Welcome to the 342 issue of the Eletter, available electronically here.
To submit new articles, go “Article Submissions” on the Eletter website
To unsubscribe, please send an email with the subject line “Eletter Unsubscribe”.

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5.12 Contents: Asian Journal of Control
5.13 Contents: International Journal of Control
5.14 Contents: International Journal of Control, Automation, and Systems
5.15 CFP: IEEE/ASME Transaction on Mechatronics
5.16 CFP: International Journal of Intelligent Robotics and Applications
5.17 CFP: IEEE Design & Test

6. Conferences
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6.2 International Conference on Unmanned Aircraft Systems
6.3 International Conference on Event-Based Control, Communication, and Signal Processing
6.4 International Conference on Information Fusion
6.5 Mediterranean Conference on Control and Automation
6.6 IEEE Colombian Conference on Automatic Control
6.7 Annual Conference of IEEE Industrial Electronics Society
6.8 Asian Control Conference
6.9 Australian and New Zealand Control Conference
6.10 ACM/IEEE International Conference Hybrid Systems Computation and Control
6.11 International Conference on Control, Automation and Systems
6.12 Focus Period/Workshop on Large-Scale and Distributed Optimization
6.13 International Conference on Methods and Models in Automation and Robotics
6.14 International Workshop on Control Engineering and Synthetic Biology
6.15 International Conference on Quantitative Evaluation of Systems Special Session: “Smart Energy Systems”

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7.3 PhD: Eindhoven University of Technology, The Netherlands
7.4 PhD: University of the Armed Forces Munich, Germany
7.5 PhD: Southern Illinois University, USA
7.6 PhD: Lehigh University, USA
7.7 PostDoc: The Ohio State University, USA
7.8 PostDoc: I3S Laboratory, France
7.9 PostDoc: Eindhoven University of Technology, The Netherlands
7.10 PostDoc: Clemson University
7.11 PostDoc: Washington University in St. Louis, USA
7.12 PostDoc: University of Illinois, USA
7.13 PostDoc: Grenoble University, France
7.14 PostDoc: Inria, France
7.15 Research Fellow: Delta-NTU Corporate Laboratory, Singapore
7.16 Research Fellow: University of Melbourne, Australia
7.17 Visiting Professor: LCCC Linnaeus Center, Sweden
7.18 Faculty: University of Rhode Island, USA
7.19 Faculty: Washington University in St. Louis, USA
7.20 Faculty: Universite Grenoble Alpes, France
7.21 Research Engineer/Scientist: AreteX Systems, USA
1. IEEE CSS Headlines

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

CSS Publications Content Digest The IEEE Control Systems Society Publications Content Digest is a novel and convenient guide that helps readers keep track of the latest published articles. The CSS Publications Content Digest, available at http://ieeecss.org/publications-content-digest provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society. Each issue offers readers a rapid means to survey and access the latest peer-reviewed papers of the IEEE Control Systems Society. We also include links to the Society’s sponsored Conferences to give readers a preview of upcoming meetings.

1.2. IEEE Control Systems Letters (L-CSS): A New CSS Journal
Contributed by: Elena Valcher, meme@dei.unipd.it

The IEEE Control Systems Letters (L-CSS) is a new journal of the IEEE Control Systems Society (CSS). The submission site opened on February 1, 2017. The journal has two features that make it unique among other scientific publications in Systems and Control:
1) It is a rapid publication, high quality journal: at most two rounds of review and at most 6 months from submission date to online appearance.
2) While submission is possible all year-round, in certain periods of the year a paper can be submitted for publication to the L-CSS and at the same time for presentation at the CDC.
For CDC 2017, you can submit your papers to L-CSS and CDC from February 1 to March 6. *** Don’t miss these dates!!!***
For more information, please check the website at http://ieee-cssletters.dei.unipd.it/index.html.
For more information about joint submission to L-CSS and CDC see, specifically, http://ieee-cssletters.dei.unipd.it/Page_authors.html section "L-CSS and CDC”.
Additional information:
Editor in Chief: M. Elena Valcher, University of Padova, Italy, meme@dei.unipd.it
Steering Committee: Christos Cassandras (Boston University, MA), Fabrizio Dabbene (CNR-IEIIT, Torino, Italy), Mario di Bernardo (University of Naples Federico II, Italy and University of Bristol, UK), Dimitar Filev (Ford Motor Company, Dearborn, MI), Amit Roy-Chowdhury (University of California at Riverside), Thomas Parisini (Imperial College, London, UK and University of Trieste, Italy), Mathukumalli Vidyasagar (University of Texas at Dallas and Indian Institute of Technology Hyderabad, India)

1.3. CFP: IEEE-CSS Outreach Fund
Contributed by: Daniel E. Rivera, daniel.rivera@asu.edu
The IEEE CSS Outreach Task Force is providing notice that the window for submission of proposals to the IEEE-CSS Outreach Fund for its 2017 spring solicitation will be held from April 3 to 28, 2017. Please note that this time window is earlier than usual. Information regarding the program can be found in:
http://www.ieeecss.org/general/control-systems-society-outreach-fund
Requests for application forms (as well as inquiries and notices of intention to submit) should be made directly to Daniel E. Rivera, Outreach Task Force Chair, at daniel.rivera@asu.edu.

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

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1.5. IEEE Control Systems Society Technically Cosponsored Conferences

Contributed by: Luca Zaccarian, CSS AE Conferences, zaccarian@laas.fr

The following conferences have been recently included in the list of events technically cosponsored by the IEEE Control Systems Society:


For a full listing of CSS technically cosponsored conferences, please visit http://ieeecss.org/conferences/technically-cosponsored,
and for a list of the upcoming and past CSS main conferences please visit http://ieeecss.org/conferences

2. Award

2.1. European PhD Award on Control for Complex and Heterogeneous Systems

Contributed by: Luca Greco, luca.greco@l2s.centralesupelec.fr

2016 European PhD Award on Control for Complex and Heterogeneous Systems

As every year, we would like to encourage young researchers that have recently obtained their PhD degree to participate in the process for the selection of the best PhD thesis defended in a European University in the field of Control for Complex and Heterogeneous Systems. The aim is to encourage high-quality work
amongst young researchers in their first research period. The prize consists of a certificate and a cash award of 1000 EURO. It will be delivered during the IFAC World Congress.

Deadline for application: *28th February 2017*

To be eligible for the award, the thesis must be in English and have been defended in Europe between 15/07/2015 and 14/07/2016

Former recipients can be found on the webpage:

To apply, please consult the award webpage:
http://www.eeci-institute.eu/PhD-Award/

Please forward this message also to whom it may concern in your Department or to your colleagues.

Denis Efimov,
Luca Greco

3. Summer Schools & Ph.D. Courses

3.1. Ph.D. Course on Hybrid Systems
Contributed by: Maria Prandini, maria.prandini@polimi.it

Ph.D. Course
HYBRID SYSTEMS
Ph.D. in Information Technology
Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB)
Politecnico di Milano, Milano, Italy
http://home.deib.polimi.it/prandini/Hybrid_Systems_2017.html

Dates: February 20 – 24, 2017
Location: Sala Seminari DEIB, Milano

Organizer:
Maria Prandini – Politecnico di Milano

Lecturers:
Goran Frehse – University Grenoble Alpes
Olaf Stursberg – Universität Kassel
Maria Prandini – Politecnico di Milano

Course description:
The aim of this course is to introduce the student to the area of hybrid systems, that is dynamical systems characterized by the interaction of different types of dynamics, both continuous and discrete.

The interest in a systematic study of hybrid systems has been fuelled by recent technological innovations, which led to the pervasive diffusion of increasingly complex digital system for the control and supervision of physical systems (“embedded” systems represent a significant example in this respect).

The study of hybrid systems is generally more challenging than that of purely discrete or purely continuous systems, because of the interaction between dynamics of different nature. In this course, we shall introduce models for hybrid systems, and describe general methods for investigating properties such as reachability, observability and stability. Verification and control of hybrid systems will also be addressed, with a special focus on the class of piecewise affine systems. Analysis and design methods will be demonstrated on examples
from different application contexts. Students attending the course should be able to appreciate the diversity of phenomena that arise in hybrid systems, and understand how concepts that are classical in the theory of discrete systems, modelled by automata, can coexist with concepts that are classical in the theory of continuous systems, modelled by differential or difference equations, in a unifying framework.

To register to the course, please, send an e-mail to francesca.clemenza@polimi.it Lectures will take place at Sala Seminari of the Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, via Ponzio 34/5, 20133 Milano, Italy. See http://www.deib.polimi.it/eng/how-to-reach-us for directions on how to reach the Dipartimento di Elettronica, Informazione e Bioingegneria.

3.2. American Summer School on Model Predictive Control
Contributed by: Sasa V. Rakovic, sasa.v.rakovic@fe.up.pt

A four-day, eight-speaker American Summer School on Model Predictive Control (MPC) has been organized by Sasa V. Rakovic, James B. Rawlings and Ilya V. Kolmanovsky. The first American Summer School of MPC will be held at the University of Wisconsin-Madison from July 25, 2017 to July 28, 2017.

The American Summer School on MPC aims to enable up to 40 graduate students (as well as interested researchers and control practitioners) from a cross-cutting set of disciplines in engineering, science, and applied mathematics to receive advanced education and training from international experts in the theory, implementation and application of MPC. The instructors comprise leading researchers from universities, government laboratories, and industrial companies, and they have been selected for their leading expertise in the different research areas, as well as a diversity of backgrounds and disciplines in engineering, science and applied mathematics.

The main topics of the summer school are:
- Introduction to MPC and MPC essentials (by William S. Levine).
- Classical MPC: regulation, estimation, and disturbance models (by James B. Rawlings).
- Robust MPC (by Sasa V. Rakovic).
- Stochastic MPC (by Ilya V. Kolmanovsky).
- Economic MPC (by David Angeli).
- MPC for sampled-data systems (by Fernando Fontes).
- Online optimization for MPC (by Lorenz T. Biegler).
- Industrial applications of MPC (by Thomas A. Badgwell).

The summer school delivers a carefully crafted overview of the theoretical fundamentals of MPC, and it provides access to, and motivates the development of, freely-available and state-of-the-art numerical software for implementing the advanced MPC methods on difficult and challenging examples and industrial applications. The summer school also anticipates inclusion of class mini-projects that enable all attendees to present, and discuss, problems of direct interest to their research, and also to receive feedback from a set of instructors with valuable expertise in all areas of MPC research.

Additional information, including a detailed summer school schedule and registration information will be made available shortly at the summer school website www.che.wisc.edu/mpc-summer-school

The organizers of the summer school are grateful to NSF for providing financial support for up to 40 attending participants. Travel expenses will be reimbursed up to $500 pending final approval of NSF funding. A modest
registration fee of $150 is also required for all attendees. Registration will open on May 1, and is on a first-come, first-served basis. Registration is capped at 40 students, so early registration is encouraged.

