidate blends technical expertise in hardware and software with an interest in building energy performance as an application area.

The preferred candidate must have:
A master level degree in computer science or a related discipline; Knowledge of artificial intelligence, machine learning, data mining, statistics and signal processing; Extended knowledge of fault detection and diagnostics; Experience with building management systems and building services, automation and control; Good analytical and practical skills.

The Center for Energy Informatics is part of the Maersk Mc-Kinney Moller Institute, one of four departments of the Faculty of Engineering at University of Southern Denmark.

University of Southern Denmark is a prominent, research-intensive academic institution situated in Odense, Denmark.

For further information please contact:
Associate Professor, PhD, Sanja Lazarova-Molnar, tel. +45 6550 7965, email: slmo@mmmi.sdu.dk; Associate Professor, PhD, Hamid Reza Shaker, tel. +45 6550 9371, email: hrsh@mmmi.sdu.dk;or Head of Center, Professor WSR, PhD, Bo Nørregaard Jørgensen, tel. +45 6550 3545, email: bnj@mmmi.sdu.dk.

Application, salary and conditions of employment etc.
A PhD Fellowship is a 3-year position. Employment stops automatically by the end of the period. The PhD Fellow is not allowed to have other paid employment during the three-year period.

Applications will be assessed by an expert committee. Applicants will be informed of their assessment by the Faculty.

As part of the overall assessment of the applicant’s qualifications, an interview may be applied.

Employment is governed by the Protocol on PhD Research Fellows signed by the Danish Ministry of Finance and AC (the Danish Confederation of Professional Associations), Cirkulære om overenskomst for Akademikere i staten 2013.

Applications must be submitted electronically using the link below. Attached files must be in Adobe PDF or Word format. The Faculty expects applicants to read the information “How to apply” before applying. Each box can only contain a single file of max. 10 Mb.

An application must include:
A curriculum vitae; Application form; Letter stating your interest, motivation etc. Please attach the motivational letter to “application material” under “Research plan”; Diplomas/certificates; Relevant publications. Please attach one pdf-file for each publication, a possible co-author statement must be a part of this pdf-file.

The University encourages all interested persons to apply, regardless of age, gender, religious affiliation or ethnic background.

Campus: Odense
Application deadline 30/04/2015
Apply Online: here

6.9. PhD: Stevens Institute of Technology, USA

Contributed by: Yi Guo, yguo1@stevens.edu

Open PhD Position
Robotics and Automation Laboratory
Stevens Institute of Technology, USA
A PhD RA (Research Assistant) position is available to start in Fall 2015 in Robotics and Automation Laboratory at the Department of Electrical and Computer Engineering, Stevens Institute of Technology. We are looking for candidates with a Master degree in Electrical Engineering, preferably majoring in automatic control, control theory, or robotics.

The successful candidate will be working in interdisciplinary projects in the areas of robotics and/or controls. Founded in 1870 on a bluff overlooking and a few minutes from New York City, Stevens offers a full program of undergraduate and graduate degrees and a wide range of opportunities for research development. Ph.D. admission requirement and application process can be found at: http://www.stevens.edu/sit/graduate/apply

Interested candidates please send your inquiries together with your detailed CV to Prof. Yi Guo at yguo1@stevens.edu

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

Three PhD positions are available in the area of Control and Robotics in Autonomous Cooperative Control of Emergent Systems of System (ACCESS) Laboratory at Autonomous Control and Information Technology (ACIT) Center, North Carolina A&T State University. The project will involve highly cross-disciplinary research in different aspects of autonomous systems. The research topics will include but not limited to Modelling and analysis of multi-agent systems; Teaming and cooperative control of multi-agent systems; Testing, evaluation, and verification of multi-agent systems; Motion planning and coordination of multi-agent systems.

Minimum Qualifications:

- Meet the minimum admissions requirement for the ECE Department at NCA&T State University:
  - Recent B.S. in Electrical & Computer Engineering
  - Demonstrated experience in control and robotics
  - Programming in MATLAB and C/C++

Desired Qualifications:

- Recent M.S. in Electrical & Computer Engineering or related fields
- strong analytical skills
- Strong mathematical background in: linear algebra, probability and stochastic processes, system and control, estimation, and optimization
- Experimental works with embedded systems
- U.S. citizenship or permanent residency. Minority candidates are strongly encouraged to apply.

