E-LETTER on Systems, Control, and Signal Processing
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1. IEEE CSS Headlines

1.1. CFP: CSS Outreach Fund
Contributed by: Daniel E. Rivera, CSS AE Conferences, daniel.rivera@asu.edu

The IEEE Control Systems Society (CSS) Outreach Fund provides financial resources for projects that will benefit CSS and the controls community in general. Since its inception in 2011, the Fund has awarded 54 grants on behalf of a diverse group of CSS member-led activities.

The CSS Outreach Task Force is pleased to announce that the window for proposal submission for its 2017 fall solicitation will be held from November 1 to 24, 2017. Information regarding the program, which includes proposal requirements and descriptions of current and past funded projects, can be found in:
http://www.ieeecss.org/general/control-systems-society-outreach-fund

Potential applicants are encouraged to watch a 10-minute video describing the CSS Outreach Fund that is available from IEEE.tv:

Inquiries, notices of intent, and requests for application forms must be made directly to Daniel E. Rivera, Outreach Task Force Chair, at daniel.rivera@asu.edu.

1.2. Second IEEE Conference on Control Technology and Applications
Contributed by: Alessandro Beghi, beghi@dei.unipd.it

IEEE CCTA 2018
2nd IEEE Conference on Control Technology and Applications
August 21-24, 2018
The Scandic Hotel Copenhagen
Copenhagen, Denmark
http://ccta2018.ieeecss.org

The 2018 IEEE Conference on Control Technology and Applications will be held in Wonderful Copenhagen, Denmark. This conference is one of the main conferences sponsored by the IEEE Control Systems Society. It is the second in a series that follows an evolution, replacing the successful former IEEE CCA and IEEE MSC series. The CCTA 2018 technical program will feature the presentation of contributed and invited papers, as well as tutorial sessions and workshops, focusing on technological advances and applications of control engineering. Scandinavia has several strong control groups with a tradition of cooperation with companies, and significant participation from industry is anticipated. The conference includes all aspects of control engineering for practical control systems, from analysis and design, through simulation and hardware. Major themes of energy, manufacturing, and transportation will feature applications of control technology for robotic, automotive, biomechanical, aerospace, power and energy systems, control of networks, and many others. Plenary lectures will be delivered on each of the three days as part of the conference program. Confirmed plenary speakers are Dr. Peter Terwiesch (ABB) and Dr. Anuradha Annaswamy (MIT).

CCTA 2018 will be held at the Scandic Hotel Copenhagen, located in central Copenhagen, with views of one of the three lakes and the city, and close to the Tivoli Gardens and the pedestrian street, Stroget.

Call for Contributed Papers: Papers are invited in the form of regular manuscripts. Papers must conform to the submission policy, described below, requiring that all manuscripts be in 2-column IEEE Proceedings
Call for Invited Sessions: Invited sessions consist of 6 papers presenting a unifying theme from a diversity of viewpoints. Proposals must clearly describe the motivation and relevance of the session. Proposals must be accompanied by full versions of each paper, which will be individually reviewed together with the proposal itself. Individual papers may be removed from a proposed session and replaced by appropriate contributed papers. In case an entire proposed session is rejected, selected papers may be accepted as contributed ones.

Call for Tutorial Sessions: Tutorial sessions addressing state-of-the-art control theory and advanced industrial applications are solicited.

Call for Workshops: Workshops to be held prior to the conference are solicited on all related topics. Proposals for workshops addressing novel control methodologies and nonstandard control applications are strongly encouraged.

All papers and session proposals must be submitted through the conference submission website css.paperplaza.net and must conform to the policy found on the CCTA 2018 web site, ccta2018.ieeecss.org. Papers must be submitted in English. The 2nd IEEE CCTA is sponsored by the IEEE Control Systems Society, and is organized in cooperation with the Society for Instrument and Control Engineers (SICE).

Important Dates:
Paper submissions site css.paperplaza.net opens: November 1, 2017
Deadline for submission of Invited Session proposals: January 15, 2018
Deadline for submission of contributed and invited papers: January 15, 2018
Notification of acceptance/rejection: April 23, 2018
Final submission and registration sites open: April 27, 2018
Deadline for final submission of all papers: May 21, 2018

Jakob Stoustrup (General Chair)
Thomas Parisini (General Co-Chair)
Kristin Y. Pettersen (Program Chair)

1.3. 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,
1.4. IEEE Transactions on Control Systems Technology
Contributed by: Michelle Colasanti, colasanti.8@osu.edu

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

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

2. Award

2.1. Call for Nomination: European Control Award
Contributed by: Paul Goulart, paul.goulart@eng.ox.ac.uk

The “European Control Award (ECA)” is to recognize outstanding contributions by a young researcher in the area of systems and control. The award is sponsored by the European Control Association (EUCA), and will be presented during the annual European Control Conference. The recipient will give a plenary lecture during the final day of the ECC.

Details of this award and the nomination procedure can be found at http://www.euca-control.org/eca.html. We encourage you to identify and to promote potential candidates for the European Control Award 2018, before November 15th 2017.

3. MISC

3.1. CDC Poster Session: “Meet the Faculty Candidate”
Contributed by: Warren Dixon, wdixon@ufl.edu

Building on the successful event during the 2016 CDC, the program of the 2017 CDC will also feature the poster session entitled "Meet the Faculty Candidate." This poster session provides a great opportunity for faculty, search committee members, and recruiters to speak directly with current graduate students and postdoctoral researchers who are seeking faculty positions.

Faculty candidates, registered for the conference, are invited to register for this poster session by compiling the following online form by Monday October 31st, 2016: https://docs.google.com/forms/d/13QRWthIBaSPzhPU4w6E7v5NC2VAuRRTmKUuLVkE48M0/edit

The session will be held on Thursday 14th December, 4pm-6pm in the Main Foyer of the Melbourne Convention Centre. Space will be available on a first-come first-serve basis.

3.2. CDC Workshop: “Scenario-based optimization for stochastic optimal power flow problems”
Contributed by: Maria Vrakopoulou, vrakopoulou@control.ee.ethz.ch

CDC 2017 Workshop on “Scenario-based optimization for stochastic optimal power flow problems”
Workshop duration: Half day (4 hours)
Venue: 56th CDC at University of Melbourne, Australia
Time: Sunday 10 December 2017, 1PM-5PM
Website: http://cdc2017.ieeecss.org/workshops.php#WSH3

Workshop speakers:
Prof. Ian Hiskens (University of Michigan, USA)
Prof. John Lygeros (ETH Zurich, Switzerland)
Dr. Maria Vrakopoulou (ETH Zurich, Switzerland)

Workshop overview:
The workshop will provide systems and control researchers with, 1) an understanding of the challenges of power system operation in the presence of generation uncertainty arising from renewable energy sources, and 2) methodologies for achieving optimal and reliable operation. The workshop will initially focus on stochastic optimization tools that can provide solutions with probabilistic performance guarantees. Those tools build on scenario-based optimization and may be applied to both convex and non-convex problems. An overview of power flow models and optimal power flow (OPF) formulations will then be provided. Finally, the workshop will present stochastic formulations of the OPF and reserve scheduling problems, and demonstrate how scenario-based optimization techniques can be applied to achieve reliable and cost-effective operation.

3.3. Summer School: 10th Elgersburg School on Mathematical Systems Theory
Contributed by: Fabian Wirth, fabian.wirth@uni-passau.de

2nd Announcement of Summer School: 10th Elgersburg School on Mathematical Systems Theory
10th Elgersburg School on Mathematical Systems Theory
"Time-delay systems: Lyapunov functionals and matrices" and "Input-to-state stability and interconnected systems"
Location and Date: Elgersburg, Thuringia (Germany), March 4 - 10, 2018
Organizers:
Achim Ilchmann (TU Ilmenau), Timo Reis (U Hamburg), Fabian Wirth (U Passau)
http://www.tu-ilmenau.de/de/math/forschung/tagungen/elgersburg-schools/e...
Support by the Ernst-Abbe-Foundation is gratefully acknowledged.
Invitation: The organizers have the pleasure to announce the 10th Elgersburg School.
The topics and lecturers are:
"Time-delay systems: Lyapunov functionals and matrices"
Professor Vladimir Kharitonov
Saint-Petersburg State University, Russia
"Input-to-state stability and interconnected systems"
Professor Sergey Dashkovskiy
Universität Würzburg, Germany
https://www.mathematik.uni-wuerzburg.de/personal/dashkovskiy.html
See the website for the complete programme.
Registration
The school is addressed to postgraduate students and postdocs in control, either in mathematics or engineering, very good graduate students are also welcome. We would be grateful if you could pass on this information to any potential candidates.
The location has a capacity for 40 participants.
The cost for the hotel including full board per person is: EUR 520,- for a single and EUR 420,- for a double room.
Due to the limited number of places there will be an application procedure for participation at the school. Applicants are asked to provide their CV and a letter of reference from their supervisor. The deadline for applications is November 30, 2017. The organizers will then rank the applications according to excellence and suitability. A list of all participants will be available on the web site by January 15, 2018. Additionally, there are stipends for travel support, accommodation and subsistence for 10 participants. As the email list is not complete, please feel free to pass on this information to anybody who may be interested.

For further information please refer to the website or send an email to one of the organizers

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3.4. NSF CPS PI Meeting Workshop: Reliable Autonomy for Human Cyber-Physical Systems
Contributed by: Meeko Oishi, oishi@unm.edu

NSF CPS PI Meeting Workshop: Reliable Autonomy for Human Cyber-Physical Systems
Organizers: Sam Burden, Meeko Oishi, Dorsa Sadigh, Ufuk Topcu
November 14, 2017
http://stanford.edu/~dorsa/NSF_HCPS_Workshop/

** Overview **
While the vast majority of methods and tools in cyber-physical systems (CPS) have been developed for fully autonomous systems, most engineered systems operate with a human on-the-loop, if not in-the-loop. A pervasive history of incidents and accidents in aircraft flight management systems, air traffic control, automobile systems, biomedical systems and devices, and other application domains attest to the unaddressed challenges inherent in the design of human-cyber-physical systems (HCPS). Transparency, trust, situational awareness, workload, and other factors have significant influence on overall system performance when humans interact with automation.

Methods and tools for design of HCPS must account for the complexity of the human response, as well as challenges associated with accurate assessments of human state, incorporation of biometric data into the control loop, and effective communication and collaboration with the human. Interdisciplinary challenges arise in the need for modeling, simulation, and experimental validation.

This workshop seeks to envision the future of HCPS research. We aim to identify the most relevant challenges facing cyber-physical system researchers in HCPS, including (but not limited to) problems in human-robot interaction, societal-scale infrastructure, semi-autonomous vehicles and transportation systems, and neuro or mechanical assistive devices.

** Workshop Format **
The workshop format exploits interactive elements. After a brief introduction, invited speakers will give brief, 3-minute talks on their vision for the most significant research problems in HCPS. Participants will then break into small groups to discuss a series of open-ended questions. After re-joining, groups will quickly summarize novel findings to all participants, and organizers will provide concluding remarks.

Discussion groups:
- Humans and Robots will focus on questions motivated by problems in human-robot interaction, collaboration, and communication, neuromechanical systems, assistive and rehabilitative robotics, teleoperation, and neurological and biomedical modeling.
- Humans and Methods will focus on questions motivated by problems in verification and control, including
extension of formal methods to HCPS, synthesis of controllers for human-on-the-loop systems, and collaborative and shared control.

- Humans and Models will focus on questions motivated by problems in interface design, behavioral modeling, cognitive modeling, and large-scale simulation of realistic human behavior.

**Invited Speakers**
Nisar Ahmed
Ella Atkins
Matthew Bolton
Deniz Erdogmus
Lu Feng
Deepak Gopinath
Todd Murphey
Sanjit Seshia
Nitin Sharma

4. Book

4.1. Time-Critical Cooperative Control of Autonomous Air Vehicles

Contributed by: Antonio M. Pascoal, antonio@isr.ist.utl.pt
Title: Time-Critical Cooperative Control of Autonomous Air Vehicles, 1st Edition
Authors: Isaac Kaminer, António Pascoal, Enric Xargay, Naira Hovakimyan, Venanzio Cichella, Vladimir Dobrokhodov

eBook ISBN: 9780128099476
Paperback ISBN: 9780128099469
Imprint: Butterworth-Heinemann
Published Date: 4th August 2017
Softcover, 270 pages, $140.00


The advent of powerful embedded systems and communications networks has spawned widespread interest in the problem of cooperative motion control of multiple autonomous vehicles that will be engaged in increasingly demanding scientific and commercial missions.

Time-Critical Cooperative Control of Autonomous Air Vehicles presents a theoretical framework that addresses new and challenging multiple vehicle mission requirements, yielding control strategies for temporal coordination of networked autonomous agents that are subjected to tight spatial constraints.

The book gives the reader a thorough, integrated presentation of the different concepts, mathematical tools, and networked control solutions needed to tackle and solve a number of problems in the general area of time-critical cooperative control. In particular, it integrates algorithms for path following and time-critical coordination that together give a team of unmanned air vehicles (UAVs) the ability to meet simultaneously desired spatial and temporal specifications.

By including case studies in the control of fixed-wing and multirotor UAVs, the book effectively broadens the scope of application of the methodologies developed. The theoretical presentation and simulations are complemented with the results of actual flight tests with real UAVs.
The book is intended for researchers and practitioners from academia, research labs, commercial companies, and the aircraft industry with an interest in cooperative control of multi-agent systems and unmanned aerial vehicles.

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5. Journals

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Contributed by: John Coca, j.coca@elsevier.com

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Contributed by: Guillaume Mercère, guillaume.mercere@univ-poitiers.fr

CFP: Special Issue on System identification and control in biomedical applications in IEEE Transactions on Control Systems Technology
Paper submission deadline extension: March, 1 2018!!!
Contributions are invited for a special issue of the IEEE Transactions on Control Systems Technology devoted to the subject of System Identification and Control in Biomedical Applications. The purpose of this special issue is to document the current status of research in this field through an original collection of diverse,
high-quality papers. The emphasis is on the role control systems technology plays in advancing the state of the art in the challenges of applying feedback control in living organisms, with emphasis on biomedicine. Specifically, we aim at (i) pointing out theoretical and practical issues specific to bio-medical systems, (ii) bringing together solutions developed under different settings with specific attention to the validation of these tools in bio-medical settings using real-life data-sets and experiments, and (iii) introducing significant case studies. Topics of common interests include (but are not limited to) the following:

- theoretical and implementation challenges which arise in medical systems,
- control engineering tools for solving specific system design problems in medical technology,
- novel data-driven modeling techniques capturing the dynamics of biomedical systems, and accounting for intra- and inter-individual variability,
- evidence of successful projects in biomedicine enabled by system identification and control, such as the artificial pancreas and closed-loop anesthesia.
- application areas in healthcare and medical systems, such as assistive devices and therapeutics in medical rehabilitation, and mathematical models of infectious disease spread.
- prevention and treatment of chronic, relapsing disorders and illnesses such as cancer, diabetes, obesity, and HIV.

