Welcome to the September issue of the E-letter, available electronically here.
To submit new articles, go “Article Submissions” on the E-letter website
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6.6 PhD: CNRS, France
6.7 PhD: French-German Research Institute of Saint-Louis, France
6.8 PhD: Frankfurt Institute for Advanced Studies, Germany
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1. IEEE CSS Headlines

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

The IEEE Control Systems Society (CSS) Outreach Fund provides grants for projects that will benefit CSS
members and the controls community in general. Since its inception in 2011, the Fund has made over 60
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 2018
fall solicitation will be held from November 1 to 23, 2018. 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:
https://ieeetv.ieee.org/conference-highlights/daniel-e-rivera-the-css-outreach-program-providing-community-
service-studio-tech-talks-sections-congress-2017?
Inquiries, notices of intent, and requests for application materials must be made directly to Daniel E. Rivera,
Outreach Task Force Chair, at daniel.rivera@asu.edu.

1.2. 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:
  http://www.ccdc.neu.edu.cn/
- 56th Annual Allerton Conference on Communication, Control, and Computing. Monticello (IL), United
- 18th International Conference on Control, Automation and Systems (ICCAS 2018). PyeongChang, South
- 2nd IFAC Conference on Cyber-Physical and Human Systems. Miami (FL), United States. Dec 14 - Dec
- 22nd International Conference on System Theory, Control and Computing (ICSTCC 2018), Sinaia, Ro-

For a full listing of CSS technically cosponsored conferences, please visit
http://ieeecss.org/conferences/technically-cosponsored,
and for a list of the upcoming and past CSS main conferences please visit
http://ieeecss.org/conferences
1.3. IEEE Transactions on Automatic Control
Contributed by: Alessandro Astolfi, ieeeetac@imperial.ac.uk

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1.5. IEEE Control Systems Society Publications Content Digest
Contributed by: Kaiwen Chen, ieeetac@imperial.ac.uk

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
2. MISC

2.1. EECI 2019 International Graduate School on Control
Contributed by: Francoise Lamnabhi-Lagarrigue, lamnabhi@l2s.centralesupelec.fr

EECI 2019 International Graduate School on Control (EECI-IGSC-2019)
The advance programme and the corresponding summaries of the 27 independent graduate week modules of the EECI 2019 International Graduate School on Control, Technically Co-sponsored by IFAC and IEEE CSS, are now available on http://www.eeci-igsc.eu
Early registrations will open on October 1, 2018; Deadline for early registration to the modules M01 to M09 is 31/12/2018 and to the modules M10 to M27 is 28/02/2019.

2.2. Online Seminar: ”Observer Design for Nonlinear Systems: A Tutorial”
Contributed by: Tansel Yucelen, yucelen@usf.edu

University of South Florida Forum on Robotics & Control Engineering (USF FoRCE, http://force.eng.usf.edu/) will host Dr. Rajesh Rajamani (University of Minnesota) on September 26, 2018 at 12:00 PM Eastern Time. Specifically, Dr. Rajamani will give an online seminar titled ”Observer Design for Nonlinear Systems: A Tutorial” (abstract and biography of the speaker are included below). We hope that you will make plans to participate on this free online seminar. Here is the WebEx information needed to connect to this online seminar:
WebEx direct link:
https://force.my.webex.com/force.my/j.php?MTID=m5f6f1bcc7a737b66215b2e6777cd98eb
WebEx indirect link:
https://force.my.webex.com/force.my
(use 620 051 333 for the meeting number and k5rBxJ9k for the password)
WebEx phone link:
+1-510-338-9438 USA Toll