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

1. A cover letter that explains why the proposed research topic interests you, how you fulfill the requirements of this project, and list any relevant undergraduate and MS courses or projects.
2. Your curriculum vitae and details of your publications (if any).
3. Two contact referees (including name, e-mail, and phone number of the person)
4. Your Bachelor and Master Transcripts if applicable.
5. One page summary of your MSc thesis if applicable.
6. Electronic copies of your publications if any.
7. Other information that might be relevant to your application.

Only shortlisted candidates will be notified.

Contact:
Dr. Ali Karimoddini
Autonomous Cooperative Control of Emergent Systems of System (ACCESS) Laboratory
Autonomous Control and Information Technology (ACIT) Center
North Carolina A&T State University
E-mail: akarimod@ncat.edu

6.11. PhD and Post Doc Positions: Lehigh University, USA
Contributed by: Nader Motee, motee@lehigh.edu

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

For Postdoctoral Positions: Strong background in probability theory, stochastic dynamical systems, and graph theory are desirable. Candidate with Applied/Pure Mathematical background are strongly encouraged to apply.

For PhD Positions: Students with a M.Sc. degree, preferably in Control Systems/Optimization/Applied Math or other related areas, are strongly encouraged to apply. Undergraduate students with strong background in Control Systems, Communications, Optimization and Applied Mathematics are also encouraged to apply. Interested applicants with a Ph.D. in a related field (e.g., Control Systems/Optimization/Applied Math) are strongly encouraged to apply.

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

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

6.12. 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 20st among national public universities by U.S. News & World Report (tie with Purdue University-West Lafayette and University of Maryland-College Park). It is described by students and faculty as an inclusive, student-centered community characterized by high academic standards, a culture of collaboration, school spirit, and a competitive drive to excel.

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

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

6.13. Post-Doc: Nanyang Technological University, Singapore
Contributed by: Erdal Kayacan, erdal@ntu.edu.sg

Three Post-Doc positions are available at the School of Mechanical and Aerospace Engineering at NTU (Singapore) within two joint projects between School of Mechanical and Aerospace Engineering and School of Civil and Environment Engineering, Nanyang Technological University:

* One post-doc position in guidance, navigation and control of Automated Construction Quality Assessment Robot System *

This project aims at developing a mobile robot system equipped with inspection instruments to conduct automatic quality assessment of internal finishes and roofs of a building under architectural works in CONQUAS classification. The A-CONQUARS robot will be test-bedded in a suitable construction site at the end of the project.

Eventually the robot shall be used as an assistant to the building inspector to accelerate the inspection works and shorten the project completion time. Such a successful project can open the doors of a fully autonomous quality check system in the future.

Requirements:
Prospective candidates should hold a Ph.D. degree in electrical engineering, aerospace engineering, mechanical engineering, automatic control, mechatronics, applied mathematics, or other related disciplines. Moreover, he/she should have a strong publication record in the fields related to mobile robotic navigation. The candidate should also have excellent verbal and writing skills in English.

The contract is for one year and could be extended subject to the research performance. The candidate will work in the Robotics Research Centre in NTU. The salaries are competitive and are determined according to the successful applicant’s accomplishments, experience and qualifications. Singapore has low income tax and a postdoc is likely to pay a variable income tax of a maximum of 15% (see http://www.iras.gov.sg/irasHome/page04.aspx?id=1190).

How to apply for the Postdoc position:
The application should consist of

- A motivation letter (explaining the reason that you are interested in joining this project and NTU),
- A CV with a full publication list,
- The contact details of three referees.
These documents must be compiled as a single pdf file, and named as “<Name>.pdf”.
Then, the single file should be sent to “erdal@ntu.edu.sg” with a subject line of “Postdoc application of <Name><Surname> for A-CONQUARS project”.

Deadline and starting date: The deadline for the applications is 10th March 2015. We regret that only shortlisted candidates will be notified.

* Two post-doc positions in guidance, navigation and control of automatic robot system for indoor high rise spray painting *

This project aims at developing a mobile robot system equipped with a novel long reach mechanism for high ceiling and wall painting applications automatically.

The mobile robot and the reaching manipulator can be configured to cope with painting tasks at different height and the configuration can be done in either automatic or semi-automatic manner. The indoor spray-painting robot shall be able to scan the working environment, construct a 3D model of the actual environment, plan and navigate in the environment for the painting task autonomously. Eventually the robot shall be used as a tool to help the contractor to deliver high ceiling and wall painting jobs.