Only contributions that include significant results based on analysis of real data or experimental validation will be included. Papers must contain high-quality original contributions and be prepared in accordance with the IEEE Transactions on Control Systems Technology standards. Prospective authors should state in their cover letter and in the notes section of the submission site that their manuscript is intended for the special issue on “system identification and control in biomedical applications.” Submitted manuscripts must not have been previously published or be under review for possible publication elsewhere.

Time-line:

Manuscripts Due: March 1, 2018
Notification to authors (after the first round of reviews): July 1, 2018
Notification of final decision: November 15, 2018
Publication Date: May 2019

Authors can submit their manuscripts via https://mc.manuscriptcentral.com/tcst
Information for Authors prior to submitting a paper is available via http://www.ieeecss.org/publications/tcst/information-authors
All inquiries should be directed to G. Mercè you can contact via his email address: guillaume.mercere@univ-poitiers.fr

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Bayu Jayawardhana, University of Groningen, The Netherlands
Alexander Medvedev, Uppsala University, Sweden
Daniel E. Rivera, Arizona State University, Tempe, Arizona, USA
Caterina Scoglio, Kansas State University, Manhattan, Kansas, USA

5.15. CFP: Asian Journal of Control
Contributed by: Hassen FOURATI, hassen.fourati@gipsa-lab.fr
Special Issue on “Recent Advances on Data Fusion, Estimation in Navigation and Control”
Asian Journal of Control (AJC).

Navigation is a field of research that focuses on the process of determination/estimation of a vehicle’s position and velocity, as well as its attitude. It includes strategies for land, marine, aeronautic, and space navigation. Navigation is often associated with feedback control, which is a branch of engineering dealing with the design of systems to control the movement of body. Control refers to the manipulation of actuators, to execute guidance commands and maintain stability of the vehicle. Recent advancements are achieved in this field and concern the determination and (or) control of the states of the vehicle (position, direction, attitude, altitude, velocity, etc.). Some sub-problems are also considered and are related to actuators and sensors (saturation, bias, calibration, etc.). New advances in automatic control and sensors networks, related especially to estimation (linear and non-linear observers, Kalman filter (cubature, invariant, unscented, etc.), complementary filter) and control (adaptive control, sliding mode control, optimal control, etc.) lead to remarkable progress on guidance, navigation, and control strategies, for instance. The main goal of the proposed Special Issue is to summarize the theoretical and experimental results within this field and present different applications. We invite original articles that address state-of-the-art and new developments in the research on indoor and outdoor navigation and control strategies. The principal topics planned to be covered are as follows, but are not limited to:

* Dynamics modelling of body motions.
* New advances on state estimation via observers, Kalman filters, complementary filters, etc. for navigation.
* Novel control/optimization strategies of body motions via adaptive, sliding mode, optimal, distributed control, etc.
* Sensors networks and graphs for navigation and control.
* Data fusion from GNSS, INS, magnetometer, UWB/Wi-Fi, visual odometry, etc.
* Engineering system-based navigation and control.
* Location-based service navigation applications.
* Quality control theory for navigation systems.
* Applications on aerospace, aerial vehicles, marine vehicles, pedestrian, terrestrial vehicles navigation, etc.

Guest Editors:
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Important Dates:  
March 30, 2018 Deadline for submissions  
July 31, 2018 Completion of First Review  
October 31, 2018 Completion of Final Review  
November 30, 2018 Receipt of Final Manuscript  
March 1, 2019 Publication (Tentatively Vol. 21, No. 2)

How to submit:  
Potential authors are encouraged to upload the electronic file of their manuscript (in PDF format) through the journal’s online submission website: http://mc.manuscriptcentral.com/asjc.

If you encounter any submission problem, feel free to contact Prof. Li-Chen Fu.

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All submission should include a title page containing the title of the paper, an abstract and a list of keywords, authors’ full names and affiliations, complete postal and electronic address, phone and fax numbers. The contacting author should be clearly identified. For detailed submission guidelines, please visit: http://wileyonlinelibrary.com/journal/asjc.

6. Conferences

6.1. International Symposium on Multi-Robot and Multi-Agent Systems  
Contributed by: Lorenzo Sabattini, lorenzo.sabattini@unimore.it

Call for Participation: The International Symposium on Multi-Robot and Multi-Agent Systems (MRS 2017)

CONFERENCE ANNOUNCEMENT  
International Symposium on Multi-Robot and Multi-Agent Systems (MRS 2017)  
4-5 December 2017  
University of Southern California, Los Angeles, USA  
https://mrs2017.org/
The International Symposium on Multi-Robot and Multi-Agent Systems (MRS) is a new, single-track conference to be inaugurated at the University of Southern California, USA on 4-5 December 2017. MRS is an initiative of the IEEE RAS Technical Committee on Multi-Robot Systems (http://multirobotsystems.org/), and is technically co-sponsored by the IEEE.

The goal of the conference is to bring together researchers who are in the field of multi-robot systems both directly and indirectly, to cross-fertilize ideas. Typically MRS research is spread across large conferences, and this makes it difficult for MRS researchers to keep up to date on new findings and meet others in the area. The intent of the conference is to bring those researchers together with a high-quality symposium to highlight the best in the field. We would like to see the top advances in multi-robot and multi-agent research represented at MRS 2017.

The focus of the MRS conference is on all aspects of multi-robot and multi-agent systems. We envision papers from a broad range of topics in this area, ranging from design and analysis of algorithms to systems. All accepted papers will be presented within technical sessions. The program will also include inspiring keynote talks, tutorials, and a student poster session, in addition to social events to promote networking among peers.

We have a very selective and high-quality technical program (acceptance rate of 24%). Accepted papers can be seen at: https://mrs2017.org/

IMPORTANT DATES
31 October 2017: Early registration closes
27 November 2017: Regular registration closes
4-5 December 2017: The inaugural MRS conference

KEYNOTE SPEAKERS
Ayanna Howard (Georgia Tech)
Sonia Martínez (UC San Diego)
Brian Sadler (Army Research Laboratory, USA)

INVITED SPEAKERS
Vijay Kumar (University of Pennsylvania, USA)
Lynne Parker (University of Tennessee, Knoxville, USA)
Milind Tambe (USC, USA)

ORGANIZING COMMITTEE
Conference Chair: Gaurav Sukhatme (USC)
Junior Conference Chair: Nora Ayanian (USC)
Program Chairs:
Lorenzo Sabattini (University of Modena and Reggio Emilia, Italy)
Antonio Franchi (LAAS-CNRS, France)
Robert Fitch (University of Technology Sydney, Australia)
ICNPAA’s AIM
Mathematical Problems in Engineering, Aerospace and Science have stimulated cooperation among scientists from a variety of disciplines. Developments in computer technology have additionally allowed for solutions of mathematical problems. This international forum will extend scholarly cooperation and collaboration, encouraging the dissemination of ideas and information.

The conference will have a pool of active researchers, with a proper balance between academia and industry, as well as between senior and junior researchers, including graduate students and post-doctoral fellows. It is anticipated that such a balance will provide both senior and junior researchers an opportunity to interact and to have a wider picture of recent advances in their respective fields. The conference, especially, enables the setting up of new interdisciplinary research directions among its participants by establishing links with world renowned researchers, making possible joint international projects that will no doubt bring about fresh and innovative ideas and technologies in engineering, aerospace and sciences.

Co-Sponsored by: AIAA: American Institute of Aeronautics and Astronautics
IFIP: International Federation of Information Processing
American University of Armenia, Yerevan

The proceedings will be published by the American Institute of Physics.
AIP Conference Proceedings are indexed in:
• Astrophysics Data System (ADS)
• Chemical Abstracts Service (CAS)
• Crossref
• EBSCO Publishing
• Electronic Library Information Navigator (ELIN), Sweden
• Elsevier – SCOPUS
• International Atomic Energy Agency (IAEA)
• Thomson Reuters (ISI)

6.3. IFAC Conference on Analysis and Design of Hybrid Systems
Contributed by: Daniele Magazzeni, daniele.magazzeni@kcl.ac.uk
ADHS 2018 Call for Papers
The 6th IFAC Conference on Analysis and Design of Hybrid Systems
Oxford University, UK, July 11-13, 2018.
Website: http://www.cs.ox.ac.uk/conferences/ADHS18/
* Invited Session Proposals due: December 1, 2017
* Paper Submissions due: December 8, 2017
* Author notification: February 2018

The Organising Committee has the pleasure of inviting you to participate in the 6th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS 18) to be held at Oxford University, UK, July 11-13, 2018.
ADHS 2018 takes place as a workshop of the Conference on Computer Aided Verification (CAV 2018), and within FLOC 2018. The conference happens under the auspices of IFAC and is sponsored by the IFAC Technical Committee on Discrete Event and Hybrid Systems.

Contributions are invited in all areas pertaining to the engineering of hybrid systems including: modelling, specification, verification, analysis, control synthesis, simulation, validation, and implementation. We solicit papers and invited session proposals describing theoretical or applied research in the area. We also welcome papers describing tools, reporting case studies or connecting the cognate fields of control theory and formal verification.

Contributions are encouraged on applications of hybrid methods in various fields, such as automotive, avionics, energy and power, mobile and autonomous robotics, the process and manufacture industry, transportation and infrastructure networks, communication networks and networked control systems, cyber-physical systems, safety-critical systems, systems and synthetic biology.

Author Guidelines
* Regular papers: Regular papers can have a length of up to 8 pages at submission. Accepted papers are limited to 6 pages in the conference preprints and on-line proceedings.
* Invited session proposals: Invited sessions consist of 4 to 6 papers related to a common theme that fits within the scope of ADHS. An invited session proposal should contain a short description of the common theme as well as the list of papers in the session and their abstracts. The invited session organiser first has to submit the pdf file of the session proposal (without participating papers). The IFAC Conference Manuscript Management System then returns an acknowledgment that contains an alpha-numeric code for the proposed session. Subsequently, the organiser has to notify the contributing authors of their invited session code. The corresponding author of each paper then submits the paper on-line as an invited paper.
* Invited session papers: Invited session papers can have a length of up to 8 pages at submission. Invited session papers go through the same review process as regular papers. Accepted papers are limited to 6 pages in the conference preprints and on-line proceedings. Submission as an invited session paper requires the invited session code, which can be obtained from the session organiser.

Submission Instructions
* All papers submitted to ADHS 18 must be written in English and formatted in the standard IFAC 2-column format provided on the IFAC Conference Management System website (see the item "Support for Authors" above).
* For initial submissions, all regular and invited session papers are limited to eight (8) pages. The submission website will not permit longer papers to be uploaded.
* For the final upload all accepted and invited papers are limited to six (6) pages.
* For each accepted paper at least one of the authors should have a full registration in order to have the paper included in the preprints and the post-conference on-line proceedings at IFAC-PapersOnLine.
* Author’s kits with style (.cls) files for LaTeX are available from the submission website. Go to http://ifac.papercept.net and select "Support" for these files and example files, or directly go to the support page. Please do not change the formatting in any way.

Important Dates
Papers and Invited Session Proposals due: December 2017
Author notification: February 2018
Final papers due: April 2018
Early registration: TBA
6.4. IFAC Conference on Advances in Proportional-Integral-Derivative Control
Contributed by: Clara Ionescu, claramihaela.ionescu@UGent.be

The 2018 IFAC Conference on Advances in Proportional-Integral-Derivative Control will be held Wednesday through Friday, May 9-11, at the Het Pand Convent and Meeting Centre in the heart of Ghent, Belgium - unanimously declared as the most pleasant city of Belgium.

Proportional-Integral-Derivative (PID) controllers are undoubtedly the most employed controllers in industry. The PID 2018 is the sequel of PID 2000 in Terassa, Spain and PID 2012 in Brescia, Italy. These last two meetings proved to be great successes and have given a significant impulse in research direction of PID controllers, as seen in the last decade in literature reports. The PID2018 conference is a timely and necessary event fueled by the challenges and perspectives of Industry 4.0 context and the renewed role of the PID controller in this new environment. In addition to provide the current state-of-art in the field, the meeting aims at providing a perspective of the future requirements for PID controllers within Industry 4.0.

The technical program will comprise several types of presentations in regular and invited sessions, tutorial sessions, and special sessions along with workshops and exhibits. This event will feature a parallel track on Internet Based control Education workshop (more details on conference website).

For more details, please visit www.pid18.ugent.be

6.5. IFAC Symposium on System Identification
Contributed by: Håkan Hjalmarsson, hakan.hjalmarsson@ee.kth.se

CALL FOR PAPERS
18th IFAC Symposium on System Identification, IFAC SYSID 2018

The organizing committee has the pleasure of inviting you to participate in the 18th IFAC Symposium on System Identification, SYSID 2018. The event will take place in Stockholm, Sweden, July 9-11, 2018. This is a symposium organized by the IFAC Technical Committee on Modeling, Identification and Signal Processing.

DATES AND VENUE
July 9-11, 2018
Stockholm, Sweden
https://www.ee.kth.se/sysid2018

SCOPE
The scope of the symposium covers all major aspects of system identification, experimental modelling, signal
processing and adaptive control, ranging from theoretical, methodological and scientific developments to a large variety of application areas. To enhance the applications and industrial perspective of the symposium, participation by authors from industry is particularly encouraged.

It is the intention of the organizers to promote SYSID 2018 as a meeting place where scientists and engineers from several research communities can meet to discuss issues related to these areas.

**TOPICS**

Technical topics of the symposium include (but are not limited to)

- Identifiability
- Identification of linear, nonlinear, time varying, multivariable, hybrid and distributed systems
- Black-box modeling
- Linear and nonlinear time series analysis
- Estimation from spatio-temporal data
- State estimation and parameter tracking
- Robustness issues in identification
- Sequential Monte Carlo methods, including particle filtering
- Learning, data mining and Bayesian approaches
- Parameter estimation and inverse problems
- Modeling and identification of quantized systems
- Identification of control, adaptive control and data-based controller tuning
- Statistical analysis and uncertainty characterization
- Experiment design
- Model validation
- Sparse estimation and other types of regularization
- Identification and estimation in data rich (big data) and networked environments
- Monitoring and fault detection
- Applications
- Teaching identification.

**PROGRAM**

The scientific program will consist of plenary lectures, regular sessions, invited sessions and software sessions.

**IFAC YOUNG AUTHOR AWARD**

The award is meant to stimulate the involvement of young scientists and engineers in system identification, as well as to recognize top level contributions by the younger generation. To be eligible, the candidate must be the first and presenting author of the paper and at the time of the event must be of max 30 years old.

**SUBMISSION**

Authors are invited to submit draft papers with original results, either on theoretical approaches or on applied research. All authors should refer to the Preprints, Proceedings and Copyright Conditions prior to submitting their papers/abstracts. All manuscripts must be submitted electronically through the PaperPlaza Conference Manuscript Management System. Authors are advised to read PaperCept’s Getting Started Manual for Authors. Only PDF files compliant with the IFAC Publications Requirements are acceptable for publication. Details regarding the submission procedure can be found through the conference website: https://www.ee.kth.se/sysid2018

The conference program will only include papers selected on the highest standard by the IPC, and will be published in electronic form in the open access IFAC-PapersOnline series, hosted on the ScienceDirect web
site. All papers will be accepted with the understanding that the authors will present them at the conference.

**SPONSORS**
The symposium is co-sponsored by the IFAC Technical Committees on Adaptive and Learning Systems, Discrete Events and Hybrid Systems, Stochastic Systems and the IEEE Control Systems Society. ABB is industrial sponsor.