The mission of the USF FoRCE is simple: Provide free, high-quality outreach events and online seminars to reach broader robotics and control engineering communities around the globe. To support our mission, we periodically invite distinguished lecturers to the USF FoRCE to give talks on recent research and/or education results related to robotics and control engineering. As a consequence, the USF FoRCE aims in connecting academicians and government/industry researchers/practitioners with each other through crosscutting basic and applied research and education discussions. We cordially hope that you will enjoy the USF FoRCE events and find them highly-valuable to your own research and education interests.
Visit http://force.eng.usf.edu/ for more information and to access previously recorded events. For any questions, email the USF FoRCE director, Dr. Tansel Yucelen (yucelen@usf.edu).
Title: Observer Design for Nonlinear Systems: A Tutorial (Dr. Rajesh Rajamani, 12:00 PM Eastern Time, September 26, 2018)
Abstract: This tutorial will describe the design of stable observers for nonlinear systems. The design methodology utilizes tools that include Lyapunov analysis, the Circle Criterion and the S-procedure Lemma. The observer stability conditions are typically obtained as linear or bilinear matrix inequalities from which the observer gains can be computed. The tutorial will start with a dynamic system in which the process dynamics has Lipschitz nonlinearities. This will later be generalized to allow for either Lipschitz, bounded Jacobian or sector bounded nonlinearities in both the process dynamics and the measurement equations. Simple programs to solve LMIs in Matlab and obtain the observer gains will also be presented. The lecture will conclude with the application of the developed methodology to automotive slip angle estimation in the presence of nonlinear tire force models.

Biography: Rajesh Rajamani obtained his M.S. and Ph.D. degrees from the University of California at Berkeley in 1991 and 1993 respectively and his B.Tech degree from the Indian Institute of Technology at Madras in 1989. He is currently Professor of Mechanical Engineering at the University of Minnesota. His active research interests include observer design, sensing and control for smart and autonomous systems. Dr. Rajamani has co-authored over 240 refereed papers and is a co-inventor on 13 patent applications. He is the author of the popular book “Vehicle Dynamics and Control” published by Springer Verlag. Dr. Rajamani is a Fellow of ASME and has been a recipient of the CAREER award from the National Science Foundation, the 2001 Outstanding Paper award from the journal IEEE Transactions on Control Systems Technology, the Ralph Teetor Award from SAE, and the 2007 O. Hugo Schuck Award from the American Automatic Control Council. Several inventions from his laboratory have been commercialized through start-up ventures co-founded by industry executives. One of these companies, Innotronics, was recently recognized among the 35 Best University Start-Ups of 2016 in a competition conducted by the US National Council of Entrepreneurial Tech Transfer.

3. Books

3.1. Low-Rank Approximation: Algorithms, Implementation, Applications

Contributed by: Yasmin Brookes, yasmin.brookes@springer.com

Low-Rank Approximation: Algorithms, Implementation, Applications by Ivan Markovsky
ISBN: 978-3-319-89619-9
August 2018, Springer
Hardcover, 272pp, $169.99/EUR 139,99

This book is a comprehensive exposition of the theory, algorithms, and applications of structured low-rank approximation. Local optimization methods and effective suboptimal convex relaxations for Toeplitz, Hankel, and Sylvester structured problems are presented. A major part of the text is devoted to application of the theory with a range of applications from systems and control theory to psychometrics being described. Special knowledge of the application fields is not required.

The second edition of /Low-Rank Approximation/ is a thoroughly edited and extensively rewritten revision. It contains new chapters and sections that introduce the topics of:

- variable projection for structured low-rank approximation;
- missing data estimation;
- data-driven filtering and control;
- stochastic model representation and identification;
• identification of polynomial time-invariant systems; and
• blind identification with deterministic input model.

The book is complemented by a software implementation of the methods presented, which makes the theory directly applicable in practice. In particular, all numerical examples in the book are included in demonstration files and can be reproduced by the reader. This gives hands-on experience with the theory and methods detailed. In addition, exercises and MATLAB®/Octave examples will assist the reader quickly to assimilate the theory on a chapter-by-chapter basis. Each chapter is completed with a new section of exercises to which complete solutions are provided.