Requirements:
Prospective candidates should hold a Ph.D. degree in electrical engineering, aerospace engineering, mechanical engineering, automatic control, mechatronics, applied mathematics, or other related disciplines. Moreover, he/she should have a strong publication record in the fields related to mobile robotic navigation and 3D modeling of indoor environments. The candidate should also have excellent verbal and writing skills in English.

The contract is for one year and could be extended subject to the research performance. The candidate will work in the Robotics Research Centre in NTU. The salaries are competitive and are determined according to the successful applicant’s accomplishments, experience and qualifications. Singapore has low income tax and a postdoc is likely to pay a variable income tax of a maximum of 15%

How to apply for the Postdoc position: The application should consist of

- A motivation letter (explaining the reason that you are interested in joining this project and NTU),
- A CV with a full publication list,
- The contact details of three referees.

These documents must be compiled as a single pdf file, and named as “<Name>_<Surname>.pdf”.
Then, the single file should be sent to “erdal@ntu.edu.sg” with a subject line of “Postdoc application of <Name><Surname> for painting project”.

Deadline and starting date: The deadline for the applications is 10th of March 2015. We regret that only shortlisted candidates will be notified.

Contributed by: Juri Belikov, jbelikov@cc.ioc.ee

Control Systems Research Laboratory (http://www.a-lab.ee/) is a part of the Faculty of Information Technology of Tallinn University of Technology (http://www.ttu.ee).
Our focus lay in the area of advanced system modeling and control design methods.
We invite applications for one post-doctoral position in application of intelligent control methods. The main objective of this research is to develop an industrial software framework for control engineers. It will serve
as an assisting environment that is supposed to significantly simplify implementation of advanced control techniques in the industry.

The project will be focused on the combination of classical control techniques with intelligent control methods and its application to control of complex nonlinear systems. The proposed research aims to:

- Determine the most suitable (with respect to predefined control criteria) control strategy for particular industrial system by means of (i) experimental data analysis, (ii) analytical and numerical modeling, and (iii) computer based simulation/verification;
- Software implementation of the chosen intelligent control algorithm;
- Validate the developed framework on the basis of laboratory prototypes of real industrial plants;
- Incorporate the developed algorithms into practical applications.

Required qualification:

- PhD in control systems engineering or relevant field;
- Previous experience in control of industrial processes;
- Knowledge of MATLAB/Simulink;
- Knowledge of C/C++ and/or Java programming languages;
- Familiarity with computational intelligence based methods;
- Good communication skills in oral and written English.

We offer:

- The appointment will be for a period of 1 year with a possibility to extend for the second year;
- As an employee of the university, you will receive a competitive salary approximately 2600 EUR Gross Salary (2000 EUR Net Salary) per month;
- Access to a variety of research equipment available in our laboratory.

The application should consist of:

- A motivation letter stating why the proposed research topic interests you;
- A complete CV with a full list of publications;
- Contact details of at least two reference persons.

These documents must be compiled into a single PDF file and sent to a-lab@ttu.ee with a subject “Post-Doc application of <Name><Surname>”.

The deadline of the application is April 15, 2015.

Expected start of the project is September 2015.

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

Contributed by: Vadim Indelman, vadim.indelman@technion.ac.il

Post-doc position in autonomous navigation under uncertainty 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 planning under uncertainty, probabilistic perception, visual SLAM, 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 and to develop his/her own research line. Applicants should have a Ph.D. (or about to graduate) in Electrical, Aerospace or Mechanical Engineering, Computer Science or Applied Mathematics. A strong background in at least one of the areas mentioned above is required. Hands on experience and programming skills are an advantage. This is a full-time, one-year, non-tenure-track appointment with possibility of extension subject to available funding and satisfactory performance. Funds for some conference travel and research expenses will also be provided. Starting date is flexible, however applications are encouraged to be submitted by March 31st.

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

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6.16. Post-Doc: University of Luxembourg, Luxembourg
Contributed by: Jorge Goncalves, jmg@uni.lu

Postdoc (Research Associate) in Systems Control

The Systems Control Group (SCG) of the Luxembourg Centre of Systems Biomedicine (LCSB) has the following vacancy

Description:
The SCG specialises in theoretical control systems and applications thereof. On the application side, the group focus mostly on (but not restricted to) biological systems. The group is interested in understanding the complexity inherent to biological systems from a dynamical perspective, typically captured with differential equations or stochastic processes. Theoretically, we develop mathematical tools aimed at efficiently collect, process and analyse biological data. Examples are tools to infer causal networks between measurements with guaranteed certificates and systematic engineering control tools for synthetic biology design. Applied, we closely collaborate with experimental biologists to generate mathematical models, which offer new biological insights that can subsequently be tested experimentally, hence closing the loop between experiments and modelling. Examples range from the understanding the role of cytoplasmic Ca2+ in plant circadian rhythms to modelling the natural history of Huntington’s disease progression.