3.3. Cold Spring Harbor Laboratory Summer Course in Synthetic Biology
Contributed by: Elisa Franco, efranco@ucr.edu

Accepting applications for the 2017 Cold Spring Harbor Laboratory Summer Course in Synthetic Biology

We are now accepting applications for the 2017 Cold Spring Harbor Laboratory Summer Course in Synthetic Biology. We encourage you, your colleagues, and/or your trainees to apply if...
- You are a scientist whose training is well underway (senior graduate student to junior faculty and beyond).
- You are interested in steering your research in a new direction, towards synthetic biology.
- You are interested in a multi-disciplinary approach to biology and bioengineering. We encourage students of all backgrounds, whether the very biological or very theoretical, to apply!

Since the course began in 2013, industry professionals, graduate students, postdocs, science educators, and junior faculty have completed our immersive two-week laboratory class. The Course will focus on how the complexity of biological systems, combined with traditional engineering approaches, results in the emergence of new design principles for synthetic biology. Students will work in teams to learn the practical and theoretical underpinnings of cutting edge research in the area of Synthetic Biology. In addition, students will gain a broad overview of current applications of synthetic biology by interacting with a panel of internationally-recognized speakers from academia and industry during seminars, lab work, social activities.

Scholarships: Several stipend awards are available for applicants who are accepted into the course. Please read details about the available stipend awards at:
https://meetings.cshl.edu/sponsors.aspx?course=C-SYNBIO&year=17
In order to be considered for an award, you must specifically reference which one you are eligible for in the Stipend Request section of your application.

Course dates: July 25 - August 6, 2017
Application deadline: April 15, 2017
Application submission information: http://meetings.cshl.edu/courses/2017/c-synbio17.shtml
Course blog & website: https://cshlsynbio.wordpress.com/
Chase Beisel, Elisa Franco, Vincent Noireaux, Lauren Woodruff

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

The 7th oCPS PhD School on Cyber-Physical Systems

We would like to attract your attention to the "7th oCPS PhD School on Cyber-Physical Systems,” which will take place Monday June 12 to Thursday June 15, 2017 in Lucca, Italy. The school is targeted at graduate students and researchers who want to learn the main concepts of cyber-physical systems (CPSs), as well as at graduate students and postgraduate researchers already working in the area. The school is an event organized by oCPS, which is a Training Network (Marie Curie) receiving funding from the European Union’s 2020 framework programme for research and innovation, see more on ocps.ele.tue.nl.

Confirmed tutorial speakers at the moment are:
- Prof. Alf Isaksson, ABB Corporate Research
These and other speakers will lecture during the school covering the basic concepts and results on:
- Discrete-event and hybrid systems techniques for CPS
- Resource-aware control
- Formal methods for embedded control
- Security in control of CPS
- Model predictive control
- Approximate dynamic programming
- Fault-tolerant control of distributed CPS
- Multi-agent systems
- Industrial perspectives on CPS.

The program of the school includes four full days of lectures, interleaved by enough time slots to allow scientific discussions among the participants and with the speakers.

The oCPS PhD school on Cyber-Physical Systems is also the 7th edition of a series of biannual PhD schools with a focus on hybrid, networked and cyber-physical systems, which educated over 500 PhD students worldwide since 2003.

We are currently setting up the website for the new school. The full program of the school, other information and the registration procedure can be found soon at http://ocps17.imtlucca.it/

We welcome you, your students and colleagues to this interesting and inspiring event!

Alberto Bemporad
Maurice Heemels
Samarjit Chakraborty

4. Books

4.1. **Hydrodynamic Control of Wave Energy Devices**
Contributed by: John Ringwood, john.ringwood@nuim.ie

Book title: Hydrodynamic control of wave energy devices
Authors:
Umesh A. Korde (Michigan Tech. University, USA)
John V. Ringwood (Maynooth University, Ireland)

Publication information:
Publisher: Cambridge University Press
ISBN: 978-1107079700/1107079705
Publication date: Sept. 2016
Outline: This book provides an accessible coverage of all aspects of the hydrodynamic control of wave energy converters. Such control is necessary to maximise energy capture, for a given device configuration and plays a major role in efforts to make wave energy economic. The book is accessible to a wide range of disciplines, taking the reader from the mathematical and technical fundamentals, through the main pillars of wave energy hydrodynamic control, right through to state-of-the-art algorithms for hydrodynamic control. The various operating principles of wave energy converters are exposed and the unique aspects of the hydrodynamic control problem highlighted, along with a variety of potential solutions. Supporting material on wave forecasting and the interaction of the hydrodynamic control problem with other aspects of wave energy device optimisation, such as device geometry optimisation and optimal device array layout, is also provided.

4.2. AIMD Dynamics and Distributed Resource Allocation

Contributed by: Gina Rinelli Harris, rinelli@siam.org

This is the first comprehensive book on the AIMD algorithm, the most widely used method for allocating a limited resource among competing agents without centralized control. The authors offer a new approach that is based on positive switched linear systems. It is used to develop most of the main results found in the book, and fundamental results on stochastic switched nonnegative and consensus systems are derived to obtain these results.

The original and best known application of the algorithm is in the context of congestion control and resource allocation on the Internet, and readers will find details of several variants of the algorithm in order of increasing complexity, including deterministic, random, linear, and nonlinear versions. In each case, stability and convergence results are derived based on unifying principles. Basic and fundamental properties of the algorithm are described, examples are used to illustrate the richness of the resulting dynamical systems, and applications are provided to show how the algorithm can be used in the context of smart cities, intelligent transportation systems, and the smart grid.

ISBN 978-1-611974-21-8 / List Price $84.00 / SIAM Member Price $58.80 / Order Code DC29
Available at http://bookstore.siam.org/dc29/.

5. Journals

5.1. Contents: Automatica

Contributed by: Elisa Capello, automatica@polito.it

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5.2. Contents: IMA Journal of Mathematical Control and Information
Contributed by: Kathryn Roberts, kathryn.roberts@oup.com

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A new issue of IMA Journal of Mathematical Control and Information is now available online.
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5.3. Contents: Annual Reviews in Control
Contributed by: John Coca, j.coca@elsevier.com

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IEEE/ASME Transaction on Mechatronics (http://www.ieee-asme-mechatronics.org/) has a Call for Papers for Focused Section: http://iee-asme.ee.boun.edu.tr/sites/default/files/2018Feb_FocusedSection_CFP.pdf
FS on Sensing and Perception Systems for Intelligent Manufacturing (SPIM)

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This topic is of great relevance to the control community. Please consider submitting your work to this Focused Section. Also please feel free to contact the guest editors for any questions you might have.

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5.16. CFP: International Journal of Intelligent Robotics and Applications
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International Journal of Intelligent Robotics and Applications (IJIRA) is a new Springer journal founded by Prof. Kok-Meng Lee (http://www.springer.com/computer/ai/journal/41315). The journal currently has Call for Papers for a Focused Section (FS):
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5.17. CFP: IEEE Design & Test
Contributed by: Anuradha Annaswamy, aanna@mit.edu

IEEE Design & Test Call for Contributions to
Special Issue on Cross-layer Design of Cyber-Physical Systems
Submission Deadline: 30 June, 2017

Topics of Interest:
This special issue will be on problems and innovative solutions on cross-layer design of all forms of cyber-physical systems. Solutions involving any two or more layers of design abstraction are welcome. The solicited topics include, but are not limited to:

- Model-based design of control systems
- Algorithm/architecture co-design for CPS
• Model-based testing of control software
• Formal verification of control software
• Modeling and verification of hybrid systems
• Cross-layer design for semiconductor reliability
• Scheduling for embedded control systems
• Control and vision, camera-based systems
• Applications in automotive, avionics, robotics, smart buildings, medical devices, automation

Important Dates:
• Manuscript submission: 30 June, 2017
• First round of reviews: 30 September, 2017
• Second round of reviews: 15 January, 2018
• Final manuscripts due: 28 February, 2018

Submission Guidelines:

Guest Editors:
Anuradha Annaswamy (aanna@mit.edu), MIT, USA
Samarjit Chakraborty (samarjit@tum.de), Technical University of Munich, Germany
Jian-Jia Chen (jian-jia.chen@cs.uni-dortmund.de), Technical University of Dortmund, Germany
Devendra Rai (devendra.ra@de.bosch.com), Bosch Corporate Research, Germany

Special Issue Theme:
Cyber-physical systems are characterized by a tight coordination between control algorithms, models of physical systems being controlled and the hardware/software platforms on which these controllers are implemented. Such control systems are typically designed in multiple layers – at the top layer are high-level models (usually control algorithms), followed by software code generated from these models, below which is an operating system, which runs on a hardware platform often consisting of multiple processors connected by a communication architecture on which tasks and messages are scheduled.

Why cross-layer design? Most often, each of these layers are designed independently by different groups with completely different sets of expertise – control theorists, compiler designers, software engineers, operating system designers, embedded systems designers, computer architects, circuit designers and semiconductor experts. These multiple layers of abstraction with well-defined interfaces allow these groups to work independently, partition the entire design problem into manageable areas of expertise and have led to the phenomenal advancement in general purpose computing. However, when it comes to more specialized application domains – such as embedded controllers arising as hardware/software systems in automobiles, industrial automation systems, robots and a huge variety of other domains – these independently designed layers pose a serious problem.

Cross-layer design for CPS: For example, a vast majority of control algorithms at the high-level models layer are designed with idealistic assumptions, such as sensor values being instantaneously available to the controller, computing the control law takes zero (negligible) time, unbounded numerical precision, and that the underlying computational platform is perfect (free of any errors). As implementation platforms become more complex and distributed, these assumptions are increasingly not true. As a result, a provably “optimal” controller at the model level might not perform as desired in a concrete implementation. This results in significant ex post facto integration, testing and debugging efforts. For complex embedded control systems, it is well known that often more than 50% of the design effort is spent in integration, which has additional
implications like problems with certification (especially for safety-critical systems), overprovisioning of resources, and inflexible designs. This problem is slowly extending to the circuit and semiconductor level because of semiconductor aging, soft errors and manufacturing variabilities stemming from semiconductor scaling. As a result, the underlying hardware platform in the future cannot assumed to be “fault free” and this has to be accounted for at the higher layers of design abstraction.

This special issue: The aim of this special issue is to highlight different aspects of this problem and discuss cross-layer design solutions for the design of cyber-physical systems. All layers of design abstraction – starting from high-level models, to software code, operating systems, architectures, and finally to circuits and semiconductors – are relevant for this special issue.

The term “cross-layer” should be interpreted in the broadest possible sense and may include any application domain such as automotive, transportation systems, building technologies, industrial automation systems and smart grids. In any of these domains, there is a potential “mismatch” between high-level algorithms or control strategies and their implementation platforms. Any technique to reconcile such mismatch may be classified as “Cross-layer design for CPS” and would be relevant for this special issue.

6. Conferences

6.1. American Control Conference
Contributed by: Belinda Batten, belinda.batten@oregonstate.edu

2017 AMERICAN CONTROL CONFERENCE
Seattle, Washington USA, May 24-26, 2017

The 2017 AMERICAN CONTROL CONFERENCE will be held Wednesday through Friday, May 24-26, at the Sheraton Seattle Hotel in the heart of Seattle, Washington. The conference venue is near restaurants, shopping, and entertainment, just a walk to the Seattle Waterfront, Pike Place Market, Space Needle, Seattle Aquarium, and the Washington State Ferries.