Low-Rank Approximation (second edition) is a broad survey of the Low-Rank Approximation theory and applications of its field which will be of direct interest to researchers in system identification, control and systems theory, numerical linear algebra and optimization. The supplementary problems and solutions render it suitable for use in teaching graduate courses in those subjects as well.

Contents
1. Introduction
Part I Linear Modeling Problems
2. From Data to Models
3. Exact Modeling
4. Approximate Modeling
Part II Applications and Generalizations
5. Applications
6. Data-Driven Filtering and Control
7. Nonlinear Modeling Problems
8. Dealing with Prior Knowledge

3.2. Supervisory Control of Discrete-Event Systems

Contributed by: Yasmin Brookes, yasmin.brookes@springer.com

Supervisory Control of Discrete-Event Systems by W. Murray Wonham and Kai Cai
ISBN: 978-3-319-77451-0
August 2018, Springer

This book shows how supervisory control theory (SCT) supports the formulation of various control problems of standard types, like the synthesis of controlled dynamic invariants by state feedback, and the resolution of such problems in terms of naturally definable control-theoretic concepts and properties, like reachability, controllability and observability. It exploits a simple, abstract model of controlled discrete-event systems (DES) that has proved to be tractable, appealing to control specialists, and expressive of a range of control-theoretic ideas. It allows readers to choose between automaton-based and dually language-based forms of SCT, depending on whether their preference is for an internal-structural or external-behavioral description of the problem.

The monograph begins with two chapters on algebraic and linguistic preliminaries and the fundamental concepts and results of SCT are introduced. To handle complexity caused by system scale, architectural approaches—the horizontal modularity of decentralized and distributed supervision and the vertical modularity...
of hierarchical supervision—are introduced. Supervisory control under partial observation and state-based supervisory control are also addressed; in the latter, a vector DES model that exploits internal regularity of algebraic structure is proposed. Finally SCT is generalized to deal with timed DES by incorporating temporal features in addition to logical ones.

Researchers and graduate students working with the control of discrete-event systems or who are interested in the development of supervisory control methods will find this book an invaluable aid in their studies. The text will also be of assistance to researchers in manufacturing, logistics, communications and transportation, areas which provide plentiful examples of the class of systems being discussed.

Contents
1. Algebraic Preliminaries
2. Linguistic Preliminaries
4. Decentralized and Distributed Supervision of Discrete-Event Systems
5. Hierarchical Supervision of Discrete-Event Systems
6. Supervisory Control with Partial Observations
7. State-Based Control of Discrete-Event Systems
8. Supervision of Vector Discrete-Event Systems
9. Supervisory Control of Timed Discrete-Event Systems

4. Journals

4.1. Contents: Automatica
Contribution by: John Coca, j.coca@elsevier.com

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4.2. Contents: IEEE/CAA Journal of Automatica Sinica
Contributed by: Yan Ou, yan.ou@ia.ac.cn

IEEE/CAA Journal of Automatica Sinica
Volume 5 (2018), Issue 5 (September)

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4.3. Contents: International Journal of Control
Contributed by: Bing Chu, b.chu@soton.ac.uk

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4.4. Contents: Systems & Control Letters
Contributed by: John Coca, j.coca@elsevier.com