Your Role:
The Systems Control Group seeks a highly skilled Postdoctoral Fellow (Research Associate) to work on on-going and new projects. There is some flexibility on the project itself, which can be more theoretical or applied. However, it is expected the postdoc will be involved in a recently awarded project on “Genome-wide dynamical modelling differentially-regulated systems with application to the human T cell response”.

Back to the contents
The Postdoctoral Fellow is expected to work together with Ph.D. students both at the LCSB and at the University of Cambridge.

Your Profile:
To hold a PhD degree in mathematics, control systems, machine learning or related discipline. Prior knowledge of biology is not required. However, the candidate must be willing to learn the basics of biology, to be able to communicate with biologists. Excellent working knowledge in English.

We offer:
Full contract for 1 year with the possibility of renewal up to 5 years contingent on performance and availability of funding. Opportunity to supervise PhD students working on the project. A very competitive salary.

Further Information at online application at http://emea3.mrtd.ly/kni7

Applications should contain the following documents:
A detailed Curriculum vitae. A motivation letter. Description of past research experience and future interests. Please ask at least three references to email their confidential letters directly to Mrs Brigitte Melchior (brigitte.melchior@uni.lu) within two weeks of submitting the application.

Review of applicants will begin immediately and will continue until the position is filled. For further information, please contact Jorge Goncalves (jmg@uni.lu).
The University of Luxembourg is an equal opportunity employer. All applications will be treated in the strictest confidence.

6.17. Post-Doc: Federal Technological University of Paraná, Brazil
Contributed by: Alessandro N Vargas, avargas@utfpr.edu.br

Systems and Control: Two Post-Doctoral Fellowships in Brazil

Two exciting opportunities are opened for young or experienced researchers to develop research in Brazil. Candidates must hold a PhD or Doctorate degree related to at least one of the next topics: Control and Systems Engineering; Automation; Robotics; Electrical Engineering; Electronics; Mechatronics; Industrial Engineering; Computer Engineering; Mechanics; Mathematics (pure or applied); Statistics; Computer sciences; Technology; Physics and physical sciences. Candidates holding an undergraduate or Master degree in any of the aforementioned topics are also invited to apply.

The two vacancies are available to citizens of any country, and the successful applicants will be required to live in the Parana State (South of Brazil) during the fellowship period. Our research facilities are located at UTFPR Campus in Cornelio Procopio, Parana, in the urban area of Londrina. Londrina was settled by immigrants from London, UK, and now is a medium-scaled city with a rich cultural life.

The two selected candidates will receive a Post-Doctorate Fellowship from CAPES, Brazil (R$ 4,100 per month). The fellowships are awarded for 12 months and can be renewed annually. The successful applicant can be appointed to receive support for travel expenses from where he/she lives to come to live in Parana, Brazil.

Candidates must have a PhD or Doctorate degree to apply for a fellowship. The position requires a good-level of written and oral communication skills in English. The University’s staff will help the non-speaking Portuguese candidates to learn Portuguese efficiently in specific language training programs.

The aim of the project is to advance the knowledge of Control systems in its broad sense. We are interested in new results of Control systems for applications of real-time processes.
Candidates are strongly encouraged to apply if they are committed to pursuing theoretical or applied research in systems and control engineering whilst working collaboratively across disciplines to develop solutions to one or more of the next topics:

Theory: linear and nonlinear control systems, stochastic systems, Markovian systems, stability of systems, filtering and identification, networked control, nonlinear optimization, computational methods, signal processing, among others topics.

Applications: industrial processes, electrical and electronic systems, automotive systems (electronic control of vehicles), mechatronic devices, renewable energy, wind turbines, photovoltaics, technology applied in Agriculture, among others.

The appointed candidates are expected to build a bridge between theory and applications. Candidates will be trained in one or more of the next topics: control, electronics, computer processing, programming of microprocessors (e.g., DSP, FPGA, Arduino, Raspberry Pi), data acquisition cards, digital oscilloscopes, industrial instrumentation, sensors, technology for industrial applications, among others.