The ACC is the annual conference of the American Automatic Control Council (AACC, the U.S. national member organization of the International Federation for Automatic Control (IFAC)). National and international society co-sponsors of ACC include American Institute of Aeronautics and Astronautics (AIAA), American Institute of Chemical Engineers (AIChE), Applied Probability Society (APS), American Society of Civil Engineering (ASCE), American Society of Mechanical Engineers (ASME), IEEE Control Systems Society (IEEE-CSS), International Society of Automation (ISA), Society for Modeling & Simulation International (SCS), and Society for Industrial & Applied Mathematics (SIAM).

The 2017 ACC technical program will include regular and invited sessions, tutorial sessions, and special sessions along with workshops and exhibits.

Plenary and semi-plenary lectures will be provided by:
Prof. Vijay Kumar, University of Pennsylvania, USA
Prof. James Rawlings, University of Wisconsin, USA
Prof. Harry Asada, Massachusetts Institute of Technology, USA
Prof. Javad Lavaei (2016 Eckman Award Winner), University of California, Berkeley, USA
Prof. Jacquelien Scherpen, University of Groningen, The Netherlands

Details can be found on the conference web site at http://acc2017.a2c2.org
6.2. International Conference on Unmanned Aircraft Systems
Contributed by: Youmin Zhang, ymzhang@encs.concordia.ca


On behalf of the ICUAS’17 Organizing Committee, this is to invite you to submit your contributions to the 2017 International Conference on Unmanned Aircraft Systems, ICUAS’17, http://www.uasconferences.com, to be held on June 13-16, 2017 in the luxurious Miami Marriott Biscayne Bay, Miami, FL, USA (http://www.marriott.com/hotels/travel/miabb-miami-marriott-biscayne-bay/). The conference is co-sponsored by the IEEE CSS and RAS, and several other organizations.

The ICUAS’17 will be started on June 13 with a Workshop/Tutorial day, followed by a three-day technical Conference on June 14-16. Judging from the interest ICUAS has drawn over the past eight years and its growth, ICUAS’17 is again expected to continue on this path and attract the highest number of participants from academia, industry, federal and state agencies, government, the private sector, users, practitioners and engineers who wish to be affiliated with and contribute technically to this highly demanding and rapidly evolving and expanding field. Details may be found at http://www.uasconferences.com and related links. ICUAS’17 is fully sponsored by the ICUAS Association, a non-profit organization; Information about the organization may be found at www.icuas.com.

The theme of ICUAS’17 will focus on the very challenging and timely topic of ‘networked unmanned systems’. National and international organizations, agencies, industry, military and civilian authorities are working towards defining roadmaps of UAS expectations, technical requirements and standards that are prerequisite to their full utilization, as well as legal, policy and ethical issues. The next generation of UAS is expected to be used for a wide spectrum of civilian and public domain applications. Challenges to be faced and overcome include, among others, see-and-avoid systems, robust and fault-tolerant flight control systems, payloads, communications, levels of autonomy, manned-unmanned swarms, network-controlled swarms, as well as challenges related to policies, procedures, regulations, safety, risk analysis assessment, airworthiness, certification issues, operational constraints, standardization and frequency management, all of paramount importance, which, coupled with ‘smart’, ‘environmentally friendly’, ”reliable” cutting edge technologies will pave the way towards full integration of UAS with manned aviation and into the respective national airspace.

ICUAS’17 aims at bringing together different groups of qualified military and civilian representatives worldwide, organization representatives, funding agencies, industry and academia, to discuss the current state of UAS advances, and the roadmap to their full utilization in civilian and public domains. Special emphasis will be given to current and future research opportunities, and to ‘what comes next’ in terms of the essential technologies that need to be utilized to advance further UAS.

Conference topics include (but not limited to): Airspace Control; Integration; See-and-Avoid Systems; Airspace Management; Interoperability; Security; Airworthiness; Levels of Safety; Sensor Fusion; Air Vehicle Operations; Manned/Unmanned Aviation; Simulation; Autonomy; Micro- and Mini- UAS; Smart Sensors; Biologically Inspired UAS; Navigation; Standardization; Certification; Networked Swarms; Swarms; Control Architectures; Payloads; Technology Challenges; Energy Efficient UAS; Path Planning; Training; Environmental Issues; Regulations; UAS Applications; Fail-Safe Systems; Reliability of UAS; UAS Communications; Frequency Management; Risk Analysis; UAS Testbeds.

Unmanned system collaboration and coordination, cooperative/formation control, validation and verification and unmanned system design for assured autonomy, are topics of great interest to ICUAS’17.

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

Important Dates: (Please check the latest information at http://www.uasconferences.com)
February 12, 2017: Full Papers/Invited Papers/Tutorial Proposals Due
April 14, 2017: Acceptance/Rejection Notification
May 5, 2017: Upload Final, Camera Ready Papers
April 14 – May 5, 2017: Early Registration

Paper Submission:
All papers must be submitted and uploaded electronically. Go to https://contols.papercept.net. Click on the link “Submit a Contribution to ICUAS’17” and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 10 point fonts, Times New Roman. The maximum number of pages per submitted paper is 10. For accepted papers, up to two additional pages will be permitted for a charge of $100 per additional page. Illustrations and references are included in the page count. Invited and Special Sessions: Proposals for invited/special sessions must be submitted/uploaded electronically. A Summary Statement describing the motivation and relevance of the proposed session, invited paper titles and author names must be uploaded electronically by February 12, 2017. In addition, authors must submit FULL versions of invited papers electronically, through https://contols.papercept.net. Each paper must be marked as ‘Invited Session Paper’. Workshops/Tutorials: Proposals for workshops/tutorials should contain title, the list of speakers, and extended summaries (2000 words) of their presentations. Proposals must be sent by e-mail to the Tutorial/Workshop Chair by February 12, 2017. Paper Review Process: All submitted papers will undergo a peer review process coordinated by the Program Chairs, Advisory Committee Members, IPC members and qualified reviewers. Authors will be notified of results at the latest by April 14, 2017. Accepted papers must be uploaded electronically no later than May 5, 2017. Authors are encouraged to accompany their presentations with multimedia material, which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.

Welcome and look forward to receiving your contributions and seeing you at the ICUAS’17!

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6.3. International Conference on Event-Based Control, Communication, and Signal Processing
Contributed by: Antonio Visioli, antonio.visioli@unibs.it

3rd International Conference on Event-Based Control, Communication, and Signal Processing
Funchal, Portugal
24-26 May 2017
http://www.ebccsp2017.org

Important Dates/Deadlines:
Submission of regular and special sessions papers February 26, 2017
Notification of acceptance of regular and special sessions papers April 9, 2017
Submission of work-in-progress papers April 11, 2017
Notification of acceptance of work-in-progress papers April 18, 2017
Final manuscripts due for regular and special sessions April 23, 2017
Final manuscripts due for work-in-the-progress papers April 23, 2017

The aim of the EBC CSP17 conference series is to provide a platform for the research communities that work in diverse application areas of the event-based paradigm to exchange new research results and ideas to explore synergies and foster scientific advancement.
Main topics and submission areas are:

Event-based control & systems
Event based communication, computing & systems
Event-based signal processing & systems
Discrete event systems

EBCCSP17 will feature keynote lectures by:
- Laurent Fesquet, GIPSA-Lab - Grenoble INP, France
  Title: From Events to Data-Driven Processing
- Bengt Lennartson, Chalmers University, Sweden
  Title: Efficient Computation of Optimal Supervisory Control Problems

SOLICITED PAPERS:
Research papers reporting on new developments in technological sciences. Industry and development papers reporting on actual developments of technology, products, systems and solutions. Tutorial and survey papers. Work-in-progress papers. In addition, EBCCSP 2017 solicits proposals for special session in areas relevant to the conference themes. Please consult the conference web page for more details.

SUBMISSION TYPES:
Two types of submissions are solicited: Long Papers (regular and special sessions) - 8 double-column pages. Work-in-Progress Papers - limited to 4 double-column pages. For further details, please consult the conference web site.

CALL FOR WORKSHOPS
Proposals are sought for workshops to address cutting edge research and developments in technological sciences in the technical scope of the EBCCSP 2017 Conference.

The Workshop Day will be held on May 23, 2017. For details see the web site

ORGANIZERS
General Co-Chairs
Carlos Couto, University of Minho, Portugal
Marek Miskowicz, AGH Univ. of Science & Technology, Poland
Organizing Chair
Richard Zurawski, ISA Group, USA & AGH Univ. of Science & Technology, Poland
Program Committee Chairs
Nicolas Marchand, GIPSA-Lab - Grenoble INP, France
Antonio Visioli, University of Brescia, Italy
Work-in-Progress Chairs
Bernhard Moser, SCCH, Austria
Mikhail Simonov, Istituto Superiore Mario Boella, Italy
Special Session Chairs
Amir Aminifar, EPFL, Switzerland
Andrzej Pawlowski, UNED, Spain

CONTACT INFORMATION
E-mail: contact@ebccsp2017.org
The International Conference on Information Fusion is a premier forum for interchange of the latest research in information fusion and discussion of its impacts on our society. The conference brings together researchers and practitioners from industry and academia to report on the latest scientific and technical advances. Authors are invited to submit papers describing advances and applications in information fusion.

Fusion 2017 will be held in Xi’an, China at the Wyndham Hotel on July 10–13, 2017. Xi’an is the best representative city of Ancient China. It has more than 3100 years of history. Since the 11th century BC it had been China’s Capital for more than 1100 years under 13 dynasties, including several most important ones such as Zhou, Qin, Han, Sui, and Tang. Xi’an was the root of the Silk Road, which connected the East and the West, and is the home of the world-famous Terracotta Army of more than 2200 years ago. In modern times, Xi’an has re-emerged as the center of the northwest China.

Topics of interest
1. Theory and Representation: Probability theory, Bayesian inference, fuzzy sets and fuzzy logic, Dempster-Shafer theory, belief functions, logic-based fusion and preference aggregation, random sets, finite set statistics, topic modeling.
2. Algorithms: Registration, detection, localization and signal processing, automatic target recognition and classification, nonlinear filtering, tracking and data association, automated situation assessment, prediction, pattern and behavioral analysis, distributed fusion process and sensor resource management.
4. Data Specific Processing and Fusion: Image and video, radar, passive sensors; soft data sources.
5. Modeling, simulation and evaluation: Target and sensor modeling, benchmarks, testbeds, fusion performance modeling and evaluation.
6. Applications: Aided fusion, sensor networks, persistent surveillance, defense and intelligence, security, robotics, transportation and logistics, manufacturing, economics and financial, environmental monitoring, medical care, bioinformatics.

20th Anniversary Forum: Fusion 2017 will organize a special forum to celebrate the 20th anniversary. Candidate topics include: the (early) history of the Fusion Conferences and ISIF, significant achievements and major challenges of fusion research representative successful applications of fusion technologies, future trend and development of fusion research and technologies.