**IMPORTANT DATES**
December 8, 2017 Deadline for submission of regular papers and invited session proposals and papers.
April 6, 2018 Author notification. Registration opens.
May 9, 2018 Deadline submission of final versions of all papers.
May 16, 2018 Early registration closes.
July 9-11, 2018 Conference in Stockholm.

**COMMITTEES**
International Program Committee Chair: Marco Campi (University of Brescia)
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**6.6. International Conference on Methods and Models in Automation and Robotics**
Contributed by: Pawel Dworak, pawel.dworak@zut.edu.pl

23rd International Conference on Methods and Models in Automation and Robotics
27-30 August 2018
Amber Baltic Hotel, Miedzyzdroje, Poland

It is our great pleasure to invite You to participate in the 23rd International Conference on Methods and Models in Automation and Robotics, MMAR 2018 to be held in Miedzyzdroje, Poland, from August 27th to August 30th, 2018.

The Conference will be a good opportunity for highlighting the new results and directions of Automatic Control theory, technology and applications. As such, it mainly will concentrate on the following key points:
– emphasis on invited lectures including plenaries,
– industry participation promotion,
– attract young people to study and work in the field.

The participants of the 23rd 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 23rd International MMAR Conference in Miedzyzdroje, Poland.

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](http://www.mmar.edu.pl)
6.7. International Conference on Control, Decision and Information Technology
Contributed by: Achraf Jabeur TELMOUDI, telmoudi@ieee.org

Dear Colleagues,

By this email we invite you to submit a paper(s) to the 5th, 2018 International Conference on Control, Decision and Information Technology, CoDIT’18 (will be held from 10 to 13 April 2018 in Thessaloniki, Greece), webmail: http://codit2018.com

The link of the Call for Papers is available here: http://codit2018.com/Call_for_Papers_CoDIT2018.pdf

We inform you that at now we have programmed two special issues in journals with impact factor: http://codit2018.com/index.php/publications

We will program 3-4 other spacial issues in the different areas of CoDIT.

We ask you also to:
1. Forward the website and the CFP of CoDIT'18 to your colleagues, students and anyone interested.
2. Propose Special (or invited Session). !!! We are looking to organize focused special (or invited) sessions!

You can download the Special Session template through: http://codit2018.com/Template_Special_Session_CODIT18.docx

The Special Sessions proposals should be submitted to the Program co-chair (email: telmoudi@ieee.org and contact@codit2018.com) before November 6, 2017.

CoDIT’18 Sponsors: School of Mathematics - Aristotle University of Thessaloniki, Greece, IEE, the International Association for Hydrogen Energy (IAHE) & the International Institute of Innovation,Industrial Engineering and Entrepreneurship.

Registered and Presented papers will be submitted for inclusion into IEEE Xplore as well as other Abstracting and Indexing (A&I) databases.

Proceedings of all past editions of CoDIT are published through IEEE and indexed in: DBLP, Conference Proceedings Citation Index — Thomson Reuters, SCOPUS, Ei Compendex and IEEE. (the proceedings of CoDIT’17, will be available soon in IEEE Xplore)

Key Dates
Submission site opening: September 28 , 2017
Special session Proposal: November 6, 2017
Papers submission deadline: December 10, 2017
Acceptance notification: February 4, 2018
Final version due: February 22, 2018

With our best regards,

On behalf of the organizing committee

Prof. Achraf J. Telmoudi
Program co-chair of CoDIT’18
Steering Committee Chair of CoDIT

6.8. IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications
Contributed by: George Nikolakopoulos, geonik@ltu.se
14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA 2018)
July 2-4 2018, Hotel Radisson Blu, Oulu, Finland
http://mesa2018.org/

Objectives
The goal of the 14th ASME/IEEE MESA2018 is to bring together experts from the fields of mechatronic and embedded systems, disseminate the recent advances in the area, discuss future research directions, exchange application experience, and vision services they can enable. MESA2018 will especially bring out and highlight the latest research results and developments in the IoT (Internet of Things) era in the field of mechatronics and embedded systems. The conference site is in the heart of the city of Oulu, Hotel Radisson Blu Oulu. This year the conference has a specific focus, without limiting others, on the following Research Tracks/Symposia.

- Autonomous Systems and Ambient Intelligence
- Bio-Mechatronics - Medical Devices & Technologies
- Bio-Inspired Robotics and Biorobotics
- Cloud Computing and Emerging Technologies for Mechatronic and Embedded Systems
- Cyber-Physical Systems and Hybrid Systems
- Diagnosis and Monitoring in Mechatronic Systems
- Embedded Systems Infrastructure and Theory
- Fractional Derivatives and Their Applications
- Mechatronics and Industry 4.0
- Mechatronic Control and Electrical Vehicular Systems
- Mechatronics and Embedded Systems Applications
- Mechatronics and Embedded Systems Education
- Mechatronic and Embedded Systems for Renewable Energy Systems
- Mechatronic and Embedded Technologies in Intelligent Transportation Systems
- Mechatronics for Hazardous Environments
- Robotics and Mobile Machines
- Mechatronic and Embedded Systems for Agriculture 4.0
- Sensors and Actuators
- Small Unmanned Aerial Vehicle Technologies and Applications
- Virtual Prototyping in Mechatronics
- Micro-/Nano-Manipulation Technologies and Applications
- Disturbance Rejection Control

Paper Submission
Manuscripts should be at most six (6) pages in IEEE two-column format and must be submitted in PDF format via the conference web-site. Please use the LATEX style file or Microsoft Word template to prepare your manuscript (template available on http://bit.ly/2matQlB). Accepted, peer-reviewed papers will be published in the conference proceedings, EI indexed, and submitted to IEEE Xplore.

Important Dates
January 31, 2018: Full Paper Submission  
March 20, 2018: Notification of Acceptance  
April 30, 2018: Final Paper Submission  
April 30, 2018: Author Registration
7. Positions

7.1. PhD: University of Strathclyde, UK

Contributed by: Manuela L. Bujorianu, luminita.bujorianu@strath.ac.uk

PhD in Cyber-Security
The Maritime Safety Research Centre (MSRC), Department of Naval Architecture, Ocean and Marine Engineering, University of Strathclyde (Glasgow, Scotland, UK).

Job description
Safety and security are at the heart of sustainable marine operations. However, given the dynamic nature and the growing size and complexity of modern vessels, effective management of pertinent risks remains a serious issue. There has hardly ever been a year featuring no maritime accident, let alone incidents and near misses. However, growing prevalence of cyber-physical systems on-board along with new sensor and information technologies jointly known as Industry 4, bring new problems but also new opportunities for more effective risk management.

The Maritime Safety Research Centre (MSRC) of the University of Strathclyde is engaged in a number of high impact, industrial research with focus on on-board risk management with cyber-security being an integral part of it. A talented individual with the background in engineering or science is sought to fill an open PhD position in the topic of cyber-security. The main research focus will be security risk modelling and decision support, using both quantitative and qualitative approaches.

The successful candidate will be highly motivated, independent and yet an excellent team player, well organised, and result-oriented. As this work requires a multidisciplinary approach, a wide set of right skills and aspirations would be advantageous. The successful candidate would be offered to commence immediately.

We offer a vibrant, nurturing environment with excellent, well-established prospects for professional development. You will be engaged with various industrial partners across the world, in particular with the DNV GL and RCCL, and have a real opportunity to make it a better and safer place.

Required skills
You expected to be analytically minded, like to solve problems and have adequate background in computer science, mathematics or engineering (ICT, robotics, etc.). Background in Cyber-Security is highly preferable (e.g., a master thesis in the area, work experience), although candidates with limited or no background but with aspiration and relevant qualifications to work in this area are also invited to apply.

Working conditions
- Full-time employment as a PhD-candidate for a period of 3 years
- Funding for: UK/EU Students
- Funding amount: The funding covers Home-Scotland/EU student tuition fees and stipend (£4653 per year) in line with University rates (A student from the Rest of the UK (RUK) may be considered for a partial grant)

Information and applying
For more information about the project, please contact Professor Dracos Vassalos at d.vassalos@strath.ac.uk

Application closing date: 30 October 2017. Prompt application is advised, as this position is only available until a suitable candidate is found.

Back to the contents
Funded Ph.D. Positions at the New International Max Planck Research School for Intelligent Systems

The Max Planck Institute for Intelligent Systems and the Universities of Stuttgart and Tübingen are collaborating to offer a new interdisciplinary Ph.D. program, the International Max Planck Research School for Intelligent Systems. This new doctoral program will be accepting its new generation of Ph.D. students in Spring 2018 and will enroll about 100 Ph.D. students over the next six years.

This school is a key element of Baden-Württemberg’s “Cyber Valley” initiative to accelerate basic research and commercial development in artificial intelligence. We seek students who want to earn a doctorate while contributing to world-leading research in areas such as
- Computer Vision
- Machine Learning
- Robotics
- Haptics
- Control Systems
- Perceptual Inference
- Computer Graphics
- Micro- and Nano-Robotics

The participating faculty are Frank Allgöwer, Matthias Bethge, Michael J. Black, Andrés Bruhn, Peer Fischer, Andreas Geiger, Philipp Henning, Katherine J. Kuchenbecker, Hendrik Lensch, Georg Martius, Ludovic Righetti, Stefan Schaal, Bernhard Schölkopf, Metin Sitti, Alexander Spröwitz, Ingo Steinwart, Marc Toussaint, Ulrike von Luxburg, and Felix Wichmann.

Intelligent systems that can successfully perceive, act, and learn in complex environments hold great potential for aiding society. To advance human knowledge in this domain, we need doctoral students who are curious, creative, and passionate about research to join our school. Learn more at http://imprs.is.mpg.de

- All aspects of the program are in English.
- You may join our program in spring 2018.
- You will be mentored by our internationally renowned faculty.
- You will register as a university graduate student and conduct research for approximately three years.
- You can take part in a wide variety of scientific seminars, advanced training workshops, and social activities.
- Your doctoral degree will be conferred when you successfully complete your Ph.D. project.
- Our dedicated coordinator will assist you throughout your time as a doctoral student.

People with a strong academic background and a master’s degree in Engineering, Computer Science, Cognitive Science, Mathematics, Control Theory, Neuroscience, Materials Science, Physics, or related fields should apply.

We seek to increase the number of women in areas where they are underrepresented, so we explicitly encourage women to apply. We are committed to employing more handicapped individuals and especially encourage them to apply. We are an equal opportunity employer and value diversity at our institutions.

Admission will be competitive. If selected, you will receive funding via an employment contract, subject to the rules of the Max Planck Society and the two participating universities.

You can apply at http://imprs.is.mpg.de before midday CET on November 7, 2017. The selection interviews will take place between January 23 and January 26, 2018 in Stuttgart and Tübingen, Germany.
7.3. **PhD: KU Leuven, Belgium**

Contributed by: Jan Swevers, jan.swevers@kuleuven.be

PhD: KU Leuven Department of Mechanical Engineering, Belgium

The KU Leuven, Department of Mechanical Engineering is searching for a young, motivated and skilled PhD researcher with a strong background in numerical optimization, systems and control for a PhD position on "Real-time motion planning and fast MPC for complex mechatronic systems"

**RESEARCH PROJECT:** This project focuses on optimal motion control of complex mechatronic motion systems operating in changing environments. Changing environments require real-time motion planning, which is very challenging if system dynamics are complex and collision constraints change continuously. The overall project goal is to develop and experimentally validate an effective MPC approach for complex mechatronic systems that realizes optimal motion planning and control in real-time. This research will be supported by an MPC toolchain development in order to integrate all software in an open and modular fashion as to create a workflow from problem specification to deployment. All developments will be validated experimentally on academic set-ups (e.g. AGV or robot) in the lab.

**YOUR PROFILE:** An ideal candidate has a master degree in engineering (mechanical, control ...) and a strong background in control and dynamic system modelling, numerical optimization, programming (Matlab, C/C++), a strong interest in and experience with experimental work. Proficiency in English is a requirement. Applicants whose mother tongue is neither Dutch nor English must present an official language test report. The acceptable tests are TOEFL, IELTS, and Cambridge Certificate in Advanced English (CAE) or Cambridge Certificate of Proficiency in English (CPE). Required minimum scores are:

- **TOEFL:** 600 (paper-based test), 100 (internet-based test)
- **IELTS:** 7 (only Academic IELTS test accepted)
- **CAE/CPE:** grade B or A.

**OUR OFFER:** A fully funded PhD position for four years at the KU Leuven. KU Leuven is among the top European universities and a hub for interdisciplinary research in the field of optimization. You will be embedded in the MECO research team of the department of Mechanical Engineering (www.mech.kuleuven.be/meco).

**APPLICATION PROCEDURE:** To apply, send email to jan.swevers@kuleuven.be. Subject of your email should be: 11MECHATRONICS MPC PhD application”. Deadline: DECEMBER 31, 2017! Include:

- an academic CV,
- a Pdf of your diplomas and transcript of course work and grades,
- statement of research interests and career goals (max. 2 pages),
- sample of technical writing (publication or thesis),
- contact details of at least two referees,
- proof of English language proficiency test results.
The University of Agder (UiA) invites applications for a full-time, fixed-term position as PhD Research Fellow in Mechatronics for a period of three years, at the Department of Engineering Sciences, Faculty of Engineering and Science. The position is located in Grimstad, Norway. The starting date is negotiable but should be not later than 1st April 2018.

The Department of Engineering Sciences has more than 100 employees in scientific positions and more than 1500 students at all levels. The research is conducted within three main fields – Renewable Energy, Mechatronics, and Construction, Plan and Design, while this position is associated with Mechatronics Section. The PhD project is with focus on robust estimation and compensation of disturbances in highly dynamic mechatronic systems and directly linked to the H2020-MSCA-RISE project Clover (https://clover-project.eu).

RESEARCH WORK AND CONTEXT

The Clover project is based on the R&D and training in three interfacing topics: “mechatronic chassis systems of electric vehicles”, “mechatronic-based grid interconnection circuitry”, and “offshore mechatronics for renewable and clean energy production”. The multidisciplinary character of the Clover project aims at providing synergies from different competencies and close intersectional collaboration between the project partners with their specific expertise and research focus.

The PhD Research Fellow contribution to the Clover project at UiA will focus on the development of case studies with demonstrators in the fields of (i) motion control and actuator systems for offshore mechatronics, (ii) energy harvesting in mechatronic chassis systems, both in collaboration with the project partners. The project tasks include, but are not limited to, dynamic systems modeling, HW and SW co-design, detection and estimation algorithms, control design, implementations, application scenarios tests, and others. It is expected that the candidate undertakes significant development work in the Mechatronics laboratory at UiA, and in the accessible laboratory facilities of Clover partners during the Secondments.

QUALIFICATION AND REQUIREMENTS

The applicant should hold a master’s degree either in mechatronics, robotics, mechanical engineering, electrical engineering or another related field. The position places great demands on the applicant’s capacity for independent goal-oriented work, ability to concentrate and attention to detail. Applicants will be assessed on the basis of academic background and results, and any previous research and development works. Relevant industrial experience, personal suitability, and good teamwork skills will be also taken into account.