The selected candidates will work under the supervision of Prof. Alessandro N. Vargas (UTFPR, Brazil) and co-supervision of Prof. Leonardo Acho (UPC Barcelona Tech, Spain). The selected candidates will be included in a research project that is developed in cooperation between UTFPR, Brazil and UPC Barcelona Tech (Codalab Group), Spain. Besides, the selected candidates can be invited to make an internship at UPC Barcelona Tech. More importantly, they must agree to work in cooperation with a team of PhDs composed by mathematicians and engineers (Electrical, Electronics, Computer, Control, Automation).

Quantity of fellowships: 02 (two)

Time: The initial appointment is for a period of 12 months, renewable up to three years.

Salary: R$ 4,100 (U$ 1,600 aprox.) per month paid by CAPES, Brazil. This value is free of tax.

Selection:
The selection process will be completed in three steps:
assessment of the candidate CV by analysis of documents submitted by the candidate;
interview via email and Skype with the selected candidates.

The selected candidate is required to sign a document stating that will obey the CAPES and Brazilian rules. This document is required by CAPES to issue the documents to be used by the candidate for applying for a Brazilian Visa.

Required documentation for application:
A cover letter in which the applicant justifies his or her interest in the proposed topics;
An updated academic CV.

Inscription of candidates:
Candidates should submit their documentation by email using the Apply button.

Deadline:
The deadline for applications is April 10, 2015, but applications will be accepted until the position is filled.

Result:
The result of the first step of the selection process will be informed by email on April 11th, 2015.
The interview will be arranged with the candidates by email.

Starting time:
Candidate 1: November 01, 2015.
Candidate 2: February 01, 2016.

Benefits:
The vacancies of this call are for nominations for scholarships only.
As a result the Brazilian government issues a Visa for study only, i.e., the candidate can not work for private companies. But the successful candidates may apply for permanent positions at UTFPR in a future opportunity. UTFPR is a Brazilian public university. This signifies that candidates, citizens of any nationality, may apply for full-time professor permanent positions. After approved by a rigorous public selection, the candidate obtains the employment stability in the professor’s position after completing three years of work. More details on: http://www.cp.utfpr.edu.br/vargas/

6.18. Post-Doc: KTH Royal Institute of Technology, Sweden
Contributed by: Henrik Sandberg, hsan@kth.se

1-3 Positions for Postdoctoral Researchers at the ACCESS Linnaeus Centre

The ACCESS Linnaeus Centre at the KTH Royal Institute of Technology, Stockholm, Sweden, invites applications from outstanding candidates for postdoctoral research positions. ACCESS is one of Europe’s largest university research centers in networked systems. 36 senior researchers and over 100 PhD students are involved in developing fundamental understanding and engineering principles for designing self-managed and scalable communication, control and sensor networks in which applications may share real-time information and cooperate in an efficient, affordable, reliable, and secure manner.

We are seeking candidates to conduct research in one or more of the following broad areas:

- Cyber-physical systems (systems, control and communication theory, signal processing, and applications including but not restricted to: multi-agent systems, planning and coordination, critical infrastructure resiliency, advanced automotive systems, and smart buildings)
- Software-defined networking (wireless and cloud networking, system and protocol design and evaluation, optimization, stability and scalability for software-based networked systems)
- Data analytics (statistical inference, signal processing, machine learning, data fusion, multi-stage and distributed methods, and data modeling)
- Security, privacy, and trust (design, analysis, verification, implementation and empirical evaluation of secure and privacy-preserving systems; including but not restricted to: network security, software security, cyber-physical security, privacy enhancing technologies, cryptography)

The candidate should have a strong background from at least one of the areas: communication networks, wireless communications, multimedia communications, signals and systems theory, signal processing, information theory, automatic control, autonomic computing, distributed systems, computer security, and optimization. The ability and interest to work across traditional disciplines and to initiate new research collaborations is essential.

Required Qualifications:
Candidates should have a PhD (or be near completion) in a relevant field and a strong research and publication record. KTH aims to employ a diversity of talent and thus welcomes applicants who will add to the variety of the University, especially as concerns its gender structure.

Employment:
The duration of the position is 12 months which may be extended by an additional 12 months. The starting date is during fall or winter of 2015.