Paper Submissions: Prospective authors are invited to submit papers electronically via the system found at the conference web page. Paper templates and submission instructions will be available at the conference website. Paper submissions are due by 1 March 2017 and should be no more than ten pages in length. There will be a charge for each additional page beyond eight pages. All papers must be approved for public release via the appropriate procedure of their employers/funding agencies prior to submittal. The research papers published in Fusion proceedings had been indexed by EI. All accepted papers must be written in English and will be published in Fusion conference proceedings, which will be indexed by EI and IEEE Xplore.

Special Session Proposals: Proposers are invited to submit via the conference web page the theme of the special session as well as a list of possible committed papers. Proposals for special sessions are due by 1 February 2017. Papers for special sessions must also be submitted for review by 1 March 2017.
Tutorial Proposals: The first day of the conference will be devoted to tutorials on information fusion. Proposals for tutorials are invited. A title and description of the tutorial and biographical sketch of the instructor are due via the conference web page by 1 February 2017.

Student Paper Program: Fusion 2017 is featuring a student paper program to encourage the involvement of young engineers and scientists in information fusion. Conference fees will be discounted for all student attendees. Further details will be available at the conference website.

Important Deadlines:
Special session proposals, tutorial proposals February 1, 2017
Full paper submission March 1, 2017
Notification of acceptance May 1, 2017
Final paper submission, early registration June 1, 2017

6.5. Mediterranean Conference on Control and Automation
Contributed by: Didier THEILLIOL, didier.theilliol@univ-lorraine.fr

25th Mediterranean Conference on Control and Automation - MED’17
Valletta, Malta
July 3-6, 2017
https://www.um.edu.mt/events/med2017/

Important Dates/Deadlines:
Full Papers / Invited Sessions / Tutorial Proposals: February 6, 2017
Acceptance / Rejection Notification: April 17, 2017
Upload Final Papers: May 5, 2017
Early Registration Deadline: May 5, 2017

The theme of MED’17 centers on control and automation challenges and opportunities in the 21st century and on control of autonomous systems. MED’17 spans four full days. July 3 is devoted to Tutorials and Workshops, followed by the three day technical conference on July 4-6. The conference, through its technical program and keynote presentations, will provide a unique opportunity for the academic, research and industrial community to address new challenges, share solutions and discuss future research directions. A broad range of topics is proposed, following current trends of combining control and systems theory with hardware/software and communication technologies, as well as new developments in robotics and mechatronics, autonomous systems, unmanned systems, cyber physical systems, network controlled systems, with the goal of strengthening cooperation of control and automation scientists with industry.

MED’17 will feature keynote lectures by:
- Professor Raffaello D’Andrea from the Institute for Dynamic Systems and Control at the Swiss Federal Institute of Technology (ETH);
- Professor Visakan Kadirkamanathan from the Department of Automatic Control and Systems Engineering at the University of Sheffield;
- Professor Marios Polycarpou from the KIOS Center for Intelligent Systems and Networks at the University of Cyprus.

For topics of interest please visit the conference website.

Paper Submission:
The Program Chairs are soliciting contributed technical papers for presentation at the Conference and publication in the Conference Digital Proceedings. All papers must be submitted and uploaded electronically.
Go to https://controls.papercept.net. Click on the link “Submit a Contribution to MED’17” and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 12 point fonts, Times New Roman. The maximum number of pages per submitted paper is 6. Up to two additional pages will be permitted for a charge of 100 EURO per additional page. Illustrations and references are included in the page count.

Invited and Special Sessions:
Proposals for invited and special sessions by topic of interest must be submitted and uploaded electronically. A Summary Statement describing the motivation and relevance of the proposed session, invited paper titles and author names must be uploaded electronically by February 6, 2017. In addition, authors must submit full versions of invited papers electronically, through https://controls.papercept.net. Each such paper must be marked as 'Invited Session Paper'

Workshops – Tutorials:
Proposals for workshops - tutorials should contain the title of the session, the list of speakers, and extended summaries (2000 words) of their presentations. Proposals must be sent by e-mail to the Tutorial and Workshop Chair by February 6, 2017.

Paper Review Process:
All submitted papers will undergo a peer review process coordinated by the Program Chairs, Advisory Committee Members, IPC members and qualified reviewers. Authors are encouraged to accompany their presentations with multimedia material (i.e. videos), which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and appear in IEEE Xplore.

For information and details about the Conference, contact by e-mail the General or Program Chairs (med2017@um.edu.mt).

Important Dates/Deadlines:
Full Papers / Invited Sessions / Tutorial Proposals: February 6, 2017
Acceptance / Rejection Notification: April 17, 2017
Upload Final Papers: May 5, 2017
Early Registration Deadline: May 5, 2017

6.6. IEEE Colombian Conference on Automatic Control
Contributed by: José García-Tirado, ieeecac2017@gmail.com

Second Call for Papers
3rd IEEE Colombian Conference on Automatic Control 2017

Scope: The 3rd IEEE Colombian Conference on Automatic Control (CCAC) will be held on October 18-20, 2017 in Cartagena-Colombia. The objective of the Conference is to gather academic and industrial researchers and practitioners, to discuss the state of the art, research and developments in advance control-robotics and its applications for sharing and encouraging technology development in Colombia and the Latin American region. The thematic emphasis of the Conference will be covering the theory, the implementation issues and the experiences related to the applications of control, automation and robotics methods in research, academy and industry. The main topics for the event include, but are not limited to, the following:

Applied control for industrial and non-industrial areas, applied control for robots, hybrid systems, intelligent control, mechatronics, mobile robots, modeling of dynamic systems, multi-robot systems, process and power systems, process automation, process optimization, sensing and sensor fusion, system identification, systems and signals, control in power electronics and electrical drives.
Important Dates:
- May 9, 2017 Papers submission deadline
- June 30, 2017 Papers acceptance notification
- August 11, 2017 Final manuscripts in camera-ready format

Paper submission: The program committee invites you to submit 4 to 6 pages long papers in English or Spanish through www.ieeeccac2017.org

Submitted papers to CCAC must be original, not previously published or accepted for publication elsewhere and must not be submitted to any other event or publisher during the entire review process. IEEE policy regarding plagiarism and duplicate submission/publication will be strictly enforced. The paper format and submission instructions are available at www.ieeelarc.org. All articles will be published in the Conference Proceedings. Only English versions will be published in IEEExplore.

Venue: The conference will be held at Cartagena de Indias, city on the northern coast of Colombia in the Caribbean Coast Region and capital of the Bolívar Department. It is the fifth-largest city in Colombia and the second largest in the region, after Barranquilla. The Cartagena urban area is also the fifth-largest urban area in the country. Economic activities include maritime and petrochemicals industry, as well as tourism. During the colonial period Cartagena served a key role in administration and expansion of the Spanish empire. It was a center of political and economic activity due to the presence of royalty and wealthy viceroys. In 1984, Cartagena’s colonial walled city and fortress were designated a UNESCO World Heritage Site. (further details soon).

Contact: Additional details and Conference updates are available at: http://www.ieeeccac2017.org
Inquiries and doubts about the Conference may be addressed to: info@ieeeccac2017.org

6.7. Annual Conference of IEEE Industrial Electronics Society
Contributed by: Xinghuo Yu, x.yu@rmit.edu.au

Call-for-Papers
2017 43rd Annual Conference of IEEE Industrial Electronics Society (IECON 2017)
October 29- November 1, 2017, Beijing, China.
http://www.iecon2017.com

You are cordially invited to submit your contributions to IECON 2017, to be held on October 29-November 1, 2017 in Beijing, China.

IECON 2017 focuses on industrial and manufacturing theory and applications of electronics, controls, communications, instrumentation, and computational intelligence. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology and fellowship. The main features of the conference include Plenary Speeches, Invited Talks, Regular Sessions, Special Sessions, Tutorials, Industry Forum, Student & Young Professionals Forum, covering a wide range of fields in Energy, Control, Mechatronics and Robotics, and Information and Communication Technologies.

The world’s industry, researchers and academia are cordially invited to participate in this exciting event and enjoy the wonderful city of Beijing – the heart of China, for its beauty, history and hospitality.

Important dates:
Special Session Proposals: 15 February 2017
Contributed Papers: 17 April 2017
Tutorial Proposals: 15 May 2017
Notification of Acceptance: 3 July 2017
Final Submission Due: 15 August 2017
Early Registration Closes: 15 August 2017
FOR MORE INFORMATION, please visit http://www.iecon2017.com
Welcome and look forward to receiving your contributions and attendance to the IECON 2017!
General Co-Chairs, IECON 2017
Xinghuo Yu, Jinhu Lu, Kamal Al-Haddad, Luis Gomes
Program Co-Chairs, IECON 2017 Huijun Gao, Juan J. Rodriguez-Andina, Mariusz Malinowski, Yousef Ibrahim, Milos Manic, Yin Shen

6.8. Asian Control Conference
Contributed by: Ljubo Vlacic, l.vlacic@griffith.edu.au
The 2017 Asian Control Conference – ASCC 2017
Gold Coast Australia, 17 – 20 December 2017
https://www.ascc2017.com/
The Asian Control Conference will be held immediately after CDC 2017. If you will be attending CDC 2017 till 15 December you can then make your way from Melbourne to Gold Coast on Sunday, 17 December and enjoy the ASCC Welcome Reception there.
Simultaneously with ASCC2017, the Australian & New Zealand Control Conference – ANZCC 2017 will also be held at the same venue, the award winning Gold Coast Convention & Exhibition Centre.
The ANZCC 2017 details can be obtained from http://anzcc.org.au/ANZCC2017/
The City of 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. A high quality accommodation at a special discount rate has been negotiated for the conference participants.
The ASCC conference series has been recognised as a premier scientific event of the Asia-Pacific region aimed at advancing control systems theory and practice. It hosts control systems scientists, researchers, students and practitioners in exchanging their ideas and recent results. The ASCC 2017 Proceedings will be published in Xplore.
Important Dates:
Regular Papers (drafts) 10 July 17
Invited Session Proposals 10 July 17
Workshop Proposals 10 July 17
Author notifications 22 September 17
Early Registration 22 September 17
Final Papers 01 October 17
The ASCC 2017 looks forward welcoming you at Australia’s Gold Coast.

6.9. Australian and New Zealand Control Conference
Contributed by: Ljubo Vlacic, l.vlacic@griffith.edu.au
The 2017 Australian and New Zealand Control Conference (ANZCC 2017) will be held in conjunction with the 2017 Asian Control Conference (https://www.ascc2017.com/) in the City of Gold Coast from 17 to 20 December 2017 i.e. immediately after CDC 2017.

Every effort will be made towards avoiding overlapping between ANZCC 2017 keynote sessions and ASCC 2017 keynote sessions. Moreover, ANZCC 2017 and ASCC 2017 social functions will be jointly held to enable full interactions among ANZCC 2017 participants and ASCC 2017 participants. The effort towards organising ANZCC 2017 and ASCC 2017 simultaneously with each other will be underpinned by specially designed and attractive registration package for those wishing to attend both events.