The successful candidate must have interest and prior experience in at least two of the following research areas:

- Robust control systems, sliding mode controllers
- Nonlinear system modeling and analysis
- Energy harvesting, smart material sensors and actuators
- Motion control technologies and applications

The following requirements should be met:

- Good programming skills in Matlab/Simulink, C++.
- Experience with DSP control boards like dSpace, microcontrollers, or similar.
- Good grasp for complex dynamical systems design and analysis.
- Experience of participation in applied R&D projects is advantageous.

The applicant must also have personal suitability, proactive attitude, good teamwork skills, scientific ambition, motivation and strong interest in cutting-edge research, good analytical and problem-solving skills, and be flexible and willing to participate in multidisciplinary work carried out within the scope of the Clover project.

The following admission requirements apply to the PhD Programme in Mechatronics (PhD Programme at the Faculty of Engineering and Science, specialisation in Mechatronics/Renewable energy) at UiA:
- The average grade for courses included in the bachelor’s degree (or equivalent) must be C (or equivalent) or higher
- The average grade for courses included in the master’s degree (or equivalent) must be B (or equivalent) or higher
- The master’s thesis (or equivalent) must have a grade B (or equivalent) or higher when the candidate is admitted to the PhD programme
- The successful applicant must have written and spoken English proficiency
- The position places great demands on the applicant’s capacity for independent goal-oriented work, ability to concentrate as well as good communication and team-work skills in cooperation with research colleagues both inside and outside the university.

REMUNERATION and APPLICATION

Full information about this position can be found under https://www.jobbnorge.no/en/available-jobs/job/143486/phd-research-fellow-in-mechatronics

Closing date: 15.11.2017

For further information please contact Associate Professor Michael Ruderman, e-mail michael.ruderman@uia.no or Assistant Head of Department Tom Viggo Nilsen, e-mail tom.v.nilsen@uia.no.

7.5. PhD: Delft University of Technology, the Netherlands

Contributed by: Ton van den Boom, a.j.j.vandenboom@tudelft.nl

The Delft Center for Systems and Control at Delft University of Technology, the Netherlands, announces a vacancy for a PhD position within the project "Model Predictive Control of Uncertain Switching Max-Plus Linear Systems".

Project Description:
The switching max-plus-linear (SMPL) system description is a powerful modeling tool for many applications that involve scheduling and synchronization of cyclic discrete-event systems, such as manufacturing systems, traffic networks, printers, legged robots, queuing systems, and array processors.
The switching mechanism of the SMPL system describes the switching of the SMPL system from one mode into another. In each mode the system is described by a max-plus-linear state equation and a max-plus-linear output equation, where a max-plus linear equation is an equation that is nonlinear in the conventional algebra, but linear in the so-called max-plus algebra. In each mode we have different system matrices, which means that in SMPL systems the routing of the events, the event order, and/or synchronization may change due to uncertain events, state behavior or due to control actions.
The project aims at developing new insights in the system-theoretical properties of SMPL systems in the presence of uncertainty, and at using this knowledge to develop new model predictive controllers for different
types of uncertain SMPL systems. Uncertainty in the system parameters may occur when processing times (production times, transport times) are uncertain. Uncertainty in the switching may happen when routes are uncertain or process failures occur.

The research will require the use of skills in the fields of control of hybrid systems, max-plus linear algebra, graph theory, and stochastics.

Requirements:

Applicants should have the following qualifications:

- An MSc degree in systems and control, applied mathematics, mechanical engineering, electrical engineering, computer science, or a related field.
- Basic knowledge of control systems theory (this requirement maybe waived if the candidate is particularly skilled in mathematics).
- Strong analytical skills and ability to work at the intersection of several research domains, in particular control systems theory and mathematics.
- Basic programming skills in Matlab are expected.
- Good command of the English language and communication skills are required.

Conditions of employment:

We offer the opportunity to do scientifically exciting research in a multi-disciplinary research group. The appointment is for a period of 4 years. As an employee of the university you will receive a competitive salary: between approx. EUR 2222 (first year) and EUR 2840 (4th year) gross per month based on a full-time appointment, as well as excellent secondary benefits in accordance with the Collective Agreement (CAO) of the Association of Universities in the Netherlands (VSNU). Assistance with accommodation can be arranged.

Application procedure:

Submit your application to Irina Bruckner, (application-3mE@tudelft.nl) and refer to vacancy number 3ME17-57.

Include a cover letter along with:

1. a detailed curriculum vitae,
2. a separate motivation letter stating why the proposed research topic interests you, names and contact of referees, and other information that might be relevant to your application.
3. academic transcripts of both your BSc and MSc degrees.
4. publications (if any) and (an abstract of) your MSc thesis.

Application Deadline: December 1st, 2017

For questions you may contact Dr. Ton van den Boom (a.j.j.vandenboom@tudelft.nl).

7.6. PhD: Delft University of Technology, the Netherlands

Contributed by: Peyman Mohajerin Esfahani, P.MohajerinEsfahani@tudelft.nl

PhD vacancy at Delft Center for Systems and Control

The Delft Center for Systems and Control at Delft University of Technology (TU Delft), the Netherlands, announces an open PhD position within the Networked Cyber-Physical Systems research group in the Delft Centre for Systems and Control. This group aims at improving our understanding and control of cyber-physical systems composed of a large number of interconnected and embedded components. Such networks of systems may contain a large number of sensors and actuators that generate a tremendous amount of data to be processed in real-time in order to increase the autonomy of the participating entities, or accomplish...
a high level of automation. The scientific challenges currently pursued by the team are of multidisciplinary nature and spanning over several application domains such as: distributed and cooperative robotic networks, multi-vehicle systems, aeronautical, space, and automotive applications, thermal-, electricity-, and water-networks and smart energy systems.

Project description
The PhD project focuses on the development of control theoretic tools by advancing algorithmic methods in the emerging field of Data-driven Optimization and Control. The emphasis will be on the performance and computational aspects of the decision mechanism in the presence of environment uncertainties (stochastic systems) and information constraints (distributed nature). The developed methods will be applied to problems motivated by security and privacy of networked cyber-physical systems.

Requirements
• MSc degree in Systems and Control, Operations Research, Electrical Engineering, or a related field.
• Strong mathematical skills, and ability to work at the intersection of several technical research domains, in particular Control, Optimization, and Machine Learning.
• Good command of the English language and communication skills.

Conditions of employment
The TU Delft offers a customizable compensation package, a discount for health insurance and sport memberships. Flexible work schedules can be arranged. An International Children’s Centre offers childcare and an international primary school. Dual Career Services offers support to accompanying partners. Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities.

As a PhD candidate you will be enrolled in the TU Delft Graduate School. The TU Delft Graduate School provides an inspiring research environment; an excellent team of supervisors, academic staff and a mentor; and a Doctoral Education Programme aimed at developing your transferable, discipline-related and research skills. Please visit http://graduateschool.tudelft.nl/ for more information.

Information and application
• a detailed CV including contact information of three references
• a brief motivation letter (1-2 pages) stating research interests and vision
• academic transcripts of (under)graduate coursework

Please submit your application or inquiries regarding the position to Prof. Tamas Keviczky (T.Keviczky@tudelft.nl) or Prof. Peyman Mohajerin Esfahani (P.MohajerinEsfahani@tudelft.nl).

7.7. PhD: University of Georgia, USA
Contributed by: Javad Mohammadpour Velni, javadm@uga.edu

There is an opening in Complex Systems Control Lab at Univ. of Georgia for a PhD student with strong background in optimization theory with the desired start date of Fall 2018. Prior experience in graph theory or multi-agent systems control is desired. For more information about the position, please contact Dr. Velni at javadm@uga.edu.

7.8. PhD: Louisiana State University, USA
Contributed by: Michael Malisoff, malisoff@lsu.edu

PhD Research Assistant Positions at Louisiana State University:
One or more graduate Research Assistant positions are available in systems and controls, as part of Prof. Malisoff’s US National Science Foundation Directorate for Engineering funded research projects. Prof. Malisoff will consider applicants from all universities, but students from outside LSU must first be granted admission to LSU before being eligible to work on the research projects, and international students may first need to obtain visas. For the first year, the selected students will receive financial support including a full tuition remission, with continued availability of this support for up to 3 years contingent on satisfactory progress and the availability of funds.

The positions are for students wishing to earn PhDs from LSU, either in engineering or math. For math PhD students, no background in engineering is required. Engineering PhD students could be co-advised by Prof. Miroslav Krstic and by Prof. Malisoff. Applicants should send malisoff@lsu.edu their CV as a .pdf file with contact information for 3 references, a plain text statement of interest, and a .pdf with a list of courses taken. Applicants may be considered for an RA position starting as early as Spring 2018. Minorities and women are strongly encouraged to apply.

For more information about Prof. Malisoff’s current projects and his research group and publications, see https://www.math.lsu.edu/ malisoff/ or https://nsf.gov/awardsearch/advancedSearchResult?PILastName=malisoff.

7.9. PhD: CNRS, France
Contributed by: Christophe Prieur, christophe.prieur@gipsa-lab.fr

Two PhD positions are open in Grenoble, France. One in automatic control and one in signal processing.

Project description:
Attitude and position estimation as well as tracking is a crucial problem that occurs in a wide range of applications. It has attracted continuous attention in the last decades in satellite positioning, radar, robotics, to name just a few. This project suggests to use inertial, magnetic and vision sensors to estimate the attitude and the position of the body, and also the magnetic heading. This is in collaboration with an industrial partner.

Subject details:
Please visit:
http://www.gipsa-lab.grenoble-inp.fr/ christophe.prieur/positions.html
Deadline:
As soon as possible. The position may be closed as soon as a competent candidate has applied.
More information:
Please do not hesitate to send a message to christophe.prieur@gipsa-lab.fr

7.10. PhD: University of Houston, USA
Contributed by: Karolos Grigoriadis, karolos@uh.edu

PhD research assistantships are available in the Department of Mechanical Engineering at the University of Houston for Ph.D. studies in the areas of dynamic systems identification and control with applications to mechanical, energy and biomedical systems. Specific areas of interest include: (i) the modeling and control of combustion engines, (ii) the identification and control of the human physiology and response to drugs, and (iii) the real-time monitoring and control of subsea oil production systems.
Applicants are expected to have strong mathematical background and knowledge of modern control systems theory and applications documented by publications and MS studies on relevant topics. The Houston metropolitan area offers ample opportunities for interaction with collaborating industry and the Texas Medical Center. Applications from qualified students are invited for Spring and Fall 2015.

For more information please contact: Prof. Karolos Grigoriadis, Department of Mechanical Engineering, University of Houston, E-mail: karolos@uh.edu

7.11. PhD: Illinois Institute of Technology, USA
Contributed by: Baisravan HomChaudhuri, bhomchaudhuri@iit.edu

One research assistant position available within the Dynamic Systems and Control research area of Mechanical Materials and Aerospace Engineering department of Illinois Institute of Technology’s Armour College of Engineering. The student will work under Dr. Baisravan HomChaudhuri in the general research area of optimal control, (stochastic) model predictive control, stochastic systems, semi-autonomous systems control, and their applications in robotics and cyber physical systems (e.g., connected vehicle systems, power systems).

Successful candidates would have a strong background in optimization and controls, model predictive control, and probability theory. Candidates with knowledge and background in stochastic model predictive control, and/or system verification methods would be preferred. Applicant to this position should already have completed (or will soon complete) a Master’s degree in systems and controls.

Expected Start Date: Fall 2018.

Requirement:
We are seeking an outstanding and enthusiastic researcher who has the expertise and/or interest in one or more of the following areas:
- Optimization, optimal control, model prediction control
- Probability theory, stochastic optimal control
- System verification methods
- Robotics, automotive engineering, and connected vehicles

For more information about this position, contact Dr. Baisravan HomChaudhuri at bhomchaudhuri@iit.edu. Interested candidates can email their CV to bhomchaudhuri@iit.edu.

7.12. PhD/PostDoc/Researcher: Czech Technical University, Czech Republic
Contributed by: Michael Sebek, michael.sebek@cvut.cz

Ph.D. student, postdoc, and junior researcher vacancies

Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University in Prague announces 8 new positions open for Ph.D. students, postdocs and junior researchers in the areas of networked control systems, computer vision and machine learning for robotics.

Project description
The successful candidates will carry out research within the project Robotics for Industry 4.0, whose aim is to accelerate fundamental research in several disciplines underlying the field of collaborative robotics. The project fosters a national partnership with the Brno University of Technology and University of West
Bohemia and a strategic international partnership with the TU Delft Robotics Institute in the Netherlands.

Research topic
In particular, two positions are open in the group of Professor Michael Šebek dealing with the area of networked control systems including systems of systems, multi-agent robotics and human interactions with complex networks. The other openings cover computer vision and machine learning for robotics.

What do we ask?
We are looking for candidates with degrees in systems and control, applied mathematics, artificial intelligence or machine learning, and with a keen interest in inter-disciplinary research. Experience in robotics and computer vision is an asset. The candidate must have strong analytical skills and must be able to work at the intersection of several research domains. Fluent English language is required, as well as excellent communication skills.

What do we offer?
We offer the opportunity to do challenging scientific research in a multi-disciplinary team. The appointment will be for a period of up to 3 years. As an employee of the university, you will receive a competitive salary: up to CZK 56,000 gross per month, based on a full-time appointment and depending on the candidate’s qualifications and performance.

Research environment
The Czech Technical University (CTU) in Prague is one of the largest and oldest universities of technology in Europe and is in the top 5% of the best universities in the world (QS World University Rankings). The Czech Institute of Informatics, Robotics, and Cybernetics (CIIRC) was founded by CTU in July 2013 as a research and teaching institute and a center of excellence in the Czech Republic. A unique, modern research infrastructure is being created within CIIRC, including an extensive, fully equipped testbed for Industry 4.0 which is being developed in close cooperation with leading industrial companies such as Siemens and Škoda Auto. CIIRC also hosts the Centre for Applied Cybernetics which serves as a national platform for cooperation in fields requiring a strong interdisciplinary approach, e.g., modeling and control of production systems, power distribution and conversion, intelligent human-machine interaction, machine perception and image analysis in industrial applications, and optimization instruments for industrial informatics.

Living in Prague
Prague is the capital of the Czech Republic and one of the most beautiful cities in the world. It boasts a rich history and culture, long tradition of university education and scientific research, and dynamic economy. It has the highest Quality of Living Worldwide ranking among the eastern European cities while the cost of living in Prague is about one-half of the living costs in Amsterdam, Paris or Munich.

How to apply?
Submit your application to Professor Michael Šebek (email: michael.sebek@cvut.cz) or to Prof. Vaclav Hlavac (email: hlavac@ciirc.cvut.cz). Put “Rob4Ind4.0 – JR” in the subject. Include a cover letter along with detailed curriculum vitae, a separate motivation letter stating why the proposed research topic interests you, electronic copies of your top three publications, the summary of your Ph.D. thesis, names and addresses of three reference persons, and other information that might be relevant to your application.
We invite applications for one post-doctoral position in 3D perception and prediction of pedestrians for improved decision-taking in autonomous driving and active safety.