Application:
Log into KTH’s recruitment system in order to apply to this position. You are the main responsible to ensure that your application is complete according to the ad.
Your complete application must be received at KTH no later than the last day of application.
The application should include:

1. Full curriculum vitae including your relevant academic, professional, and other achievements, experience and knowledge
2. Copy of the degree certificate(s) from your previously attended university-level institutions, with certified translations in English (unless provided so by the issuing institution)
3. Full list of publications
4. Statement of purpose: What are your academic interests, how they relate to your previous studies and future goals, and how do they relate to and complement research within the ACCESS Linnaeus Centre; maximum 2 pages long
5. Contact information for two reference persons

Contact:

1. Professor Karl Henrik Johansson, Director, e-mail: kallej@kth.se
2. Gerd Franzon, Administrator, e-mail: gfranzon@kth.se

6.19. Post-Doc: Delft University of Technology, the Netherlands
Contributed by: Jens Kober, J.Kober@tudelft.nl

The Delft Center for Systems and Control at Delft University of Technology, the Netherlands, announces a vacancy for a one year postdoc position:
Student-Teacher Interaction in Robot Motor Skill Learning

Project description:
Currently, there are two main streams of robot learning approaches that have been employed in motor skill learning: imitation learning and reinforcement learning. The two existing approaches for robot learning correspond to familiar human learning strategies. However, the most crucial aspect of human learning, namely the continued student-teacher interaction, has only received very limited attention by existing research. Alternating phases when the robot practices on its own and when it receives additional human advice offers the potential to drastically reduce both the learning and instruction time as well as to result in more intuitive teaching methods. Potential applications include industrial assembly tasks, handling fresh food products, or household assistance tasks.
The exact research topic can be adapted to the applicants background and interests.

What do we ask?
We are looking for a candidate with a PhD degree in systems and control, robotics, applied mathematics, artificial intelligence, machine learning, or a related subject. The candidate must have strong analytical skills and must be able to work at the intersection of several research domains. Experience with real robot applications is a plus. The applicant should have demonstrated ability to conduct high-quality research according to international standards, as demonstrated by publications in international, high-quality journals.
A very good command of the English language is required, as well as excellent communication skills.

What do we offer?
We offer the opportunity to do scientifically challenging research in a multi-disciplinary research group. The
appointment will be for a period of 1 year. As an employee of the university you will receive a competitive salary (between approx. EUR 3000 and EUR 4000 gross per month based on a full-time appointment and depending on the candidate’s qualifications), as well as excellent secondary benefits in accordance with the Collective Agreement (CAO) of the Association of Universities in the Netherlands (VSNU). Assistance with accommodation can be arranged.

How to apply?
Submit you application to Dr. Jens Kober (email: j.kober@tudelft.nl) before April 30, 2015. Include a cover letter along with a detailed curriculum vitae, a separate motivation letter stating why the proposed research topic interests you, electronic copies of your top three publications, the summary of your PhD thesis, names and addresses of three reference persons, and other information that might be relevant to your application. Dr. Kober can also be contacted for more information about this vacancy.

6.20. Post-Doc: Luleå University of Technology, Sweden
Contributed by: Wolfgang Birk, wolfgang.birk@ltu.se

Post-doctoral fellow in Automatic Control

The Control Engineering Group (CEG) at Luleå University of Technology is now looking for one or two post-doctoral fellows contributing to our growing activities.

Application areas include, but are not limited to, plant wide optimization of sustainable process industries, automation of heavy vehicles, field robotics and wireless sensor networks. CEG is participating in many BSc and MSc engineering programs and has a vital role in ProcessIT Innovations at Luleå University of Technology.

The research topic includes methods and techniques for analyzing, designing and implementing systems for controlling complex large scale dynamical systems. The application area is either robotics or district heating and cooling systems in combination with optimization based control.

The candidates will perform research with a substantial experimental component that should be published in peer-reviewed international journals and at major conferences. The position may include supervision of MSc and PhD students, and to acquire funding for future research projects from research funding agencies/councils, EU framework program or industry.

As a post-doctoral fellow, you work actively and independent in relation to ongoing research projects. We are looking for one or two candidates who can contribute to activities at the CEG and work in close collaboration with the senior researchers at the research group.

To qualify for employment as a postdoctoral research fellow, you must have a PhD, or doctoral degree or a foreign degree equivalent to a doctorate or doctoral degree.

Priority will be given to candidates who have completed their PhD within three years prior to the application deadline. If there are special circumstances, the PhD can have been completed earlier. Special circumstances mean leave due to illness, parental leave, clinical practice, trade union duties, or similar. Applicants who are very close to finish a PhD are also encouraged to apply.

To be eligible for the position a doctoral degree in automatic control or equivalent is needed.