Apart from traditional paper types, ANZCC 2017 will also be accepting presentation-only papers. Presentation only papers will not be included in the Conference Proceedings. However, they will be a part of the Conference Program (if accepted) and their abstracts will be included in the Book of Abstracts which will be distributed to the conference participants.

ANZCC 2017 will provide a forum for Australian and New Zealand researchers, students and control engineers from universities, industry and government organisations to exchange ideas and recent results, as well as discuss current problems arising in control engineering research and industrial practice. International contributions are encouraged and will be solicited for.

Important Dates:
Draft papers: 17 July 2017
Invited session proposals: 17 July
Author notification: 20 September
Final papers: 01 October
Post-conference workshops: 21-24 December

6.10. ACM/IEEE International Conference Hybrid Systems Computation and Control
Contributed by: Necmiye Ozay, necmiye@umich.edu

20th ACM/IEEE International Conference Hybrid Systems Computation and Control (HSCC 2017) @ CP-SWeek

Call for posters and demos
HSCC 2017 is the 20th in a series of conferences on all aspects of hybrid systems. It is dedicated to advancing design and analysis techniques that bridge control theory and computer science, and is expanding to new domains in security and privacy, and in systems biology. The conference covers the range from theoretical results to practical applications and experiences in cyber-physical systems (CPS), mixed signal circuits, robotics, infrastructure networks, and biological models. For more information on submission and topics of interest, see the conference website: http://hscc2017.ece.illinois.edu/.

Posters presented at the conference will provide an opportunity for conference attendees to interact with researchers in an informal setting. Posters may be about already accepted papers, ongoing research projects, or they may preview late-breaking results. Demos will give the audience an up-close look at tools and techniques, and offer an interactive experience with the demonstrated entities. The selection criteria for acceptance will comprise novelty, technical merit, relevance to HSCC and, especially for demos, details on
the presentation. Accepted posters and demos will be listed on the conference website and as such will not appear on the conference proceedings.

These sessions are an excellent way to exchange ideas and for presenters to obtain feedback from the attendees. We encourage submissions from authors with accepted papers in HSCC2017 as this offers an alternative channel for dissemination. A best poster/demo prize will be awarded and announced during the conference and on the website. At least one author for every accepted poster/demo will be required to register and attend the conference.

Important dates:
Conference: April 18th-20th, 2017, Pittsburgh, PA, USA.

Submissions:
Submissions consist of an extended abstract of no more than two pages in the ACM template at: http://www.acm.org/sigs/publications/proceedings-templates.

Posters:
Poster abstracts should report preliminary research work and case studies. Poster presentations do not have to describe completed work. An easel will be provided for all posters.

Demos:
Demo abstracts should describe both the technology that will be presented, as well as the user interface. Tables, power, and wireless connectivity will be provided. If a demo requires additional special arrangements, please describe them clearly along with your submission.

To submit, send the pdf via email starting the subject line with ”HSCC17 Poster: ” or ”HSCC17 Demo: ” to the Poster/Demo Chair Akshay Rajhans (akshay.rajhans at mathworks dot com).

Any questions should be addressed to the Poster/Demo Chair.

6.11. International Conference on Control, Automation and Systems
Contributed by: Hye-Soo Kim, conference@icros.org

2017 17th International Conference on Control, Automation and Systems (ICCAS 2017)
October 18(WED)-21(SAT), 2017
Ramada Plaza, Jeju Island, Korea
http://2017.iccas.org

Call for Papers: http://icros.org/data/download/ICCAS2017/ICCAS2017_CFP.pdf

The aim of the ICCAS is to bring together researchers and engineers worldwide to present their latest works, and disseminate the state-of-the-art technologies related to control, automation, robotics, and systems.

IMPORTANT DATES
Proposal for Invited/Organized Session (Mini-symposium)
- June 10, 2017: Submission deadline
Regular Papers (3 - 6 pages) & Invited/Organized Session Papers (1 - 6 pages)
- June 15, 2017: Submission deadline
- August 1, 2017: Notification of acceptance
- August 31, 2017: Submission of final camera-ready papers
Research Poster Papers (1 - 2 pages)
6.12. Focus Period/Workshop on Large-Scale and Distributed Optimization
Contributed by: Anders Rantzer, rantzer@control.lth.se

The LCCC Linnaeus center - Lund Center for Control of Complex engineering systems is announcing a Focus Period on Large-Scale and Distributed Optimization from May 29 to June 30, 2017 with a workshop in the middle. Confirmed invited speakers include Francis Bach (France), Amir Beck (Israel), Stephen Boyd (USA), Anders Hansson (Sweden), Mikael Johansson (Sweden), Laurent Lessard (USA), Angelia Nedich (USA), Asu Ozdaglar (USA), Pablo Parrilo (USA), Panagiotis Patrinos (Belgium), Lin Xiao (USA), Russel Luke (Germany) and Holger Rauhut (Germany).

The aim of the focus period is to bring together leading researchers from different communities to create exciting cross-fertilization and new ideas. At any particular time, there will be room for up to 10 visiting scholars. A typical visit will be 3 weeks, either beginning or ending with the workshop week. Invitation as visiting scholar includes free accommodation and workshop registration. Interested visitors are encouraged to contact Pontus Giselsson <pontusg@control.lth.se> or Anders Rantzer <rantzer@control.lth.se>.

– industry participation promotion,
– attract young people to study and work in the field.

The participants of the 22nd International MMAR Conference will have the opportunity to take part in the wide spectrum of categories for technical presentations, including plenary lectures, regular papers of both lecture and poster session types, and panel discussion. We look forward to seeing our old and new friends in Poland. You are kindly invited to participate in the 22nd International MMAR Conference in Miedzyzdroje, Poland.

Important Dates: (Please check the latest information at www.mmar.edu.pl)
6 March 2017 – Full Paper Submission
15 May 2017 – Notification of Acceptance
26 June 2017 – Author Registration and Payment
3 July 2017 – Camera-Ready Paper Submission

The proceedings of the conference will be submitted for review and approval for inclusion in the IEEE Xplore® Digital Library and will be submitted for inclusion in the Conference Proceedings Citation Index - Science (ISI Web of Science).

For more information see http://www.mmar.edu.pl

Contributed by: Antonis Papachristodoulou, antonis@eng.ox.ac.uk

Designing and implementing effective feedback control in living cells has the potential to dramatically change biotechnology and synthetic biology. However, before this potential is realised, a number of theoretical and practical challenges must be addressed, which lie at the interface between control engineering and synthetic biology.

This will be the topic of an International Workshop on Control Engineering and Synthetic Biology, which will be held on the 17th and 18th July 2017 at the Royal Academy of Engineering, Prince Philip House, London, UK. This workshop will discuss both the challenges and the opportunities that Synthetic Biology offers. A specific focus will be on the “next grand challenges” in the field of synthetic biology and how control engineering can address them. An exceptional group of speakers, world leaders in synthetic biology and control engineering, will present recent progress, identify challenges and share their vision of where synthetic biology is headed and how the control engineering community can contribute to delivering its promise.

This follows on from a previous very successful event that we organised at the University of Oxford a couple of years ago:
http://sysos.eng.ox.ac.uk/wiki/index.php/Workshop_on_Control_Engineering_and_Synthetic_Biology.

This event is supported by the Engineering and Physical Sciences Research Council (EPSRC) under projects EP/M002454/1 and EP/M002187/1.

Please visit http://sysos.eng.ox.ac.uk/wiki/index.php/SynBioControl2017 for more information and to register.

Filippo Menolascina, Antonis Papachristodoulou and Guy-Bart Stan
Dear colleague,

I would like to draw your attention on a special session on “Smart Energy Systems”, to be organised at the upcoming International Conference on Quantitative Evaluation of Systems (QEST17):

http://www.qest.org/qest2017

We hope to attract top researchers and high-quality submissions. I would like to kindly ask you to share the invitation with colleagues working in the area of the conference and on the specific topic. Please find a description of the session below and a link to the conference CfP. Should you have any questions, please let me or the conference organisers know.

Smart Energy Systems over the Cloud:

We solicit contributions dealing with quantitative analysis, verification, and performance evaluation of models of networks of smart devices interconnected physically and over the cloud, and in particular within the technological context of smart energy, dealing with smart buildings, the smart grid, or with modern power networks. Instances of problems of interest are energy management in smart buildings, demand response over smart grids, or frequency control over power networks. We are interested in configurations related to cyber-physical systems, of systems of systems, and of the Internet of things, and on models encompassing continuous and digital components, and uncertainty (either environmental, adversarial, or probabilistic).

http://www.qest.org/qest2017/call-for-papers.html

7. Positions

7.1. PhD: Imperial College London, UK

Contributed by: Thulasi Mylvaganam, thulasi.mylvaganam06@imperial.ac.uk

PhD Studentship in Nonlinear Control

Applications are invited for a PhD studentship on distributed control for nonlinear systems within the Department of Aeronautics, Imperial College London.

Distributed systems are ubiquitous: teams of (aerial) robots, wind farms or dynamic sensor networks are just a few examples. Designing controllers for such systems is an important topic within control theory. To increase the autonomy of distributed systems it is crucial to develop novel methods for efficient and effective cooperative, distributed control.

The goal of the PhD studentship is to develop novel methods for designing distributed controllers for general, nonlinear systems, which include multi-agent systems such as teams of (aerial) robots. The developed methods will be based on a rigorous system theoretic approach typical of control systems. The student will therefore be required to gain familiarity and expertise in several topics within and related to control systems theory (including nonlinear control theory, linear algebra, optimization, game theory etc.).

Imperial College is consistently ranked as one of top universities in the world and top 3 universities within the UK. In 2016/17 Imperial ranked 9th in the world in the QS and 8th in the world in the THE rankings. It has been ranked as the most innovative university in Europe. Imperial staff and alumni include 15 Nobel laureates, 2 Fields Medalists, 70 Fellows of the Royal Society, 82 Fellows of the Royal Academy of Engineering.
and 78 Fellows of the Academy of Medical Sciences. The student will benefit from this dynamic environment
and from the unique facilities offered by Imperial College London.

Applicants should have a keen interest and solid background in Control Engineering and Mathematics and
have experience with using MATLAB. Knowledge of Nonlinear Control is preferable. Applications are
invited from candidates with (or who expect to gain) a first-class honours degree or an equivalent degree in
Engineering, Mathematics or a related discipline (for more details, see
https://www.imperial.ac.uk/study/pg/apply/requirements/pgacademic/).

“Funding is available for UK citizens and EU citizens. The studentship is for 3.5 years starting as soon as
possible and will provide full coverage of tuition fees and a tax-free stipend.”

Applications will be assessed as received and all applicants should follow the standard College application
procedure (http://www3.imperial.ac.uk/pgprospectus/howtoapply).

Informal enquiries and requests for additional information for this post can be made to: Dr Thulasi Mylvaga-
nam via email: thulasi.mylvaganam06@imperial.ac.uk.