At the Mechatronics and the Computer Vision Groups of the Electrical Engineering Department, we are engaged in both fundamental and applied research related to intelligent transportation systems. Ongoing research projects focus on the design and the experimental validation of algorithms for autonomous vehicles operating in complex urban environments. This includes both situation awareness using cameras and other sensory information in connection with models to predict the surroundings, as well as developing control algorithms using the predictions. Our research is, where possible, validated through experiments on full-scale vehicles, and often, in collaboration with industrial partners.

The candidate will join a team of postdocs and PhD students engaged in neighboring research, with the main objective of developing algorithms to control automated vehicles focusing on issues like safe and efficient transport.

Application deadline: 30 November 2017

More information and application procedure at:
http://www.chalmers.se/en/about-chalmers/vacancies/?rmpage=job&rmjob=5418

For questions, please contact:
Fredrik Kahl, Computer Vision Group, fredrik.kahl@chalmers.se, tel: +46 31 7725057
Jonas Sjöberg, Systems and Control, jonas.sjoberg@chalmers.se, tel: +46 31 7721855

7.14. PostDoc: IA IMT Lille Douai, France
Contributed by: Stephane Lecoeuche, stephane.lecoeuche@imt-lille-douai.fr

Experimental modelling of building’s thermal and energy behavior in the context of building rehabilitation
A postdoc position is offered at IA IMT Lille Douai as a part of INTERREG 2 Seas SHINE project,
Duration: 12 months of contract,
Starting Date: November 2017

We are looking for a candidate with a strong scientific and mathematical background and a PhD in one of the following fields: control theory, system identification, building modelling. Knowledge of Energy Performance Certificate (EPC) and Building modelling is a plus.

Context and motivation
Face the increasing energy use, fluctuating prices, fuel poverty, numerical methods to improve the energy efficiency (thermal performance) are rising. Residential dwellings have a major part in our GHG emissions, so the major reductions are possible by retrofitting homes and directly engaging with communities to reduce their energy usage. Therefore, to tackle barriers for owners/tenants to renovate their homes, SHINE aims at delivering and evaluating a range of energy reduction and property renovation projects in different housing sectors. Renovating by the district approach increases the critical mass and makes a long lasting social embedding possible. By working directly with a large database gathering by the housing type, the energy consumption could also be reduced. Our objective is to develop tools and methods capable of efficiently exploiting this large amount of data in order to improve the performance of models in the context of improving the energy efficiency and helping the retrofitting of the buildings. These processes should be showing the possibilities and benefits of new approaches for rehabilitation or facility management.

Contribution and work to be achieved during this post-doc
• State of arts:
The candidate will study the feasibility of using switching model identification technique to evaluate the building’s thermal behavior and estimate its energy performance. Therefore, the first task will consist in achieving a survey related to experimental modelling works in the context of energy efficiency improvement, domain with an increasing amount of recently published papers.

- Data collection and analysis:
The second task will be to explore SHINE project case-studies and to perform measurement campaigns (in Douai, in Boulogne-sur-Mer) (or, for useful reason, building energy simulations) with different configurations (shading, heating, air conditioning, occupancy . . . ). So, this task consists of the implementation of the instrumentation, data collection and processing, site visits. We look forward to define the necessary measurements and information on the case studies to facilitate their modeling and understanding the thermal and energy behaviors on a global scale with various configurations. As task deliverable, a generalized smartmetering architecture is expected to be deployed for a variety of housing types.

- Identification and evaluation of the impact of the rehabilitation solutions:
Using building experimental modeling approach, the candidate will investigate, in a third and main task, a data-driven methodology to predict EPC in existing buildings, before and after renovation, considering a variety of building functioning modes, purposes, and occupancies. So the candidate should realize sensitivity and uncertainty analysis to evaluate the robustness of the prediction considering a variety of behaviors and uses. Sociological surveys, realized by others partners, could be also useful for a better understanding of the behavior diversity and the factors affecting the uses (client and manager). This methodology will be evaluated through other experiments done by other SHINE partners.

- Identification and optimization of the solutions:
During this task, the evaluation of the EPC prediction solution according to different scenarios is driven. This could lead to discussions on data selection, definition and construction of scenarios. In other words, this study will help to design building use scenarios and to evaluate rehabilitation and renovation impacts.

Profile
The candidate must hold a PhD Thesis in Building modelling, Automatic Control, Model estimation. The candidate must demonstrate scientific expertise and abilities to implement solutions in one or more areas of: model estimation, system identification, building modelling, CFD modelling.

Contact
Dr. Lala RAJAOARISOA - Department of Informatics and Automatic Control Tel: +33 3.27.71.23.38 Mail: lala.rajaoarisoa@imt-lille-douai.fr
Pr. Stephane LECOEUCHE - Department of Informatics and Automatic Control Tel: +33 3.27.71.24.45 Mail: stephane.lecoeuche@imt-lille-douai.fr

7.15. PostDoc: New York University, USA
Contributed by: Quanyan Zhu, qz494@nyu.edu

Postdoc Position
The Laboratory for Resilient and Agile Complex Systems (LARX), directed by Prof. Quanyan Zhu, at the Department of Electrical and Computer Engineering, New York University, has a postdoc position on the topic of developing the theory and applications for networked control systems and the Internet of things. Post-doctoral applicants should have a theoretically-focused PhD in a related area.

Applicants should have a strong background in mathematics, optimization or control, well-developed analytical and problem-solving skills, outstanding academic track record, and excellent English communication
skills.
For interested applicants, please send your CV and two selected research papers. Please submit the applications or inquiries regarding the position to Prof. Quanyan Zhu, by email qz494@nyu.edu

7.16. PostDoc: Nanyang Technological University, Singapore
Contributed by: Ehsan Mihankhah, ehsanmihankhah@yahoo.com

A postdoctoral research fellow position is available in Nanyang Technological University

Job Description:
A postdoctoral research fellow with a background in control and dynamics (of automobiles preferably) for a project aimed at fault and attack detection in critical sensors and systems of an autonomous car is required. The successful candidate will work with Professor Danwei Wang and a group of Research Fellows, Research Associates and PhD/Masters/Bachelors students in the school of EEE at Nanyang Technological University, Singapore.

Major responsibilities include
• Design and development of methodology and architecture for detection of malicious intrusion and malfunctions of safety and critical sensors, actuators and control systems of autonomous vehicles.
• Filter design (e.g. Kalman filter) for sensor fusion with application to failure detection.

The applicant must
• Have completed/near completion of his/her Ph.D in electrical engineering, control engineering, signal processing or other related fields
• Be willing to collaborate with other team members and help and guide junior researchers on a regular basis
• Be comfortable with software development for mobile robotic systems/autonomous vehicles or be comfortable to learn the respective software systems
• Have Good verbal and written communication skills in English

Preference will be given to applicants with following additional skills and experiences:
• Extensive C/C++/ Python/MATLAB programming skills
• Familiar with ROS programming terminology
• Experience of working with mobile robotic sensors and systems

Application Procedure:
Interested candidates please email your CV/resume together with a cover letter to:
Professor Danwei Wang: edwwang@ntu.edu.sg

Initial contract is for one year with a possibility of extension up to a maximum of two years. An attractive remuneration based on the experiences and qualifications and a standard benefit package competitive with the industry will be provided for the successful applicant.
Only shortlisted candidates will be notified for interview.

7.17. PostDoc: UC Berkeley, USA
Contributed by: Somayeh Sojoudi, sojoudi@berkeley.edu

Two postdoctoral positions are available in the Departments of Electrical Engineering & Computer Sciences and Mechanical Engineering at the University of California, Berkeley. The research topics are in the broad areas of machine learning, optimization theory and control systems.
The preferred start date is anytime before March 2018. To apply, please send a cover letter describing your research interests and background, CV, three sample publications, and the contact information of two references to Prof. Somayeh Sojoudi (sojoudi@berkeley.edu).

Please check out the website http://eecs.berkeley.edu/sojoudi for more details.

7.18. PostDoc: CentraleSupelec, France
Contributed by: Stanislav Aranovskiy, stanislavaranovskiy@centralesupelec.fr

A post-doctoral position is available in the area of advanced control for energy management in CentraleSupelec. The proposed project considers the problem of sustainable energy management in smart buildings. The expected tools to solve the problem will be advanced methods of modern control theory including (but not limited to) nonlinear and adaptive control, observers design and model predictive control. The project may consider not only energy management in buildings but the integration of these buildings into smart grids as well.

The position is for a period of 18 months starting from Spring 2018. It is required that candidates have spent at least 12 months outside France during the last 3 years. Applicants are required to have a Ph.D. in control or related areas of engineering; a background in one of the following areas is expected: advanced control, energy management, smart grids.

Applications (motivation letter, CV, list of publications) should be addressed to Stanislav Aranovskiy (stanislavaranovskiy@centralesupelec.fr) before 01 Dec 2017.

*Please specify the following text on the subject: SADI Postdoc application.

7.19. PostDoc: Boston University, USA
Contributed by: Sean Andersson, sanderss@bu.edu

Opening: Postdoctoral research associate

Description:
The Andersson Lab at Boston University has an open position for a talented and highly motivated postdoctoral research associate with outstanding research credentials to work on an NIH-funded project in the area of single particle tracking.

The project aims to bring tools from signal processing and systems and control to the analysis of single particle tracking data to create algorithms that jointly estimate particle trajectories and motion model parameters using a framework that allows for complex motion and observation models, including camera-specific descriptions, depth-dependent point spread functions, and dynamics that switch between different models.

For further details, please see www.bu.edu/anderssonlab

Requirements:
The successful applicant will have the necessary background to develop, implement, and apply the analysis techniques. Ideal candidates should have experience and expertise in at least some of the following areas:

- Systems and control
- Optimal estimation theory
• Filtering and signal processing
• Coding (Matlab, C++)

Familiarity or even expertise in some the following areas would be advantageous:
• Optics and fluorescent microscopy
• Single particle imaging and tracking
• Mathematical modeling and analysis, particularly using Markov processes or more general stochastic processes

To apply, please send a statement of interest, a c.v., and the names of three references to Prof. Sean Andersson (sanderrs@bu.edu).

7.20. PostDoc: FAPESP, Brazil

Contributed by: OSWALDO LUIZ DO VALLE COSTA, oswaldo@lac.usp.br

A Post-Doctorate Fellowship is opened for researchers who have completed his/her PhD less than seven years ago to develop research in Brazil. Candidates must hold a PhD-Doctorate degree related to at least one of the next topics: Control and Systems Engineering; Automation; Robotics; Electrical Engineering; Electronics; Mechatronics; Mathematics (pure or applied); Statistics. Candidates holding a PhD in any of the aforementioned topics are invited to apply. The successful applicant will be required to live in the city of São Paulo, Brazil, during the fellowship period. Our research facilities are located at the Universidade de São Paulo, São Paulo, Brazil.

The selected candidate will receive a Post-Doctorate Fellowship from FAPESP, Brazil (R$ 7,174.80 per month; it is equivalent to US$ 2,200.00). The fellowship is awarded for 12 (twelve) months and can be renewed for another 12 months. The position requires a good-level of written and oral communication skills in English.

The aim of the project is to advance the knowledge on control problems for Markov jump linear systems (MJLS) considering the case in which the Markov process takes values in a general state space. Problems related to the so-called hidden Markov case will also be investigated, as well as real practical application on fault tolerant control problems. The appointed candidate is expect to build a bridge between theory and applications. The selected candidates will work under the supervision of Prof. Oswaldo Luiz do Valle Costa (USP, Brazil).

The selection process will consist of the candidate’s CV analysis (first step) and an interview via Skype with the selected candidates (second step). The result of the first step of the selection process will be informed by email. The interview will be arranged with the candidates by email. Candidates should submit their documentation by email at "oswaldo@lac.usp.br". The required documentation for application are a cover letter in which the applicant justifies his or her interest in the proposed topics and an updated academic Curriculum Vitae. The deadline for applications is November 17, 2017, but applications will be accepted until the position is filled.

Starting time (tentative): March 01, 2018.

7.21. PostDoc: Georgia Institute of Technology, USA

Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Post-Doctoral Position in Stochastic Games at Georgia Tech
A postdoctoral position is available immediately with the Dynamics and Control Systems Laboratory at the School of Aerospace Engineering at Georgia Tech in the general area of stochastic control and stochastic games with application to multi-agent systems. The successful candidate should have a PhD degree in Engineering, Mathematics or Computer Science, with a demonstrated record of publications in this area. The appointment will be initially for 12 months with a possible extension for up to 36 months. The position is available immediately.

Interested candidates should submit an extended resume, along with a list of publications and the names of three references to: Prof. Panagiotis Tsiotras, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0150 USA, Email: tsiotras@gatech.edu

7.22. PostDoc: KAUST, Saudi Arabia
Contributed by: Jeff Shamma, jeff.shamma@kaust.edu.sa

Postdoc: King Abdullah University of Science and Technology (KAUST)
The Robotics, Intelligent Systems, and Control (RISC) lab at KAUST is seeking postdoctoral researchers in the areas of multi-agent systems, autonomy, and distributed robotics. The RISC lab is engaged in a variety of projects involving distributed decision architectures with a network of autonomous agents and/or human actors. Current topics include aerial swarms, self-assembly, crowd monitoring, and smart grid. For more information, please visit https://risc.kaust.edu.sa/

We seek researchers with backgrounds in foundational areas (e.g., decision and control, game theory, machine learning) as well as prior experience with robotics platforms and testbeds. Prospective candidates should contact Jeff Shamma (jeff.shamma@kaust.edu.sa) with (i) a current CV; (ii) a brief statement of prior research experience and future interests; and (iii) contact information for 3 references.

For more information about life at KAUST, please visit https://www.kaust.edu.sa/en/live-work

7.23. PostDoc: KTH, Sweden
Contributed by: Henrik Sandberg, hsan@kth.se

Postdoc: KTH Royal Institute of Technology, Sweden
We are looking for 1-2 postdocs with a deep interest in developing theory and methods for resilience and security of networked control systems.

The positions are with the departments of Automatic Control, Network and Systems Engineering, and Information Science and Engineering at KTH Royal Institute of Technology in Stockholm, Sweden. The departments’ staff consists of 150 faculty members, researchers, and PhD students who contribute to a high professional standard of intensive work and quality results, as well as to a friendly and open environment. The staff has a multicultural background and the working language is English. The departments are internationally well established, have many research collaborations with excellent partners worldwide, and are involved in several European and national projects.

The recruitment is part of the cross-departmental Center for Resilient Critical Infrastructures, CERCES, which is concerned with the security and resilience of industrial control and information systems. In particular, the center is focused on control systems, communication networks and computing, wireless communication, and embedded software verification. In this call, we are looking for highly-qualified PhDs that can contribute to at least one of the following areas:
7.24. PostDoc: Technical University of Munich, Germany  
Contributed by: Majid Zamani, zamani@tum.de

PostDoc position: Technical University of Munich
The Hybrid Control Systems group in the Department of Electrical and Computer Engineering at Technical University of Munich announces an opening for a postdoctoral position on the topic of “Formal Synthesis of Complex Systems”. In particular, the main aim of this position is to propose novel methodologies for formal synthesis of large-scale complex systems using compositional techniques in both control theory and computer science.