The following criteria are meritorious: Prior work in the areas of control configuration selection, model predictive control, system identification and robotics; Knowledge of modeling, control and operation of district heating and cooling systems.

Information:
For further information please contact Professor Wolfgang Birk +46 (0)920-49 1965, wolfgang@ltu.se
Luleå University of Technology is actively working on equality and diversity that contributes to a creative study - and work environment. The University’s core values are based on respect, trust, openness and responsibility.

In case of different interpretations of the English and Swedish versions of this announcement, the Swedish version takes precedence.

Application:
Apply for this position by clicking on the application button below. The application should include a CV, personal letter, reference letters, and copies of verified and translated diplomas from high school and universities. Your application must be written in English or Swedish. Mark your application with the reference number below.

Reference number: 461-15
Application deadline: 2015-03-19
URL: www.ltu.se/ltu/Lediga-jobb?l=en&rmpage=job&rmjob=1473&rmlang=UK

6.21. Faculty: ETH Zurich, Switzerland
Contributed by: Lino Guzzella, faculty-recruiting@sl.ethz.ch

Assistant Professor (Tenure Track) of Robotic Systems

The Department of Mechanical and Process Engineering (www.mavt.ethz.ch) at ETH Zurich invites applications for a Tenure Track Assistant Professorship of Robotic Systems. The assistant professorship is part of the National Center of Competence in Research (NCCR) Digital Fabrication on innovative building processes. The successful candidate is expected to develop a strong and visible research program in the area of design, modeling, intelligent control and implementation of robot systems. The candidate should be able to bridge solid theoretical foundations, development of computational control methods, and systems design for applications to areas such as robot locomotion and manipulation in complex settings such as construction sites, unstructured industrial environments or disaster areas. The candidate is expected to make important research contributions to the NCCR Digital Fabrication, in particular to robot systems for the future construction of buildings.

Candidates should hold a PhD degree and have an excellent record of accomplishments in engineering or related fields with a specialization in robotics systems. In addition, commitment to teaching graduate level courses (English) and the ability to establish and lead a world-class research group are expected.

This assistant professorship has been established to promote the careers of younger scientists. The initial appointment is for four years with the possibility of renewal for an additional two-year period and promotion to a permanent position.

Please apply online at www.facultyaffairs.ethz.ch

Applications should include a curriculum vitae, a list of publications and statements of future research and teaching activities. The letter of application should be addressed to the President of ETH Zurich, Prof. Dr. Lino Guzzella. The closing date for applications is 31 March 2015. ETH Zurich is an equal opportunity and family friendly employer and is further responsive to the needs of dual career couples. We specifically encourage women to apply.
6.22. Faculty: King Abdullah University of Science and Technology, Saudi Arabia
Contributed by: Jeff Shamma, jeff.shamma@kaust.edu.sa

Faculty Positions in Electrical Engineering at King Abdullah University of Science and Technology (KAUST)
The Electrical Engineering program at KAUST has announced openings for faculty positions in several areas, including but not limited to:

1. Power/Energy Systems: Specific expertise in the areas of smart grid, integration of renewable energy, monitoring and protection of power systems, energy storage and generation, power economics, as well as efficient power transmission, distribution, and management.
2. Cyber-Physical Systems: General background in control systems, real-time computing, and/or embedded systems with application to energy systems, smart grids, internet of things, transportation systems, environmental monitoring, and smart agriculture and food systems.
3. Digital Signal, Data, and Information Processing: Development of novel algorithms for large-scale information processing, big/high dimensional data analytics, statistical machine learning, internet of things, sensor systems, compressive sensing, distributed storage, secure transactions, and/or image processing.

Prospective candidates may contact Prof. Jeff Shamma (jeff.shamma@kaust.edu.sa) for further information.
The Electrical Engineering program (http://ee.kaust.edu.sa) is part of the Division of Computer, Electrical and Mathematical Sciences & Engineering (http://cemse.kaust.edu.sa). General information about research, education, and campus life at KAUST may be found online at http://www.kaust.edu.sa/

6.23. Faculty: University of Bath, UK
Contributed by: Mark Opmeer, m.opmeer@bath.ac.uk

Department of Mathematical Sciences, University of Bath, UK
The Department will make a new academic appointment in applied mathematics. We seek applications from excellent candidates whose work complements and strengthens current research in applied mathematics at Bath (this includes control theory). Preference may be given to applicants in the broad area of “Networks and Collective Behaviour”.
The position will be filled at either Lecturer (roughly equivalent to Assistant Professor), Senior Lecturer or Reader (roughly equivalent to Associate Professor) Level.
The closing date is Sunday 15 March 2015 and interviews will take place on Thursday 23 April 2015 and Friday 24 April 2015.
See the following website for details: http://www.bath.ac.uk/jobs/Vacancy.aspx?ref=SS2984