To apply, please go to http://www.imperial.ac.uk/study/pg/apply/how-to-apply/

Any queries regarding the application process should be directed to Ms Lisa Kelly by email at l.kelly@imperial.ac.uk.

Closing date for applications: Open until filled Start Date: As soon as possible

7.2. PhD: CNES and CRAN, France

Contributed by: Marion Gilson, marion.gilson@univ-lorraine.fr

PhD CNES and CRAN (CNRS, Université de Lorraine, Nancy)
SYSTEM IDENTIFICATION FOR ATTITUDE CONTROL OF SATELLITES

Description
The validation of the attitude control algorithms uses high fidelity simulators with the most accurate possible
models of satellite dynamics and orbital environment. Some parameters of these models are nevertheless
difficult to identify on ground (disturbing torques amplitude, satellite inertia, flexible modes characteristics),
or are submitted to large uncertainties. To get more accurate numerical values, flight telemetry can be
used, but the identification process is complex due to physical characteristics of the measurements (low
sampling rate, noise, bias etc) and due to operational constraints: the necessary attitude profiles allowing
the observability of the parameters cannot always be performed (out of flight envelop profiles, or mission
interruption required). In some other more critical cases, accurate identification of the parameters is a pre-
requisite for the attitude control feasibility: for example, on very low altitude orbits a small knowledge error
on the position of the center of mass can lead to a non-optimal guidance profile, with respect to aerodynamic
disturbances and to the loss of the satellite due to actuator saturations. Finally, on elliptic orbit with very
low perigee, the disturbing torques change rapidly and it would be interesting to compute a time-variant
control law adapting to amplitude and frequency changes of the disturbances in satellite frame. To this aim,
one needs to identify time-varying models.

From a theoretical point of view, accurate parametric identification of “grey box” models, the search of
optimal inputs (for excitation signals generation) and time-varying parameters model identifications are
topics of great interest in academic research, also with more and more numerous industrial applications. A
lot of methodological and numerical tools exist that can better meet the requirements.

The PhD objectives are to develop new closed-loop identification techniques for time-varying parameters,
either for the validation of attitude control laws with more accurate models of the satellite dynamics and
environment or for adaptive control laws design.
The foreseen tasks are the following:

1. Closed-loop recursive identification of time-varying parameter grey box models by using telemetry: design of new algorithms and comparison to existing ones (Kalman filters for example). This problem raises several open questions, as the choice of nonlinear functions for domains where the physical behavior is more difficult to know. This choice is often the result of a trade-off between model flexibility and parsimony. Model flexibility allows the model to include complex nonlinear phenomena, whereas parsimony aims at using the minimum number of parameters to model these nonlinear phenomena. Once this choice is done, the relevant parametric estimation method must be developed and the (in-) validation of the obtained model performed. Besides, some critical aspects of grey box identification will be studied: identifiability and sensitivity analysis of physical parameters, robustness of the proposed algorithms to initial conditions or measurement noise, or computation of uncertainty regions for the estimated parameters.

2. Input signal selection: as the model can be accurately identified only if the input/output data contain enough information, the selection of suitable excitation inputs for identification of closed-loop and time-varying system is an important issue.

Implementation and validation of the new approach with real flight telemetry, and comparison with existing tools

Desired profile
Master in automatic control

The PhD program period is 3 years, starting early 2017.

Closing date for applications
20.01.2017

Structure description
Host Laboratory : Centre de Recherche en Automatique de Nancy (CRAN)
Lab Promotors : Marion GILSON - marion.gilson@univ-lorraine.fr, Hugues GARNIER - hugues.garnier@univ-lorraine.fr
CNES Promotor : Christelle PITTET - christelle.pittet@cnes.fr

Requests for further information should be sent to marion.gilson@univ-lorraine.fr and christelle.pittet@cnes.fr and include:
1. Covering/Motivation letter
2. Curriculum Vitae
3. Contact details of two academic referees.

Website: https://cct.cnes.fr/system/files/these_identif_SCAO_0.pdf

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

Phd Position: Eindhoven University of Technology, The Netherlands
Contributed by: Roland Toth, r.toth@tue.nl

Two Phd Positions are available at the Control Systems Group of the Eindhoven University of Technology, The Netherlands:

PhD position #1: AUTOMATED SYSTEMATIC LPV MODELING
PhD position #2: SYSTEM ORIENTED LPV CONTROL DESIGN

Project description:
Linear Parameter-Varying (LPV) systems are flexible mathematical models capable of representing Nonlinear (NL)/Time-Varying (TV) dynamical behaviors of complex physical systems (e.g., wafer scanners, car engines, chemical reactors), often encountered in engineering, via a linear structure. The LPV framework provides computationally efficient and robust approaches to synthesize digital controllers that can ensure desired operation of such systems - making it attractive to (i) high-tech mechatronic, (ii) automotive and (iii) chemical-process applications. Such a framework is important to meet with the increasing operational demands of systems in these industrial sectors and to realize future technological targets. However, recent studies have shown that, to fully exploit the potential of the LPV framework, a number of limiting factors of the underlying theory ask for serious innovation, as currently it is not understood how to (1) automate exact and low-complexity LPV modeling of real-world applications and how to refine uncertain aspects of these models efficiently by the help of measured data, (2) incorporate control objectives directly into modeling and to develop model reduction approaches for control, and (3) how to see modeling & control synthesis as a unified, closed-loop system synthesis approach directly oriented for the underlying NL/TV system. Furthermore, due to the increasingly cyber-physical nature of applications, (4) control synthesis is needed in a plug & play fashion, where if sub-systems are modified or exchanged, then the control design and the model of the whole system are only incrementally updated. This project aims to surmount Challenges (1)-(4) by establishing an innovative revolution of the LPV framework supported by a software suite and extensive empirical studies on real-world industrial applications; with a potential of technological innovation in the high-impact industrial sectors (i)-(iii).

The PhD positions are within the scope of the APROCS (Automated Linear Parameter-Varying Modeling and Control Synthesis for Nonlinear Complex Systems) initiative funded by the European Research Council (ERC) and it aims to overcome the fundamental limitations of the current LPV framework listed by Challenges (1)-(4).

Phd project #1 focuses on automated systematic LPV modeling to develop (1) systematic tools for converting first-principle models of complex dynamical systems, described by nonlinear/time-varying ODE’s and PDE’s, to low complexity, but exact LPV descriptions, (2) in case of unknown dynamical relations, complete the resulting models by powerful data-driven techniques building on the fusion of system identification and machine learning methods, (3) achieve control / objective oriented embedding of the dynamics of the to be modeled system together with simulation relation based verification methods, (4) achieve incremental modeling with plug & play properties.

Phd project #2 focuses on system oriented LPV control design to develop a (1) radical paradigm-shift based LPV control design framework, where the control synthesis focuses on the resulting controlled behavior (open or closed loop) with the targeted physical system, providing directly a NL/TV controller, i.e., the LPV concept is used as a solution approach for the underlying optimization problem. This requires the development of (2) novel stability and performance concepts and corresponding synthesis techniques with also an (3) objective of achieving incremental synthesis with plug & play properties.

Candidate profile:
* strong background in systems and control, mathematics (complex functional analysis, abstract algebra), statistics (for position #1), signal processing and electrical machines or mechanical engineering.
* solid programming skills in C++, DSpace, Mathematica and/or Matlab
* good communicative skills, and the attitude to partake successfully in the work of a research team.
* good command of the English language (knowledge of Dutch is not required).
* should have completed, or about to complete, a Bachelors/Masters/Honours degree in Systems and Control, Electrical Eng., Mech. Eng. or related areas
Starting date (intended):
1 September, 2017

Please send a complete CV as well as your motivation letter and transcripts to dr. R. Toth (r.toth@tue.nl) with a subject of ”Phd position.”

7.4. PhD: University of the Armed Forces Munich, Germany

Contributed by: Gunther Reissig, gunther2014@reiszig.de

PhD: University of the Armed Forces Munich, Germany
PhD position: Formal methods in control (Munich, Germany)
University of the Armed Forces Munich, Germany
Department of Aerospace Engineering
Institute of Control Engineering

We invite applications for a doctoral researcher position in the field of formal methods in control. The successful candidate is expected to advance theory of as well as computational methods for abstraction-based controller synthesis, to a degree that facilitates routine, fully automated, practical application of the approach to nonlinear continuous-state plants and complex specifications. The focus is on synthesis algorithms that are both efficient and formally correct.

The project involves theoretical work, algorithm and software development, and, on a small scale, experimental work. There is no teaching requirement and no coursework to be completed. Competitive salary is offered according to the tariff “TVOeD Bund, E 13”.

Required qualifications:
* MSc degree (or equivalent, giving access to doctoral studies) in Electrical Engineering, Mathematics, Computer Science, or a related field. Students about to complete their MSc will also be considered.
* Excellent academic record, showing a strong theoretical/mathematical background and a strong interest in dynamical systems.
* Proficiency in programming (C or Ada/SPARK).
* Excellent communication skills in English (CEFR level C1).

In addition, experience in one of the following fields would be a plus: Set-valued or validated numerics; dynamic programming; formal methods in control; reactive synthesis; professional-grade software development.

Your complete application consists of the following documents, which should be sent as a single PDF file to the email address given below (deadline: Feb 15, 2016):
* CV with photo
* One-page cover letter (clearly indicating available start date as well as relevant qualifications, experience and motivation)
* University certificates and transcripts (both BSc and MSc degrees)
* Contact details of up to three referees
* Possibly an English language certificate and a list of publications

All documents should be in English, with the exception of university certificates and transcripts, which may also be in German. The position is open to applicants worldwide; no special security clearance necessary.

Priv.-Doz. Dr. habil. Gunther Reissig
http://www.reiszig.de/gunther/
Email: gunther2014@reiszig.de, Subject: PhD ref 1077
7.5. **PhD: Southern Illinois University, USA**  
Contributed by: Arash Komae, akomaee@siu.edu

We are searching for a PhD student to work on a funded research assistant position in the Department of Electrical and Computer Engineering at Southern Illinois University (SIU), Carbondale, IL, USA. The position is available for Fall 2017 and contingent on satisfactory performance and fulfillment of the department requirements can be extended to the duration of study.

The position is in the general area of dynamical systems and control with an emphasis on magnetic control of micro-robots. Applicants with a BS degree in mechanical or aerospace engineering are preferred but those with a background in electrical engineering are also considered. A relevant MS degree is a definite advantage. Applicants must demonstrate strong courage for independent experimental work in the lab, in addition to interest in theory development.

Interested applicants are invited to send their application or inquiries to Dr. Arash Komae at ako-mae@siu.edu. A complete application package includes a Curriculum Vitae, name and contact information of three references, a brief description of the applicant’s research interests, GRE score, and TOEFL/IELTS score for international applicants.

7.6. **PhD: Lehigh University, USA**  
Contributed by: Eugenio Schuster, schuster@lehigh.edu

PhD Positions in Modeling and Control of Distributed Parameter Systems

Two fully funded PhD positions in the general area of Control Systems are available within the Laboratory for Control of Complex Physical Systems in the Department of Mechanical Engineering and Mechanics at Lehigh University. PhD candidates should have an undergraduate, or preferably a Masters degree, in engineering, physics or applied math. A solid mathematical and physical background is required together with a broad education in control systems. Some demonstrated research experience is a plus. The candidates should be interested in doing research in the general area of modeling and control of distributed parameter systems with applications to magnetohydrodynamic flows and plasmas.