The successful candidate must have, or expect to have, a PhD degree in a related topic such as Systems and Control, Applied Mathematics, or Computer Science and should have a strong theoretical background. A prior experience in the areas of formal methods and hybrid systems is highly recommended. Programming skills are also desirable. The duration of the position is flexible depending on the candidate’s performance. A competitive salary will be offered according to TV-L E13 (starting gross: euro 50k p.a.). In the exceptional cases, the candidate can be offered the civil servant status with a salary scale A13 (starting gross: euro 52k p.a.).

Please send your detailed CV including a list of publications and references by email to Majid Zamani (zamani@tum.de).

7.25. PostDoc: University of Manchester, UK  
Contributed by: Alexander Lanzon, Alexander.Lanzon@manchester.ac.uk

Postdoctoral Research Associate in Control Systems
Available from March/April 2018 for 3 years
Salary: £31,604 to £38,833 per annum
University of Manchester Job Reference: S&E-10901
Application Closing Date: 27 November 2017

Applications are invited for a full-time postdoctoral Research Associate position to conduct research on an emerging area of robust control theory, known as negative imaginary systems theory. The appointee will work under the direction of Prof Alexander Lanzon, who holds the Chair in Control Engineering at the University of Manchester, on delivering the objectives of a research grant awarded by the Engineering and Physical Sciences Research Council (EPSRC).

The main goal of this research project is to develop new fundamental control theory for the robust feedback control of negative imaginary systems and, in collaboration with other members within the research team, to experimentally demonstrate the newly developed control theory on benchmark applications.
Suitable candidates will have a PhD degree in a relevant area of Control Systems and will have demonstrable potential for performing challenging leading-edge research at an international level. Strong mathematical and control theory skills are required for this post.

This position will provide you with an ideal opportunity to build strong research credentials which are important for a future career in academic research.

The job announcement with further details can be found at
https://www.jobs.manchester.ac.uk/displayjob.aspx?jobid=14243

Enquiries can be sent to Professor Alexander Lanzon, Alexander.Lanzon@manchester.ac.uk

7.26. PostDoc: University of Manchester, UK
Contributed by: Alexander Lanzon, Alexander.Lanzon@manchester.ac.uk

Postdoctoral Experimental Officer in Control Engineering
Available from March/April 2018 for 3 years
Salary: £31,604 to £38,833 per annum
University of Manchester Job Reference: S&E-10904
Application Closing Date: 27 November 2017

Applications are invited for a full-time postdoctoral Experimental Officer specialised in real-time Control Engineering experiments involving physical hardware-in-the-loop. Experience with mechatronic motion control or robotic platforms will be an asset. The appointee will work under the direction of Prof Alexander Lanzon, who holds the Chair in Control Engineering at the University of Manchester, on delivering the objectives of a research grant awarded by the Engineering and Physical Sciences Research Council (EPSRC).

Suitable candidates will have a PhD degree in a relevant practical area of Control Engineering and will have hands-on practical experience with designing and building mechatronic motion control or robotic hardware and instrumenting in-house purpose-built physical laboratory test rigs with actuators and sensors. Suitable applicants will be skilled in using dSPACE and National Instruments data acquisition systems for real-time control experiments involving physical mechatronic hardware-in-the-loop; skilled in Matlab, Simulink, C++ and Labview programming in a control systems context; and skilled in utilising microcontrollers for real-time control experiments involving physical motion control hardware-in-the-loop.

This position will provide you with an ideal opportunity to build strong experimental experience research credentials which are important for a future career in experimental research.

The job announcement with further details can be found at
https://www.jobs.manchester.ac.uk/displayjob.aspx?jobid=14246

Enquiries can be sent to Professor Alexander Lanzon, Alexander.Lanzon@manchester.ac.uk

7.27. PostDoc: Libera Università di Bolzano, Italy
Contributed by: Karl von Ellenrieder, kvonellenrieder@unibz.it

PostDoc: Libera Università di Bolzano, Alto-Adige, Italia
We are looking for a highly qualified scholar in the area of systems and control engineering to join our field robotics group. The effort will involve research in support of developing field robot platforms and systems.
Postdoc vacancy at the Delft Center for Systems and Control

The Delft Center for Systems and Control at Delft University of Technology (TU Delft), the Netherlands, announces an open postdoctoral position within the Networked Cyber-Physical Systems research group in the Delft Centre for Systems and Control. This group aims at improving our understanding and control of cyber-physical systems composed of a large number of interconnected and embedded components. Such networks of systems may contain a large number of sensors and actuators that generate a tremendous amount of data to be processed in real-time in order to increase the autonomy of the participating entities, or accomplish a high level of automation. The scientific challenges currently pursued by the team are of multidisciplinary nature and spanning over several application domains such as: distributed and cooperative robotic networks, multi-vehicle systems, aeronautical, space, and automotive applications, thermal-, electricity-, and water-networks and smart energy systems.

Project description
The research project focuses on the development of control theoretic tools by advancing algorithmic methods in the emerging field of Data-driven Optimization and Control. The emphasis will be on the performance and computational aspects of the decision mechanism in the presence of system uncertainties (stochastic environment) and information constraints (distributed nature). The developed methods will be applied to problems motivated by security and privacy of networked cyber-physical systems.

Requirements
• PhD degree in Systems and Control, Operations Research, Computer Science or a related field.
• Strong mathematical skills, and ability to work at the intersection of several technical research domains, in particular Control, Optimization, and Machine Learning.
• Excellent command of the English language and communication skills.

Conditions of employment
The TU Delft offers a customizable compensation package, a discount for health insurance and sport memberships. Flexible work schedules can be arranged. An International Children’s Centre offers childcare and an international primary school. Dual Career Services offers support to accompanying partners. Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities.

Employment and salary are according to the Collective Employment Agreement of Dutch Universities, with excellent secondary benefits and an annually increasing salary starting at approximately EUR 3000 gross per month or higher depending on the candidate’s experience. The appointment will be for one year with the possibility of extension. The position will be filled as soon as a suitable candidate is found, with an intended starting date of January 1, 2018. The project will be supervised by Prof. Peyman Mohajerin Esfahani.

Information and application
• a detailed CV including contact information of three references
• a brief motivation letter (1-2 pages) stating research interests and vision
• academic transcripts of (under)graduate coursework

Please submit your application to Prof. Peyman Mohajerin Esfahani by email P.MohajerinEsfahani@tudelft.nl.

7.29. PostDoc: University of Michigan, USA
Contributed by: Dawn Tilbury, tilbury@umich.edu

Postdoc in Manufacturing Control Systems at the University of Michigan

We are looking for a postdoc in the area of manufacturing control systems. The postdoc would work with Professors Dawn Tilbury and Kira Barton in Mechanical Engineering and Professor Morley Mao in Computer Science at the University of Michigan. The research will bring together large data sets collected in real time from the factory floor, and created by real-time simulations, into a cloud-based environment for analysis. New control algorithms will be developed to improve the overall performance of the manufacturing system along the dimensions of productivity, quality, flexibility, and sustainability. More information on the projects can be found at https://sdc-mfg.engin.umich.edu/

The postdoc will work with a small industrial testbed at the University of Michigan that includes 3 industrial robots and 4 CNC machines, connected by a conveyor, and instrumented with industrial-quality sensors and controllers. Multiple graduate and undergraduate students work in the group, and there is good collaboration with industrial partners. Funding comes from NSF and industry. Required qualifications include: a recent PhD in Mechanical or Electrical Engineering (or a related field); experience in control systems (theory and/or application); excellent communication skills. Desirable qualifications include: experience with industrial control systems; experience with manufacturing systems; experience with Big Data or Cloud Computing; C/C++/Java programming experience.

The University of Michigan is committed to effective mentoring and training of postdoctoral researchers, to enable them achieve their career goals. More information on UMich postdoc programs can be found at: http://www.rackham.umich.edu/postdoctoral

Interested candidates should send their CV and a cover letter describing their specific interest and how their background fits the qualifications to Prof. Dawn Tilbury, ⟨tilbury@umich.edu⟩ and Prof. Kira Barton ⟨bartonkl@umich.edu⟩ preferably before November 20. Start date could be as early as January 1, or later in the spring.

7.30. PostDoc: University of Cambridge, UK
Contributed by: Ioannis Lestas, icl20@cam.ac.uk

Postdoctoral Researcher: Department of Engineering, University of Cambridge

One or more positions exist for a Research Assistant/Associate to work in the area of analysis and control of large scale networks, with applications in power systems and smart grids. The positions will be funded by a five year ERC grant. The appointment is initially for a year with the possibility for renewal for an additional two and a half years.

Applicants with a theoretical background in control, or research experience in power systems are encouraged to apply. Applicants must have, or be close to obtaining, a PhD in Engineering, Mathematics, Physics or a related subject.
Informal inquiries may be addressed to Dr Ioannis Lestas (email: icl20@cam.ac.uk).
The application website will become active in early November at
http://www.eng.cam.ac.uk/about-us/vacancies

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

2 Post Doc Positions at the Robotics Team of Luleå University of Technology, Luleå, Sweden.
The Robotics Team at the department of Computer Science and Electrical and Space Engineering at Luleå
University of Technology, is now looking for two Post Docs contributing to our growing activities in the area
of aerial and ground robotics.
The candidates will be part of a strong research team with intense expertise in the area of aerial field robotics
and will have the pleasure to work in multiple European and National research projects in Robotics, while
contributing to the vision and goals of the group. The contract for this position will be one year, with
possibility to be extended up to 2 years in total. Among the projects that the candidates will work is
the Horizon 2020 project SIMS - http://www.simsmining.eu/ and the Horizon 2020 project Compinnova -
http://compinnova.eu/.

Characteristic research topics will focus on, but not be limited to, the following areas:
- Vision for Robotics
- Multiple camera views cooperative perception for UAVs
- Collaborative SLAM
- Cooperative Task allocation, scheduling and planning
- Aerial cooperative Visual Servoing
- Augmented Reality for robotics
- Event based constrained remote control
- Safe and robust navigation for aerial and ground robots in featureless or reduced feature environments (e.g.
mines)
- Visual Odometry on low light environments
- Environmental perception and online mission configuration for UAVs
- 6D real time Localization for aerial and ground robotic applications in mines
- Mechatronics
- Pneumatic Control Systems

To be qualified, the applicant must have a PhD in Automatic control or related subject. The research
tasks require a solid mathematical background with proven advanced experimental capabilities and excellent
programming skills (e.g. C++, ROS, etc.). The candidate should have a strong vision to evaluate and
demonstrate the research findings in real life operating conditions, in an approach to close the gap between
pure theory and experimental verifications.
The candidate will perform research with substantial experimental components that should be published
in peer-reviewed international journals and at major conferences. The position will include supervision of
MSc students, teaching and supporting in acquiring funds for future research projects from research funding
agencies/councils, EU framework program or industry. The candidate will need to represent the group in
different contexts, both in Sweden and abroad, and hence have excellent skills in English.
For further information please contact Professor George Nikolakopoulos +46 920 491298, geonik@ltu.se
Union representatives: SACO-Daina Dagis Daina.Dagis@ltu.se , +46 (0)920-493880, OFR- Lars Frisk, Lars.Frisk@ltu.se +46 (0)920-491792

Luleå University of Technology is actively working on equality and diversity that contributes to a creative study- and work environment. The University’s core values are based on respect, trust, openness and responsibility.

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

The application should include a CV, personal letter and copies of verified diplomas from high school and universities. Your application, including diplomas, must be written in English or Swedish.

More information at https://www.ltu.se/ltu/Lediga-jobb or contact geonik@ltu.se

7.32. Senior Research Fellow: University of Hull, UK
Contributed by: Ron Patton, r.j.patton@hull.ac.uk

Senior Research Fellow Offshore Wind, Wave Energy Conversion & Advanced Control
Applications are invited from experts with considerable experience in application of advanced control, including fault tolerant control, to Control of Renewable Energy Systems: Offshore Wind and Wave Energy Generation. For application procedure:
Further information from Ron Patton at r.j.patton@hull.ac.uk

7.33. Faculty: Australian National University, Australia
Contributed by: Guodong Shi, guodong.shi@anu.edu.au

Future Engineering Research Leadership (FERL) Fellow
College of Engineering and Computer Science (CECS)
Australian National University (ANU)
Classification: ANU Academic Level B/C
Salary package: 94,287–127,025 per annum plus 17
Terms: Full Time, Fixed Term, 5 Years

Position summary
The Research School of Engineering (RSEng or the School) is one of two Research Schools within the ANU College of Engineering and Computer Science (CECS). This is an exciting time to join our School and be part of the a community that prides ourselves on solving “wicked problems” in collaboration with the best minds in the world from across a broad range of disciplines. We take pride in pursuing our fundamental mission – discovery and to making knowledge matter – to the very highest quality.

We are calling for applications from innovative and enthusiastic academics in the early stages of their careers who are willing to explore uncharted landscapes through our Future Engineering Research Leadership Fellows (FERL) program.

We welcome and develop diversity of backgrounds, experiences and ideas and encourage applications from individuals who may have had non-traditional career paths, who may have taken a career break or who have achieved excellence in careers outside of academia.
The positions are initially for a period of 5 years. Longer term and/or tenure-track appointments may be offered to outstanding candidates subject to experience, skill and performance with consideration given to the candidate’s achievement relative to opportunity. Successful candidates will be offered individualised attention and be part of a culture with a strong sense of community to define their own research agendas, apply for competitive funding, develop their own laboratory facilities and where appropriate, build a research team. These positions come with a yearly budget to cover visitors and conference travel as well as the possibility to negotiate a longer term and/or continuing appointment and significant start-ups funds.

This recruitment process is part of the wider ANU College of Engineering and Computer Science initiative, where we are looking to appoint up to 10 positions across Engineering and Computer Science over the next two (2) years. The Research School of Computer Science is running a similar and simultaneous process. Successful applicants will have the opportunity to engage in ground-breaking, cutting-edge research in the fields of signal processing, computer vision and robotics, computational mechanics, materials, fabrication, renewable energy, networked systems and quantum cybernetics.

Start date: Negotiable

Essential qualifications: A PhD in Engineering or a related area, with a track record of independent research in the field of engineering or related area, as evidenced by publications in peer-reviewed journals and conferences, a record of developing and maintaining collaborations and by other measures such as awards, invitations to give talks at leading conferences etc.

Applications: Guidelines on completing your application can be found in the candidate information booklet which is available at http://jobs.anu.edu.au/cw/en/job/517241?

Applications close 05/11/2017

For further information please contact:

Dr Guodong Shi
College of Engineering & Computer Science
Australian National University
Email: guodong.shi@anu.edu.au

7.34. Faculty: UCLA, USA
Contributed by: Paulo Tabuada, tabuada@ee.ucla.edu

The Electrical and Computer Engineering Department in the Henry Samueli School of Engineering and Applied Science at the University of California, Los Angeles (UCLA) is accepting applications for tenure-track faculty positions. Our primary focus is on tenure-track assistant professors, however distinguished senior-level applicants will also be considered. The Department seeks candidates with a PhD in a related discipline. The Department is home to numerous state-of-the-art research centers which foster interdisciplinary basic research and collaborations with industry. Successful candidates will be expected to develop an independent and creative research program, participate in both undergraduate and graduate teaching, and supervise PhD students. Salary is commensurate with education and experience.