Systems & Control Letters
Vol. 119
September 2018


4.5. Contents: European Journal of Control
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4.11. Contents: Evolution Equations & Control Theory
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4.12. CFP: Asian Journal of Control
Contributed by: Li-Chen Fu, lichen@ntu.edu.tw
Asian Journal of Control
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Special Issue on “Optimization and Learning in Logical Control Network Systems”
During the past few decades, logical network systems, including Boolean network systems, have shown successful development and great potential applications due to the development of utility theory and effective tools. Logical network systems which admit logical evolution behavior, have been applied in various fields. The widely concerned fields include networked evolutionary game, gene regularity networks, social and economic networks, combustion engines, coding and decoding, and other research areas concerning about logical behaviors. Due to scale, complexity and dynamics, some complex networks are difficult to analyze the performance, while modeling by logical networks makes it relatively simple to observe the logical evolution. Recently, an algebraic state space approach has been proposed to model and analyze the logical behaviors of logical control networks. Using the algebraic state space approach, it is more convenient to model, analyze and design control protocols for complex logical networks. One of the main challenges in logical network systems is that how to find or learn the best strategy of logical control networks in a complex and uncertain environment. This special issue is focusing on the latest development, trends, and novel techniques of optimization and learning in logical control network systems and their applications.

The principal topics planned to be covered are as follows, but are not limited to:
- Optimization and control in complex logical networks
- Learning/statistical learning of complex logical networks and its applications
- Stability/controllability/observability analysis of logical dynamic systems
- Modeling, analysis and control issues of Boolean networks
• Applications in systems biology, Petri networks, cellular automata, and evolutionary networked game
• Applications in integrated circuits, power grids, combustion engines, and other engineering fields

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The Asian Journal of Control, an ACA (Asian Control Association) affiliated journal, is the first international journal originating from the Asian Pacific region and being recognized by the major body of control researchers in this region. The Asian Journal of Control publishes bimonthly high-quality papers on original theoretical and experimental research and development in the areas of control, involving all facets of control theory and its application. Functionally, this journal not only provides a forum where control researchers and practitioners can exchange their knowledge and experiences in control areas, but also serves as an educational means for students and any others who would like to learn new topics in this technical area. The journal aims to be a key interface between control communities within the Asian Pacific region and throughout the world and is listed by Science Citation Index Expanded.

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 problems, please contact Prof. Lichen Fu, the Editor-in-Chief. E-mail: lichen@ntu.edu.tw 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 https://onlinelibrary.wiley.com/page/journal/19346093/homepage/forauthors.html

Contributed by: Yongping Pan, yongppan@gmail.com

CFP: International Journal of Adaptive Control and Signal Processing
The submission deadline 31 Aug 2018 is approaching!
The journal invites authors to submit original articles on learning from adaptive control under relaxed excitation conditions rather than the classical condition of persistent excitation (PE).
The capacity to learn is one of the fundamental features of autonomous intelligent behaviour which is reflected by parameter convergence in adaptive control [1]. Learning is desirable as it enhances stability and robustness properties of adaptive control systems such as superior trajectory tracking, accurate online modelling, and robustness against various perturbations. However, the classical PE condition that guarantees to learn from adaptive control is too stringent and usually infeasible in practice [2]. Even when PE exists, the learning speed in adaptive control heavily depends on the PE strength resulting in a generally slow learning process. The exploitation of online historical data provides a promising way to achieve learning from adaptive control without PE and has attracted great attention in recent years, where typical emerging techniques include concurrent learning [3] and composite learning [4]. In these emerging learning techniques, online historical data are exploited together with instantaneous data to construct special prediction errors that are available from measurable signals, and both prediction and tracking errors are employed to update parameter estimates so that learning can be achieved under weaker excitation conditions.

This special issue aims to provide state-of-the-art developments about learning from adaptive control, with a special focus on online historical data-driven adaptive control and parameter estimation as well as their applications to various real-world problems. However, other contributions that also aim to relax the classical PE condition for parameter convergence are also warmly welcome. Interested topics include but are not limited to:

- Composite learning for adaptive control and parameter estimation
- Concurrent learning for adaptive control and parameter estimation
- Learning from adaptive control under functional uncertainties
- Learning from adaptive control under time-varying uncertainties
- Learning from adaptive control under various perturbations
- Other learning techniques for parameter convergence without PE
- Real-world applications of all above emerging learning techniques

Authors are requested to submit their manuscripts online at the journal submission website: https://mc.manuscriptcentral.com/acsp-wiley. When submitting, please choose manuscript type “Learning From Adaptive Control Under Relaxed Excitation Conditions” and answer “Yes” to “Is this submission for a Special Issue?” The schedule of the Special Issue is shown as follows, but submissions will follow the first-come first-review policy.