Lehigh University, founded in 1865, is located in Bethlehem, Pennsylvania, 50 miles north of Philadelphia and 75 miles southwest of New York City. It offers an inspiring academic environment, excellent education, state-of-the-art research and computer facilities, very competitive economic conditions (tuitions, stipend, housing, health insurance) for graduate students, and great career opportunities after graduation. More information can be found at [http://www1.lehigh.edu/academics/graduate](http://www1.lehigh.edu/academics/graduate).

Candidates interested in being part of this educational and research opportunity are encouraged to send by e-mail their Curriculum Vitae to Prof. Eugenio Schuster at schuster@lehigh.edu.

7.7. **PostDoc: The Ohio State University, USA**  
Contributed by: Mingjun Zhang, zhang.4882@osu.edu

PostDoc: The Ohio State University, Columbus, OH.

We have a funded two-year post-doc position to work on optimal control for a bio-inspired autonomous underwater vehicle (AUV). The AUV has been built and tested for underwater exploration using a simple
closed-loop control. We are interested in developing advanced optimal control algorithm for energy-efficient propulsion, and have been investigating new theoretical optimal control methods to integrate hydrodynamics and feedback control for energy-efficient trajectory tracking.

Candidates with background in mathematics and theoretical control are highly encouraged to apply.

Please send your CV to Mingjun Zhang: zhang.4882@osu.edu

7.8. PostDoc: I3S Laboratory, France
Contributed by: Maria João Rendas, rendas@i3s.unice.fr

A post-doc position (for 6 months, possibly extended for a longer period) at the I3S Laboratory at Sophia Antipolis (France) is opened, to work on the development of modelling tools for early detection of abnormal athletic dynamic evolutions. The study is carried in close collaboration with an International Sports Federation, and will build on a large database of past and ongoing performance of top-ranking athletes.

The candidate should have strong competences in statistical machine learning and modelling and is expected to develop the associated software tools (in Matlab in the development phase).

The position is available immediately and the application will stay open until a suitable candidate is found. Applications (including CV and a cover letter of motivation) should be sent to rendas@i3s.unice.fr and pronzato@i3s.unice.fr. Applicants willing to have additional information are invited to contact us directly by email.

7.9. PostDoc: Eindhoven University of Technology, The Netherlands
Contributed by: Roland Toth, r.toth@tue.nl

Postdoc Position: Eindhoven University of Technology, The Netherlands

A postdoctoral position is available at the Control Systems Group of the Eindhoven University of Technology, The Netherlands:

Linear Parameter-Varying (LPV) systems are flexible mathematical models capable of representing Nonlinear (NL)/Time-Varying (TV) dynamical behaviors of complex physical systems (e.g., wafer scanners, car engines, chemical reactors), often encountered in engineering, via a linear structure. The LPV framework provides computationally efficient and robust approaches to synthesize digital controllers that can ensure desired operation of such systems - making it attractive to (i) high-tech mechatronic, (ii) automotive and (iii) chemical-process applications. Such a framework is important to meet with the increasing operational demands of systems in these industrial sectors and to realize future technological targets. However, recent studies have shown that, to fully exploit the potential of the LPV framework, a number of limiting factors of the underlying theory ask a for serious innovation, as currently it is not understood how to (1) automate exact and low-complexity LPV modeling of real-world applications and how to refine uncertain aspects of these models efficiently by the help of measured data, (2) incorporate control objectives directly into modeling and to develop model reduction approaches for control, and (3) how to see modeling & control synthesis as a unified, closed-loop system synthesis approach directly oriented for the underlying NL/TV system. Furthermore, due to the increasingly cyber-physical nature of applications, (4) control synthesis is needed in a plug & play fashion, where if sub-systems are modified or exchanged, then the control design and the model of the whole system are only incrementally updated. This project aims to surmount Challenges (1)-(4) by establishing an innovative revolution of the LPV framework supported by a software suite and
extensive empirical studies on real-world industrial applications; with a potential of technological innovation in the high-impact industrial sectors (i)-(iii).

The position is within the scope of the APROCS (Automated Linear Parameter-Varying Modeling and Control Synthesis for Nonlinear Complex Systems) initiative funded by the European Research Council (ERC) and it aims to overcome the fundamental limitations of the current LPV framework listed by Challenges (1)-(4).

This 3 years Postdoc position focuses on model reduction approaches to be developed both in the time and frequency domain that aim at complexity reduction of converted LPV first-principle models by balancing the trade-off between complexity and accuracy in terms of the control/user objectives. This concept of reduction is drastically different from the available literature and require fundamentally new concepts to take into account: (1) the true underlying behavior of the represented NL/TV system, (2) how closed-loop measures of control performance effect the trade-offs and (3) how to achieve joint state-order and scheduling complexity reduction which represent two complementary sources of complexity. A thorough understanding of LPV models in the frequency domain is also intended to be developed. This challenging objective would allow the generalization of powerful design concepts of controller tuning and performance specifications together with stability results and model reduction methods in the LTI case to the LPV case.

Candidate profile:
* strong background in systems and control, mathematics (complex functional analysis, abstract algebra), signal processing and electrical machines or mechanical engineering.
* solid programming skills in C++, DSpace, Mathematica and/or Matlab
* good communicative skills, and the attitude to partake successfully in the work of a research team.
* good command of the English language (knowledge of Dutch is not required).
* should have completed, or about to complete, a PhD degree in Systems and Control

Starting date (intended):
1 September, 2017

Please send a complete CV as well as your motivation letter and transcripts to dr. R. Toth (r.toth@tue.nl) with a subject of ”Postdoc position.”

7.10. PostDoc: Clemson University
Contributed by: Human Resources, none@given.com

Clemson University: College of Engineering, Computing and Applied Sciences: Automotive Engineering
Post Doctoral Fellow - Automotive Engineering
Location: 4 Research Drive, Greenville, SC 29607

The ideal candidate will work in a highly engaging research environment together with other faculty and graduate students. He/She will conduct the research with the PI – including both theory and experiments (30%), will assist with student advising (10%), will write technical reports and papers (25%), present research results (5%), and help manage the battery lab (10%), and help with proposal writing (20%).

QUALIFICATIONS
PhD degree (or are about to graduate) in mechanical, electrical aerospace engineering, applied mathematics or statistics. Demonstrated proficiency with writing technical research papers

APPLICATION INSTRUCTIONS
To submit your application, please upload an updated CV with a list of publications via Interfolio. Questions
should be directed to Prof. Onori (sonori@clemson.edu). Review of applications will continue until the position is filled. Only shortlisted candidate will be contacted via email.

Clemson University is an AA/EEO employer and does not discriminate against any person or group on the basis of age, color, disability, gender, pregnancy, national origin, race, religion, sexual orientation, veteran status or genetic information. Clemson University is building a culturally diverse faculty and staff committed to working in a multicultural environment and encourages applications from minorities and women.

Apply Here: http://www.Click2Apply.net/b92dhw7kt7

7.11. PostDoc: Washington University in St. Louis, USA
Contributed by: ShiNung Ching, shinung@wustl.edu

Postdoctoral Opening: Optimal Control of Neural Activity
Postdoctoral positions are available at Washington University in St. Louis in the area of control and optimization with applications in brain dynamics. This position is a part of an NIH BRAIN initiative-funded project on stimulation protocols for neuron-level control.

Current neurostimulation technologies provide substantial capability to manipulate the activity in neuronal networks. However, several key challenges remain, including handling many degrees of freedom with (usually) only a few stimulating actuators. This project will involve the development and implementation of optimal control methods for the precise manipulation of neuronal activity at the level of neurons and networks thereof. Candidates should have a strong background in the general areas of systems theory, control engineering, machine learning and/or optimization. Prior experience in neuroscience is not needed, but a general interest/curiosity about brain dynamics is a plus!

This project will be jointly supervised by Profs. ShiNung Ching and Jr-Shin Li in the Department of Electrical and Systems Engineering at Washington University. Interested applicants should send a CV and brief description of interests and goals to (shinung@wustl.edu) and (jsli@wustl.edu). Applications will be evaluated as soon as they are received, until the positions are filled.

7.12. PostDoc: University of Illinois, USA
Contributed by: Naira Hovakimyan, nhovakim@illinois.edu

We are seeking an outstanding post-doctoral researcher to join the Advanced Controls Research Lab at Mechanical Science and Engineering of University of Illinois. The candidate is expected to be an exceptional team player with strong background in mathematics and deep interest in applications. The work will be focused on optimization, robust control and machine learning. He/she will need to work with interdisciplinary group of students, publish rigorously and provide support for development of research program.

To apply for the position, please send an email to nhovakim@illinois.edu, summarizing your interest and your CV, including at least three references.

7.13. PostDoc: Grenoble University, France
Contributed by: Christophe Prieur, christophe.prieur@gipsa-lab.fr

Postdoc in signal processing and estimation of the magnetic heading, at Grenoble University, France.
This work will be conducted in collaboration between an academic lab (Gipsa) and the SYSNAV company. The candidate should have a PhD in signal processing (filtering, estimation) or control theory (observers, nonlinear dynamics).


Advisors: Nicolas Le Bihan and Christophe Prieur
Dates: beginning: Sept. or Oct 2017, for one year. The position may be closed before if a competent candidate has applied.

How to apply: Applications should be declared before the 1st of June and include a detailed resume, the CV and a list of (at least) two references to one of the advisors.

### 7.14. PostDoc: Inria, France

Contributed by: Andrey POLYAKOV, andrey.polyakov@inria.fr

Postdoc Position in Automatic Control (Inria, Lille, France)

Research Topic:
Control problems for separated turbulent flow are of great interest in the view of many modern challenges. For example, aerodynamic losses are believed to be one of the main source of energy wastage for a vehicle at speeds higher than 50km/h. According to the existing ecological estimates, the reduction of these losses at 25% will decrease pollutions for more than $10^7$ tonnes of $CO_2$ per year. Optimization of the vehicles shapes is one of possible solution for reducing aerodynamic losses (or drag) caused by the turbulence related mechanisms such as flow separation on the vehicle. When the incoming flow is unsteady, active control strategies become important. Postdoc research is devoted to a design of feasible control algorithms for separated (turbulent) flows.

Applicants must have PhD degree (or equivalent) in Applied Mathematics (with experience in automatic control) or in Control Engineering (with good mathematical skills)

How to apply?
Please do send (before 1 May 2017) your CV, list of publications and a motivation letter to Andrey Polyakov (andrey.polyakov@inria.fr) or Jean-Pierre Richard (jean-pierre.richard@ee-lille.fr). We will contact you no later 15 June 2017 if your application will be accepted.