We will consider excellent candidates in all areas with an emphasis on overall originality and innovation. To help with the evaluation, we would like all candidates to indicate interest/expertise in up to two (2) areas specified on both UC Recruit and the EE Department site (https://eeweb.ee.ucla.edu/facultyApplication). In addition, please indicate your area(s) of interest/expertise in your cover letter.
The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age or protected veteran status. For the complete University of California nondiscrimination and affirmative action policy, see: UC Nondiscrimination & Affirmative Action Policy.

All applications should be submitted via our online submission web site at https://recruit.apo.ucla.edu/

7.35. Faculty: University of Pennsylvania, USA

Contributed by: George J. Pappas, pappasg@seas.upenn.edu

University of Pennsylvania, Associate or Full Professor of Transportation

The School of Engineering and Applied Science, and the Department of City and Regional Planning in the School of Design are seeking to make an appointment at the full or associate professor level in the area of “Societal, Business, and Engineering Impacts of Advanced Transportation Technologies.” The appointment will be shared equally between Engineering and City Planning. The successful candidate will also serve as UPS Foundation Professor in Transportation, a 5-year renewable chair.

Candidates should be recognized as thought leaders in a transportation field investigating the movement of people or goods across ground, air, or water. The candidate should have a well-established research portfolio on multiple aspects of mobility in economics, city and regional planning, engineering, robotics autonomy, or safety. Candidates should have a strong record of peer-reviewed publications, tenure at a major research university, collaborative work with industry and transportation administration, and a robust record of externally funded research. International as well as domestic knowledge and experience is desirable. Importantly, the successful candidate will work to strengthen academic and research ties between the Schools of Design and Engineering and take a visible leadership role in transportation-related research across the University. Candidates should demonstrate past experience and a strong interest in collaborating across disciplines and contributing to cross-disciplinary research endeavors.

Administrative and teaching responsibilities will be split evenly between the two schools with an emphasis on cross-listed courses and cross-disciplinary research engagements.

A PhD in City and Regional Planning, Systems/Electrical/Civil/Mechanical Engineering, Computer Science or allied fields is required. Click here to submit an application.

The University of Pennsylvania is an equal opportunity employer. Members of minority groups, women, Individuals with disabilities, and veterans are especially encouraged to apply.

7.36. Faculty: ETH Zurich, Switzerland

Contributed by: John Lygeros, jlygeros@ethz.ch

Professor or Assistant Professor (Tenure Track) of Embedded Information Systems

The Department of Information Technology and Electrical Engineering (www.ee.ethz.ch) at ETH Zurich invites applications for the above-mentioned position.

The successful candidate is expected to develop a strong and visible research programme in the area of embedded information systems. He or she has a strong background in areas such as embedded software, edge computing, embedded operating systems, real-time systems, biomedical embedded systems, security of embedded systems, as well as corresponding theoretical concepts. Candidates should hold a PhD and
have an excellent record of accomplishments. In addition, commitment to teaching and the ability to lead a research group are expected. Generally, at ETH Zurich undergraduate level courses are taught in German or English and graduate level courses are taught in English.

Assistant professorships have been established to promote the careers of younger scientists. ETH Zurich implements a tenure track system equivalent to other top international universities. The level of the appointment will depend on the successful candidate’s qualifications.

Please apply online: www.facultyaffairs.ethz.ch

Applications should include a curriculum vitae, a list of publications, a statement of future research and teaching interests, and a description of the three most important achievements. The letter of application should be addressed to the President of ETH Zurich, Prof. Dr. Lino Guzzella. The closing date for applications is 15 December 2017. ETH Zurich is an equal opportunity and family friendly employer and is responsive to the needs of dual career couples. We specifically encourage women to apply.

7.37. Faculty: Virginia Tech, USA

Contributed by: Kyriakos G. Vamvoudakis, kyriakos@vt.edu

The Kevin T. Crofton Department of Aerospace and Ocean Engineering invites applications for several tenure-track or tenured faculty positions in cyber and cyber-physical security of aerospace and ocean systems effective August 2018. This is an open-rank search and the positions will be filled, depending upon qualifications, at a rank commensurate with experience. A Ph.D. degree in engineering or science is required. Candidates for this position should be capable of conducting research with primary focus on the development of aerospace and/or ocean systems that are resilient to cyber or cyber-physical security threats or that provide significant resilience of other critical systems to such threats. Candidates are expected to contribute to teaching Aerospace or Ocean Engineering subject matter at both the undergraduate and graduate level.

Virginia Tech is strategically investing in hiring innovative faculty to advance its vision to grow beyond boundaries and become a premier 21st-century global land-grant institution through our Destination Areas initiative. As interconnected areas of strength, Destination Areas facilitate faculty collaborations that bridge disciplines to create innovative and transformative solutions to global issues, while positioning Virginia Tech as a premier destination for talent that seeks to advance the human condition.

This search is being conducted as part of the Integrated Security Destination Area. More information on Virginia Tech’s Beyond Boundaries vision and the Destination Areas can be found online at beyondboundaries.vt.edu and provost.vt.edu/destination-areas/da-security.html.

The successful candidates will be part of the cohort of faculty working on Integrated Security, but will have their primary appointment in a Department that is comprised of 37 faculty members, with approximately 175 full-time graduate students and 500 undergraduate students. The candidate may contribute to the department’s existing collaborations with the Hume Center for National Security and Technology (www.hume.vt.edu), the Institute for Critical Technology and Applied Science (www.ictas.vt.edu) and the Center for Space Science and Engineering Research (Space@VT, www.space.vt.edu).

Applicants must provide a cover letter, contact information for three professional references, a candidate statement discussing teaching, research, and professional goals, and a current CV. Those wishing further information about the search process may contact Dr. Mark Psiaki, Faculty Search Committee Chair, Kevin T. Crofton Department of Aerospace and Ocean Engineering, 205 Randolph Hall, Virginia Tech, 460 Old Turner Street, Blacksburg, VA 24061 or at mlpsiaki@vt.edu. Review of applications will begin December 1, 2017, and continue until the positions are filled.
Applicants are required to apply online at http://listings.jobs.vt.edu/postings/80313 and should use posting number TR0170145.

7.38. Faculty: Georgia Institute of Technology, USA
Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

The School of Aerospace Engineering at Georgia Institute of Technology, Atlanta, Georgia, invites nominations and applications for a faculty position in the areas of flight dynamics, dynamical systems, control theory, information science, and the interactions between these fields beginning August 2018.

All ranks will be considered, but senior level appointments will reserved for exceptional candidates having a demonstrated superior research and teaching record. Salary and rank will be commensurate with qualifications.

While all related areas of research in dynamical systems and control will be considered, candidates with a research agenda most closely aligned with aerospace applications are highly desirable.

Candidates are required to have a doctorate in Aerospace Engineering or a closely related field. The successful transdisciplinary candidates will have an outstanding research record and will be expected to teach graduate and undergraduate courses, supervise graduate students, and interact with the faculty on the development of a strong externally funded research program.

The School of Aerospace Engineering presently has 36 full-time faculty members and its undergraduate and graduate programs are ranked among the top aerospace engineering programs in the nation. The research interests of the faculty cover a broad spectrum of aerospace engineering including gas dynamics, propulsion, combustion, aerodynamics, structural mechanics, flight dynamics, and control. Information about the School can be found at www.ae.gatech.edu.

Applicants should send (electronically or via mail) a curriculum vitae, a cover letter, a statement of teaching interests and philosophy, a statement of research plans, and the name and contact information of at least three references to: Tamecia Wright, c/o Professor Panagiotis Tsiotras, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA, 30332-0150. e-mail: tamecia.wright@aerospace.gatech.edu

Review of applications will begin immediately, and will continue until the positions are filled.

Board of Regents policy requires Federal and State background investigations, including a criminal background check. Georgia Tech is an equal opportunity/affirmative action employer.

7.39. Faculty: Georgia Institute of Technology, USA
Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Faculty Position in Autonomy (AE/IRIM-GaTech)

The Institute for Robotics and Intelligent Machines and the School of Aerospace Engineering at the Georgia Institute of Technology (Georgia Tech) invites nominations and applications for a faculty position in the general area of autonomous and intelligent systems. The appointment is expected to be at the Assistant or Associate Professor level, but appointments at the Full Professor level will be considered for exceptional candidates having demonstrated a superior research and teaching record.

Candidates are expected to have a strong commitment to teaching at the undergraduate and graduate levels as well as to the development of an externally funded research program. An earned doctorate in
Aerospace Engineering, Electrical Engineering, Computer Science/Engineering, Software Engineering or a closely related field is required.

The Aerospace Engineering program at Georgia Tech is the largest program of its kind in the US, having approximately 40 full-time faculty members, and more than 800 undergraduate students and 500+ graduate students. Its undergraduate and graduate programs are typically ranked among the top aerospace engineering programs in the nation. The research interests of the faculty cover a broad spectrum including gas dynamics, propulsion, combustion, aerodynamics, structural mechanics, flight mechanics, robotics and autonomy, orbital mechanics, rotorcraft, aircraft and space systems design, dynamics and control, air-traffic control, and cognitive engineering. Information about the School can be found at www.ae.gatech.edu.

The Institute for Robotics and Intelligent Machines (IRIM) is one of the twelve interdisciplinary research institutes (IRI) at Georgia Tech, and serves as an umbrella under which robotics researchers, educators, and students from across campus come together to advance the many high-powered and diverse robotics activities at Georgia Tech. IRIM’s mission is to create new and exciting opportunities for faculty collaboration; educate the next generation of robotics experts, entrepreneurs, and academic leaders; and partner with industry and government to pursue truly transformative robotics research. More than 70 faculty, 30 labs and 60+ PhD students across the College of Engineering, the College of Computing, the College of Science, and the College of Design are affiliated with IRIM. More details about IRIM can be found at robotics.gatech.edu.

Applicants should send (electronically or via mail) a curriculum vitae, a cover letter, a statement of teaching interests and philosophy, a statement of research plans, and the name and contact information of at least three references to: Tamecia Wright, e-mail: tamecia.wright@aerospace.gatech.edu, c/o Professor Panagiotis Tsiotras, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA, 30332-0150.

7.40. Faculty: University of Georgia, USA
Contributed by: Javad Mohammadpour Velni, javadm@uga.edu

The School of Electrical and Computer Engineering at the University of Georgia (UGA) invites applications for two faculty positions in the following two areas:
(1) Security for Cyber-Physical Systems (CPS);
(2) Robotics OR Smart Grids.

The appointments are expected to be at the Assistant Professor level. The responsibilities of the successful candidates will be to: (1) establish an outstanding research program recognized both nationally and internationally, (2) foster and establish collaborations and partnerships within and outside the College of Engineering, as well as industry, (3) exhibit a strong commitment to teaching excellence at both the undergraduate and graduate levels, and (4) compete successfully for extramural funding to support research and a companion graduate training program. The candidates will have broad latitude to develop a research program that focuses on technological innovations, along with advances in the basic knowledge of sustainability to benefit society.

The UGA College of Engineering is building a vibrant academic environment that fosters engineering education in a liberal arts environment and research that addresses critical societal needs. The College offers eight undergraduate and seven graduate engineering degree programs spanning all engineering fields. The college has grown rapidly to more than 2,100 undergraduate and graduate students and over 70 faculty members. For more information about the two positions and apply for them, visit:
https://facultyjobs.uga.edu/postings/2979
https://facultyjobs.uga.edu/postings/2980
7.41. Faculty: National Taiwan University, Taiwan
Contributed by: LiChen Fu, lichen@ntu.edu.tw

Faculty positions opening for Professor, Associate Professor and Assistant Professor:
Department of Electrical Engineering, National Taiwan University, Taiwan.

The Department of Electrical Engineering at National Taiwan University are opening applications for the faculty positions of Professor, Associate Professor and Assistant Professor. We are searching for highly qualified academics with enthusiasm in teaching and great potentials in research to contribute to the department. We welcome the applicants whose research interests lie in (but not limited to) the following areas of Electrical Engineering:
- Multi-Agent Systems
- Intelligent Robotics,
- Mechatronics,
- General Control Areas.

Please prepare the following materials for the on-line application process:
- A curriculum vitae, along with a full publication list and a teaching and research plan
- Reprints of 1-3 publications within the past 3 years
- Two or more reference letters (sent directly to us by your referees)
- A copy of the highest diploma granted (or a proof of Ph.D. degree to be granted by July 31, 2018)
- Original copies of undergraduate and graduate transcripts.

And please also send a hardcopy of your application materials to the following address by December 31, 2017:
Professor Chih-Wen Liu, Chairman
Department of Electrical Engineering, National Taiwan University, No. 1, Section 4, Roosevelt Road, Taipei 10617, Taiwan ROC.

To see more information about the application, please visit our website at: https://ee.ntu.edu.tw/eeoffice/ntueejob/

For any questions, please contact our staff by the following information
e-mail: deptee@ntu.edu.tw
Tel.: +886-2-33663700 ext. 123 Fax: +886-2-23671909 URL: http://www.ee.ntu.edu.tw/
computer engineering (with a focus on security, computer-aided verification, applied cryptography, and networking). Candidates that bridge disciplines, have synergistic interests with existing faculty or bring unique capabilities are encouraged to highlight these in their application materials.

Complete applications submitted by December 1, 2017 will receive full consideration, though applications received after this date will continue to be reviewed until the positions are filled. Applications must include a cover letter specifying the area of specialization, complete curriculum vitae, statement of research and teaching interests, and names and contact information of at least three references. Applications must be submitted on-line at https://cu.taleo.net/careersection/2/jobdetail.ftl?job=11151&lang=en

Additional information is available at that site as well as at http://www.colorado.edu/ecee/job-openings

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**7.43. Faculty: University of Tehran, Iran**

Contributed by: Hamed Kebriaei, kebriaei@ut.ac.ir

Faculty Position: University of Tehran, Iran

The University of Tehran offers up to three tenure track faculty member position in the field of Control in School of Electrical and Computer Engineering (ECE).

University of Tehran (UT) is the first modern and highest rank university in Iran. School of ECE, with more than 2000 students, 84 faculty members, 80 research Laboratories is the largest school in UT. ECE-UT holds the “Control and Intelligent Processing Center of Excellence” of the country and the Control department of ECE attracts the highest ranked students of the country in the field.

The control group is active in some interdisciplinary areas like, Smart Grids, Biological Systems, Robotics, Cognitive Science, and Industrial Automation. For more information about the control department of ECE you can visit:

http://ece.ut.ac.ir/en/control

The applicants must hold a PhD degree from renowned international universities and have a solid background in Control Systems with a strong academic records and proved world class capabilities in research.

The areas of interest include but not limited to: Hybrid/Switched Control Systems, Learning Control Systems, Data Driven Control Systems, Control of Network Systems and Automation Control Systems with application areas such as: Systems Biology, Energy, Cyber Physical Systems, and Complex Networks.

As a faculty member your role will be to:
- Perform fundamental and applied research at the forefront of the systems and control domain;
- Publish in renowned scientific journals and conferences;
- Set up and teach inspiring courses and lab projects in the BSc, MSc and PhD programs at ECE-CS;
- Supervise PhD and MSc students as well as BSc student projects;
- Maintain and expand an effective network of cooperation partners in academia, institutes and industry
- Contribute to acquiring funding for research projects from (inter)national research funding agencies.