6.24. Lead Engineer: GE Power & Water Distributed Power, Cincinnati, USA
Contributed by: Hardev Singh, hardev1.singh@ge.com

Lead Engineer: GE Power & Water Distributed Power, Cincinnati, USA.
GE Power and water Aeroderivative section has an exciting opportunity available for a Lead Gas Turbine Performance Engineer, Cincinnati, OH.
Role Summary/Purpose
The Lead GT Performance Engineer will be responsible for advancing Distributed Power’s ability to support customers and optimize the performance of the gas turbine fleet, around the world. The Performance Engineer will demonstrate expertise of gas turbine performance, utilize existing tools (cycle-deck, etc.), and develop new tools / capabilities, designed to detect performance issues, diagnose likely cause, and predict future performance.

In addition you will:

- Lead the solution of complex technical problems and provide overall technical support in the area of performance engineering
- Use expertise to develop performance analytic models and tools that avoid or quickly resolve performance issues with DP gas turbine fleet; make recommendations after analysis of the operating data aimed to improve or maintain performance
- Work with several teams across Distributed Power Organization to drive unit performance assessment
- Work with Program Managers to execute on programs needed to improve GT Performance analysis capability for Distributed Power
- Work with Aviation and Power & Water engineering to develop technology for advanced gas turbine hardware service life prediction
- Concurrently work on multiple projects, monitoring progress, communicate project status and quality to ensure schedule requirements
- Validate GT Performance analytics developed using real world data and quantify gaps and mitigating actions
- Collaborate with System team to help integrate analytics within existing system platforms
- Complete projects to developing and improving DP Gas Turbine performance diagnostic and performance recovery capabilities
- Clearly communicate work status, issues, risks, plans, etc. to senior management
- Work with Aviation Engineers, GE Global Research Center, and other groups as needed to meet commitments of the role
- Work with analytic development engineers in Distributed Power and with partners (Global Research Center, University Partnerships, and 3rd Party Suppliers) to advance DP’s analytic capabilities
- Protect the Intellectual Property rights of the Company
- Provide technical guidance and mentoring to less experienced engineers
- Develop and implement training modules as necessary
- Assist with documenting processes and preserving knowledge in the organization

Qualifications/Requirements

- Bachelor’s Degree in Engineering or Physics from an accredited college or university
- Minimum of 4 years of post-graduate experience in an engineering role
- Minimum of 3 years of working with Gas Turbine or Aircraft Engine Performance / Efficiency analysis, modeling, diagnostics, engine testing and/or data analysis activities

Desired Characteristics:
Strong mechanical / Thermodynamics / aeronautics fundamental skills; Strong oral and written communication skills; Strong interpersonal and leadership skills; Demonstrated ability to analyze and resolve problems;
Ability to document, plan, market, and execute programs; Demonstrated leadership in advancing the state of the art in a technical specialty; Global mindset with ability to effectively work with remote teams; Strong analytical skills and in-depth knowledge of thermodynamics and aerodynamics; Have working knowledge / interest in system identification and statistics methods - Kalman Filters, Linear & Non-Linear models, etc.; Ability to think from a system design perspective; Masters in Engineering, Mathematics, or related field from an accredited college or university; Familiarity in dealing with large time series data sets (Big Data); Knowledge about industrial control / SCADA systems; Equipment operations, service or engineering experience; Green belt certification or equivalent Quality certification; Experience working with GE Aviation Engineering and GE Global Research Center; Experience / familiarity with Remote Monitoring & Diagnostics; Experienced with Matlab, R programming and Madlib.

You must submit your application for employment on the careers page at www.gecareers.com to be considered. The job number for this position is 2035215.

6.25. Lead Engineer: Eaton Corporate Research and Technology, Eden Prairie, MN, USA
   Contributed by: Neng Piyabongkarn, nengpiyabongkarn@eaton.com

Eaton has a job opportunity for a Lead Engineer - Control Systems & Solutions in Eaton Corporate Research and Technology eaton-jobs.com
http://eaton-jobs.com/ShowJob/Id/366547/Lead-Engineer-Control-Systems-Solutions/

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