Duration: 12 months (possibly 18 months)
Starting date of the contract: autumn 2017
Salary: approx. 2 600 euros brut

### 7.15. Research Fellow: Delta-NTU Corporate Laboratory, Singapore

Contributed by: Lihua Xie, ELHXIE@ntu.edu.sg

Job Title: Research Fellow
Delta-NTU Corporate Laboratory for Cyber-Physical Systems
School of Electrical & Electronic Engineering
Job Description:
The project is concerned with vehicle navigation and target tracking with collision avoidance in cluttered environments for automatic guided vehicle (AGV). Such AGVs rely on a variety of sensors (e.g. LiDAR, UWB, IR and/or camera) in order to navigate safely in dynamic and cluttered indoor environments. The main goal is to develop reliable and accurate sensing systems and algorithms for detection, tracking and classification of both moving and stationary obstacles in the vicinity of a moving unmanned vehicle.

Working at Smart Manufacturing track of Delta-NTU Corporate Laboratory for Cyber-Physical Systems, the research fellow will be part of a large and world-leading research team in networked control and autonomous systems. The research work will include sensing system and algorithm development, perception, system integration, simulations and testing for obstacle avoidance and navigation in cluttered environments. We aim to develop efficient and scalable algorithms to consolidate data from multiple heterogeneous sensors. These algorithms will allow us to detect and track targets more accurately by making full use of the information available from onboard sensors and sensors installed in environments.

Requirement:
1. Candidate must have a PhD degree in engineering.
2. Extensive research experiences in related fields: Sensor fusion, Indoor localization, Advanced control algorithm
3. Strong at signal processing and estimation, algorithms development and implementation, data modelling and perception.
4. Experiences in Simultaneous Localization and Mapping (SLAM).
5. Knowledge of wireless sensing and communication network.
6. Excellent team-work and communication skills, preferably with engineering project management experience.
7. Excellent problem formulation and problem solving skills.
8. Strong organizational skills to juggle multiple tasks within the constraints of timelines and budgets with business acumen.

Relevant experiences or skills in one or more of the following areas will be a plus:
1. Excellent programming skills in C/C++ and MATLAB.
2. Experiences in multi-sensor systems (e.g., electromechanical systems, actuators, sensors, control theory, autonomous systems, state machines) development.
3. Has patent or product development experience

Application Procedure:
Interested candidates please send your CV/resume to: Prof. Xie Lihua through E-mail: ELHXIE@ntu.edu.sg

Electronic submission of application is highly encouraged.
Only short-listed candidates will be notified for interview.
Application closes when the positions are filled.

7.16. Research Fellow: University of Melbourne, Australia
Contributed by: Michael Cantoni, cantoni@unimelb.edu.au

Research Fellow Positions: University of Melbourne, Australia.
Two post-doctoral positions are available to work on systems and control theory research that is relevant to the automation of large-scale gravity-powered water distribution networks. The ideal candidate has a PhD in engineering or applied mathematics, and expertise in one or more of the following topics:
(i) Modelling, identification and feedback control of distributed-parameter systems;
(ii) Robust control with decentralized information;
(iii) Fault monitoring and performance analysis for large-scale systems;
(iv) Robust / stochastic MPC for constrained control in the presence of uncertainty;
(v) Structured and distributed computation for optimization; and/or
(vi) Hierarchical control and scheduling for dynamical systems.

Both positions are with the Department of Electrical and Electronic Engineering, for up to 24 months.
The closing date for applications is 10 March 2017.

For more details, including how to apply, search jobs.unimelb.edu.au for "systems and control" or "0042604".

7.17. Visiting Professor: LCCC Linnaeus Center, Sweden
Contributed by: Anders Rantzer, rantzer@control.lth.se

Visiting Professor
The LCCC Linnaeus center - Lund Center for Control of Complex engineering systems - is announcing sab-
batical support for visiting professors during 2017-18. The support covers accommodation and office space,
plus a partial salary contribution. Please contact LCCC director Anders Rantzer <rantzer@control.lth.se>
for further details.

7.18. Faculty: University of Rhode Island, USA
Contributed by: Haibo He, he@ele.uri.edu

Faculty Position Announcement - Robotics
Tenure-Track Assistant Professor of Electrical Engineering
Department of Electrical, Computer, and Biomedical Engineering
University of Rhode Island
Kingston, RI, USA

Applications are invited for a tenure-track position in Electrical Engineering at the rank of Assistant Professor
beginning in Fall 2017. We are particularly interested in candidates working in one or more areas of robotics
including, but not limited to, industrial robots, mobile robots, or autonomous vehicles and drones, and
who have some background in control theory. A doctorate in Electrical Engineering or closely related field
is required at the time of appointment. The successful candidate will be expected to teach and develop
undergraduate and graduate courses and establish a high-quality, externally-funded, research program.

The Department of Electrical, Computer and Biomedical Engineering offers programs leading to the BS, MS,
and PhD degrees. The interdisciplinary nature of our Department will provide the new faculty member with
opportunities to interact with a broad range of colleagues. A brand-new 195,000 square foot engineering
building has recently been approved (construction to start in 2016) will provide an excellent environment
for interdisciplinary research collaborations.

The University of Rhode Island is a comprehensive doctoral research, Land Grant, Sea Grant and Urban
Grant University. URI College of Engineering offers innovative undergraduate and graduate programs,
stresses links between diverse fields of inquiry, and values outreach, scholarship, and laboratory-based learn-
ing. The University of Rhode Island is a medium-sized public university located near the southeastern
end of the state and picturesque New England. The main campus is located in Kingston, an established, family-friendly, small community only five miles from the Narragansett Bay and the Atlantic Ocean. Rhode Island’s proximity to the ocean moderates its weather compared to other New England States. The region offers excellent outdoor recreational activities, good public school systems, and ready access by car or public transportation to Providence, Boston, New Haven, and New York City metropolitan areas and airports.

Required Qualifications
1. An earned doctorate in electrical engineering or closely related field at the time of appointment.
2. Demonstrated record of scholarly activity in one or more areas of robotics, including, but not limited to, industrial robots, mobile robots, or autonomous vehicles and drones.
3. Demonstrated background in control systems.
4. Demonstrated ability to work with diverse groups.
5. Demonstrated proficiency in written communication skills.
6. Demonstrated proficiency in oral communication skills.

Preferred Qualifications
1. Demonstrated ability to teach undergraduate and graduate courses in robotics
2. Demonstrated ability to teach undergraduate and graduate courses in control theory.
3. Demonstrated ability to work in multi-disciplinary teams.
4. Demonstrated ability to develop an externally funded research program.

First consideration will be given to applications received by January 15, 2017. Second consideration may be given to applications received by February 15, 2017. The anticipated start date is August 2017, and salary is commensurate with qualifications and experience. Applicants should submit the following: (1) a cover letter; (2) a complete curriculum vitae including the full contact information for at least three professional references; (3) a narrative, limited to two pages, describing your research and how it relates to the required qualifications; (4) a narrative, limited to one page, describing your teaching background, philosophy, and preferences, including existing courses in our department and new courses you might develop. Submit applications online at https://jobs.uri.edu/postings/1921. Additional information is available at the URI Department of Electrical, Computer and Biomedical Engineering web site, www.ele.uri.edu. Questions about the position can be forwarded to the Chair of the Search Committee, Dr. Richard Vaccaro, vaccaro@ele.uri.edu.

We hope to attract applicants who can teach in a diverse University community and have demonstrated ability in helping students from diverse backgrounds succeed. We are committed to building a multicultural work force and strongly encourage women, racial/ethnic/gender minorities, persons with disabilities, and covered veterans to apply. The University of Rhode Island is an Equal Opportunity/Affirmative Action employer.

7.19. Faculty: Washington University in St. Louis, USA
Contributed by: Hiro Mukai, facsearch@ese.wustl.edu

Tenured/Tenure-Track Faculty
Washington University in St. Louis
Electrical and Systems Engineering

The Preston M. Green Department of Electrical & Systems Engineering at Washington University in St. Louis invites applications for faculty positions at all levels, for fall 2017. The Electrical & Systems Engineering department enjoys a new building, Preston M. Green Hall, with state-of-the-art facilities. Candidates should be exceptionally strong, possess novel and creative visions of research, and commit gladly to teaching at both
the undergraduate and graduate levels. They should have an earned doctorate in Electrical Engineering, Computer Science, Applied Physics, Systems Engineering, Mathematics, Statistics, Operations Research or related fields.

Technical areas of interest include, but are not limited to, applied physics, integrated circuits, nano devices, device packaging, imaging, signal processing, cyber-physical systems, control systems, operations research, optimization, applied mathematics, and applied statistics. Applications include biomedicine, robotics, financial engineering, and modeling of physical and complex systems. Successful candidates are expected to conduct high-quality research and teaching, publish in peer-reviewed journals, and participate in department and university service.

Applications will be accepted immediately, and interviews will begin after January 1, 2017. The details of the application process and necessary documents are found at the following site:

http://ese.wustl.edu/aboutthedepartment/Pages/faculty-openings.aspx

Washington University in St. Louis is a medium-size private university, which is 19th in the national university ranking and 14th in the undergraduate teaching ranking, both according to the U.S. News & World Report.

Washington University in St. Louis is an Equal Opportunity and Affirmative Action employer, and invites applications from all qualified candidates. Employment eligibility verification required upon employment.

7.20. Faculty: Universite Grenoble Alpes, France

Contributed by: Christophe Prieur, christophe.prieur@gipsa-lab.fr

Associate Professor (maitre de conferences) position at Universite Grenoble Alpes, France, in Automatic Control department. For more information, please visit

https://t.co/Nm1bJFuSPh

Do not hesitate to contact the research and training contacts indicated in the previous link.

Apply on GALAXIE:

https://www.galaxie.enseignementsup-recherche.gouv.fr/ensup/cand_recrutement.htm

before the 30th of March.

7.21. Research Engineer/Scientist: AreteX Systems, USA

Contributed by: Behnood Gholami, bgholami@aretexeng.com

Research Engineer/Scientist: Signal Processing and Machine Learning

AreteX Systems, a medical technology startup company accelerating the use of information technology in healthcare, has an immediate opening for a Research Engineer/Scientist in its office located in the New York City area. The position involves developing signal processing and machine learning algorithms for innovative biomedical technologies. We are looking for a self-motivated, highly talented individual with an excellent background in control systems, signal processing, and machine learning. The successful candidate will work closely with a team of physicians, nurses, engineers, and scientists in designing new clinical decision support systems. Candidates with experience in the analysis of data generated by medical devices such as mechanical ventilators and hemodynamic monitors data will be given a higher priority.

Minimum Requirements:
- MS or PhD in electrical engineering, computer science, mechanical engineering, biomedical engineering, aerospace engineering, physics, applied mathematics, or a similar discipline.
- Experience in algorithm development for signal processing and machine learning applications.
- Solid understanding of machine learning techniques.
- Familiarity with signal processing concepts.
- Experience in Python.

Preferred Qualifications:
- Prior work in analyzing data from mechanical ventilators, hemodynamic monitors, and biosignals (EEG, EMG, ECG, accelerometer, ...).
- Prior work in robotics and/or mechatronic systems.
- Solid understanding of dynamical systems and control concepts.