The salary of a faculty member is paid according to the common regulations of UT, nevertheless, applicants recognized as “Elite Researchers” by the recruitment committee will get 30

What is required in an application pack?
- Cover letter stating your interest in the faculty position in Control department
- A full academic CV,
- Your statement of purpose,
- Details of three references.

Interested candidates should send their application pack for consideration to:
Dr. Hamed Kebriaei: kebriaei@ut.ac.ir

7.44. Faculty: University of Texas at San Antonio, USA
Contributed by: Ahmad F. Taha, ahmad.taha@utsa.edu

The Department of Electrical and Computer Engineering at the University of Texas, San Antonio (UTSA) invites applications for two tenure-track/tenured level position starting Fall 2018 at the Assistant or Associate ranks.

Position 1: Machine Learning and Data Analytics. Areas of particular interest are machine learning and data analytic algorithms, supporting infrastructure and software, applications, data-driven decision making, visualization and communication, big data technology, real-time analytics, learning methods including deep learning.

Position 2: Machine Learning and Its Applications. Outstanding candidates from all research areas of machine learning will be considered, but preference will be given to candidates with primary research interest in machine learning for autonomous systems, medical/health informatics, and IoTs, including (but not limited to) reasoning and decision making, and reinforcement learning.

The jobs are available on https://jobs.utsa.edu.

7.45. Faculty: University of Michigan, USA
Contributed by: Necmiye Ozay, necmiye@umich.edu

The Electrical and Computer Engineering (ECE) Division of the Electrical Engineering and Computer Science Department at the University of Michigan, Ann Arbor invites applications for junior or senior faculty positions, especially from women and underrepresented minorities. Successful candidates will have a relevant doctorate or equivalent experience and an outstanding record of achievement and impactful research in academics, industry and/or at national laboratories. They will have a strong record or commitment to teaching at undergraduate and graduate levels, to providing service to the university and profession, and to broadening the intellectual diversity of the ECE Division. The division invites candidates across all research areas relevant to ECE to apply.

The highly ranked ECE Division (www.ece.umich.edu) prides itself on the mentoring of junior faculty toward successful careers.Ann Arbor is often rated as a family friendly best-place-to-live.

Please see application form at:
https://www.eecs.umich.edu/eecs/etc/ecejobs/

The review of applications will begin November 10, 2017, and applicants are strongly encouraged to submit complete applications by that date for full consideration.

7.46. Faculty: New York University, USA
Contributed by: Ludovic Righetti, ludovic.righetti@nyu.edu
New York University has multiple open tenured/tenure-track faculty positions in Robotics at its Tandon School of Engineering in the Departments of Electrical and Computer Engineering (ECE) and Mechanical and Aerospace Engineering (MAE) as part of a major multi-year growth initiative in robotics.

We seek applicants with outstanding research achievements and future promise in all areas of robotics, including, but not limited to, learning and perception for robotics, bio-inspired robotics, robotics for healthcare, autonomous vehicles, and soft robotics. Candidates must have a PhD degree in an engineering or related discipline, show evidence of the ability to pursue an independent and ambitious research program and a strong commitment to teaching.

The NYU Tandon School of Engineering strongly supports interdisciplinary research and has close collaborations with the Langone School of Medicine, the Courant Institute of Mathematical Sciences, NYU Abu Dhabi, and NYU Shanghai. The faculty and students of the NYU Tandon School of Engineering are at the forefront of the high-tech start-up culture in New York City, and have access to and engage strongly with the school’s world-class research centers in cyber security (ccs.nyu.edu), wireless communications (nyuwireless.com), smart transportation, augmented and virtual reality, and AI and have access to a state-of-the-art MakerSpace.

Candidates should include a cover letter, curriculum vitae, research and teaching statements, and letters from at least three references. All application materials should be submitted electronically via https://apply.interfolio.com/46118.

Applications received by January 15, 2018 will receive full consideration.

New York University is an Equal Opportunity Employer. New York University is committed to a policy of equal treatment and opportunity in every aspect of its hiring and promotion process without regard to race, color, creed, religion, sex, pregnancy or childbirth (or related medical condition), sexual orientation, partnership status, gender and/or gender identity or expression, marital, parental or familial status, caregiver status, national origin, ethnicity, alienage or citizenship status, veteran or military status, age, disability, predisposing genetic characteristics, domestic violence victim status, unemployment status, or any other legally protected basis. Women, racial and ethnic minorities, persons of minority sexual orientation or gender identity, individuals with disabilities, and veterans are encouraged to apply for vacant positions at all levels.

Ludovic Righetti
Associate Professor
Tandon School of Engineering, New York University
Department of Electrical and Computer Engineering
Department of Mechanical and Aerospace Engineering
Independent Research Group Leader
Max-Planck Institute for Intelligent Systems, Germany
http://engineering.nyu.edu/people/ludovic-righetti
http://motiongroup.is.tuebingen.mpg.de

7.47. Faculty: Dalhousie University, Canada
Contributed by: Ya-Jun Pan, Yajun.Pan@Dal.Ca

CANADA RESEARCH CHAIR in Ocean Engineering

Back to the contents
The Faculty of Engineering at Dalhousie University invites applications for a Tier I Canada Research Chair (CRC) in “Ocean Engineering” to be held in the Department of Mechanical Engineering. This will be a tenured appointment at the rank of Professor with an anticipated start date of July 1, 2018. The successful candidate is expected to conduct research and supervise graduate students in ocean engineering and to develop, lead, and grow a strong, externally funded research program. While all ocean engineering subspecialties will be considered, preference will be given to candidates who have demonstrated qualifications in design, control and autonomy of marine vehicles, and materials.


Applications should include a detailed curriculum vitae, a two-page summary of the candidate’s proposed research program, a statement of research and teaching interests and philosophies, and the names and contact information of three referees. A complete application will include a Self-Identification Questionnaire, which is available at www.dal.ca/becounted/selfid. All application materials should be submitted by November 15, 2017 to:

Chair, CRC Tier 1 Appointments Committee
c/o Jascinth Butterfield
Department of Mechanical Engineering
Rm. 609, O'Brien Hall, Sexton Campus
Dalhousie University
PO Box 15000
Halifax, NS Canada B3H 4R2
Email: jbutterf@dal.ca

Electronic submissions must be in the form of a single attached file in PDF format

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

Assistant, Associate or Full Professor – Multidisciplinary Engineering Technology Program (Mechatronics)
The Department of Engineering Technology and Industrial Distribution at Texas A&M University invites applications for a tenured or tenure-track faculty position at the assistant, associate, or full professor level with expertise in one or more of the following areas: Mechatronics, Industrial and Mobile Robots, Automation, Product Design, Industrial Internet of Things (IIoT), Cyber-Physical Systems, and Embedded Systems. The successful applicant will be required to teach: advise and mentor undergraduate and graduate students; develop an independent, externally funded research program; participate in all aspects of the department’s activities; and serve the profession. Strong written and verbal communication skills are required. Applicants should consult the department’s website to review our academic and research programs (https://engineering.tamu.edu/etid). Applicants must have an earned doctorate in an appropriate engineering field and or a closely related engineering or science discipline.

Applicants should submit a cover letter, curriculum vitae, teaching statement, research statement, and a list of 4 (can be between 3 - 5) references (including postal addresses, phone numbers and email addresses) by applying for this specific position at www.tamengineeringjobs.com. Full consideration will be given to applications received by December 15, 2017. Applications received after that date may be considered until positions are filled. It is anticipated the appointment will begin fall 2018.
The members of Texas A&M Engineering are all Equal Opportunity/Affirmative Action/Veterans/Disability employers committed to diversity. It is the policy of these members to recruit, hire, train and promote without regard to race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity.

**7.49. Faculty: Texas A&M University, USA**

Contributed by: Reza Langari, rlangari@tamu.edu

Assistant, Associate or Full Professor - Electronic Systems Engineering Technology

The Department of Engineering Technology and Industrial Distribution at Texas A&M University invites applications with recent and relevant industrial experience for a tenured or tenure-track faculty position at the assistant, associate, or full professor level with expertise in one or more of the following areas: Wireless Communications, Industrial Internet of Things (IIoT), Distributed Sensor Networks, Mobile/Cloud Computing and/or Industrial Cybersecurity. The successful applicant will be required to teach; advise and mentor undergraduate and graduate students; develop an independent, externally funded research program; participate in all aspects of the department’s activities; and serve the profession. Strong written and verbal communication skills are required. Applicants must have an earned doctorate in electrical engineering or a closely related engineering or science discipline. Applicants should consult the department’s website to review our academic and research programs (https://engineering.tamu.edu/etid).

Applicants should submit a cover letter, curriculum vitae, teaching statement, research statement, and a list of 4 (can be between 3 - 5) references (including postal addresses, phone numbers and email addresses) by applying for this specific position at www.tamengineeringjobs.com. Full consideration will be given to applications received by December 15, 2017. Applications received after that date may be considered until positions are filled. It is anticipated the appointment will begin fall 2018.

The members of Texas A&M Engineering are all Equal Opportunity/Affirmative Action/Veterans/Disability employers committed to diversity. It is the policy of these members to recruit, hire, train and promote without regard to race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity.

**7.50. Faculty: Northeastern University, USA**

Contributed by: Michael Kane, mi.kane@northeastern.edu

As part of a strategic initiative in the area of Urban Engineering, Northeastern University seeks faculty candidates for tenured or tenure-track appointments at the assistant, associate, or full professor level in the Department of Civil and Environmental Engineering across the broad area of Smart Civil and Environmental Engineering Systems. Interested candidates may be considered for joint appointments commensurate with their areas of expertise. The department is in the midst of a significant, multi-year expansion in size and scope, including faculty, facilities, and programs within several disciplines and across disciplinary boundaries.

Areas of specific interest within Smart Civil and Environmental Engineering Systems include enabling adoption of autonomous systems, intelligent controls, urban informatics, resilient infrastructure, and problem-centric applications of innovative technologies (e.g., robotics for disaster relief, construction, or infrastructure management). Research applications can be in any domain of civil and environmental engineering, however the candidates should have demonstrated expertise in national and societal priority areas that relate to the
highly interdisciplinary 21st century urban engineering and sustainability challenges. Applicants building upon broad disciplinary backgrounds, for example in other engineering fields, computational sciences, earth sciences, or environmental health, are particularly encouraged to apply. Candidates should be committed to fostering diverse and inclusive environments as well as to promoting experiential learning, which are central to a Northeastern University education.

For further information see: http://www.civ.neu.edu/civ/search.

7.51. Faculty: University of Minnesota, USA

Contributed by: Murti V. Salapaka, murtis@umn.edu

The Department of Electrical and Computer Engineering at the University of Minnesota – Twin Cities invites applications for faculty positions in Control systems.

For more details follow the link: https://ece.umn.edu/research/open-faculty-positions/.

A short summary is attached

Sincerely
Murti Salapaka

The position invites applications at the assistant professor level. The Department of Electrical and Computer Engineering is fully committed to a culturally and academically diverse faculty; candidates who will further expand that diversity are particularly encouraged to apply.

Successful candidates will have outstanding academic and research records and are expected to establish a vigorous, funded research program, teach at the undergraduate and graduate levels, and be involved in service to the university and the profession.

An earned doctorate in an appropriate discipline is required at the time of the appointment. Rank and salary will be commensurate with qualifications and experience. Applications will be considered as they are received. Applications will be accepted until the positions are filled, but for full consideration, please apply online by December 15, 2017.

7.52. Faculty: University of California at Santa Barbara, USA

Contributed by: Francesco Bullo, bullo@engineering.ucsb.edu

Faculty Position in Mechanical Engineering
University of California at Santa Barbara

https://recruit.ap.ucsb.edu/apply/JPF01128

The Department of Mechanical Engineering at the University of California, Santa invites applications for a full-time faculty position at the tenure-track Assistant Professor level, with an anticipated start date of July 1, 2018, or later. The Department is looking for exceptional individuals in the area of dynamics and control, preferably with applications that include, but are not limited to, one or more of the following areas: robotics and active soft materials, next generation and collaborative manufacturing, synthetic biology, and micro/nanoscale devices (including microactuators, micromanipulators, microrobots).

Responsibilities include teaching at the undergraduate and graduate levels, recruitment, and supervision of graduate students, and the development of an actively funded research program of the highest quality. Applicants must have a Ph.D. or equivalent degree in Mechanical Engineering or a related field by the time of
employment. A demonstrated record of excellence in research and proven ability as, or potential to develop into, an outstanding teacher are desired. Successful candidates will have a strong record of collaborative, interdisciplinary research, contribute to Mechanical Engineering curricula and student mentoring, and leverage synergies within the Department and the College of Engineering.

Applications must be submitted electronically, and should include:
- Cover letter (limited to two pages) including (1) most significant scientific accomplishment as a graduate student, (2) most significant scientific accomplishment in your postgraduate career (if applicable), (3) overall goals/vision for a research program at our institution, and (4) experience and qualifications that make you particularly well suited to achieve those goals.
- Curriculum Vitae
- Statement of research
- Statement of teaching
- Applicants will also need to arrange for 3-5 references to submit letters of recommendation on their behalf via the recruitment website.
- Diversity statement addressing past and/or potential contributions to diversity through research, teaching, and/or service. (Optional)

Applications received by Friday December 15th, 2017, will be given priority consideration, but the position will remain open until filled. For further details about our department, visit: https://me.ucsb.edu/about/employment and to apply, visit: https://recruit.ap.ucsb.edu/apply/JPF01128

The department is especially interested in candidates who can contribute to the diversity and excellence of the academic community through research, teaching, and service. The University of California is an Equal Opportunity/Affirmative Action Employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.

7.53. Engineer: Ford Research and Advanced Engineering in Aachen, Germany
Contributed by: Sabine Sorg, ford@access.de

System and Control Engineer (f/m) for Ford Research and Advanced Engineering in Aachen, Germany

Develop systems and appropriate control solutions for innovation features in collaboration with colleagues in England and the USA. The group Vehicle System Control is part of the global Ford Research and Advanced Engineering organization and responsible for projects in the area of alternative propulsion vehicles and driver assistant features. You will work on new system designs and control challenges and find robust solutions for our vehicles in an interdisciplinary team.

Responsibilities:
- Improve vehicle-level systems and control solutions
- Specify, implement, and verify system the logical and functional architectures using model based techniques
- Develop controls using model-based development methods
- Validate vehicle control algorithms, evaluate and analyze measurement data
- Find and solve problems of interaction between controllers and subsystems
- Identify, based on your expertise, new research areas and projects in system engineering and related control aspects
Your Profile:
- Degree (Master/Diploma PhD) in engineering or science
- Several years of experience with system engineering principles
- Good knowledge of control design, synthesis and analysis methods
- Proficient with SysML
- Proficient with Matlab/Simulink/Stateflow and RCP systems; knowledgeable in the area of automotive subsystems
- Excellent command of the English language
- You are analytical, have good communications skills, and enjoy both team- and independent work

Location:
Ford Research and Innovation Center in Aachen, Germany

Interested?
We are looking forward to receiving your application (cover letter, CV, transcripts) via our external recruitment partner access KellyOCG GmbH.

Contact: Sabine Sorg, phone +49 221 95 64 90 499