Time Table:
Deadline for first submissions: 31 Aug 2018
Decision of first submissions: 31 Nov 2018
Deadline for second submissions: 30 Jan 2019
Final decision notification: 31 Mar 2019
Expected publication: Summer 2019

Guest Editors:
Dr Yongping Pan (Lead) Email: biepany@nus.edu.sg; yongppan@gmail.com
Department of Biomedical Engineering, National University of Singapore, Singapore
Prof Alexey Bobtsov Email: bobtsov@mail.ru
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Department of Control and Robotics Engineering, Kunsan National University, Korea
You are welcome to contact the Leading Guest Editor for further information. For online information, please visit the homepage of the journal:
https://onlinelibrary.wiley.com/journal/10991115

References:

5. Conferences

5.1. IFAC Conference on Cyber-Physical & Human Systems
Contributed by: Yue Wang, yue6@clemson.edu

The global controls community and the wider scientific community interested in the broad range of questions and implications emerging from the relationships between humans and technology are invited to participate in the Second IFAC Conference on Cyber-Physical & Human Systems (CPHS). Taking place in Miami just days before the 2018 Conference on Decision and Control (CDC), CPHS 2018 aims to bring together researchers and practitioners from academia and industry to share scientific and technological advances as well as gain a deeper understanding of the interactions between cyber-physical systems and humans. Of particular focus are human-centered technologies in a wide-range of applications including transportation, energy, robotics, manufacturing, and health-care.

Miami is a popular vacation spot, not only in the United States, but in the world! The Miami area offers multiple attractions for all. Conveniently located in Downtown Miami, the Hyatt Regency hotel captures the spirit of the city. With its striking white towers overlooking the Miami River, Hyatt Regency Miami is a landmark hotel offering first rate service. The hotel enjoys easy access to popular attractions such as Brickell City Center for world-class shopping, Wynwood Art District with galleries and museums, the Adrienne Arsht Center for the performing arts, Coral Gables with a Venetian Pool and botanical garden, and the Latin flavor of Little Havana. The hotel is a just a short 15-minute drive from South Beach. There’s no better way to enjoy the Florida sunshine than with Hyatt Regency Miami as your home base.

The conference program, through a combination of paper and poster presentations, will showcase the interactions between cyber-physical systems and humans during December 14 and 15. Two plenary lectures – one by a prominent social scientist and the other by a roboticist – are featured. A panel exploring the interface between engineers and social-scientists, and a mini-workshop on transdisciplinary communication and collaboration have been arranged. A special session that showcases hardware and software demonstrations of current CPHS research is also included.

The IFAC CPHS Young Author Prize will be awarded to the best paper by a student author, and the CPHS Best Poster Prize to the best interactive presentation. Accepted papers will be published in the open-access IFAC-PapersOnLine series hosted on ScienceDirect (http://www.sciencedirect.com/).

Advance registration will open September 1, 2018 and is highly recommended. All attendees must register. See the CPHS 2018 website for registration fees and other details.
5.2. IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems
Contributed by: Rodolfo C. C. Flesch, dycops.cab2019@gmail.com

12th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS 2019) (http://dycopscab2019.sites.ufsc.br/)
April 23-26, 2019 - Jurerê Beach Village Hotel - Florianópolis, Brazil
Announcement and call for papers

DYCOPS is the triennial meeting of IFAC for bringing together specialists active in academic research and industrial development in the broad field of process dynamics, control and optimization applied to bio/chemical systems and biotechnology. The objectives of the DYCOPS 2019 are to provide a forum for professionals and students involved in the broad field of process control engineering to integrate and exchange their knowledge, experience, and results. During the symposium, participants will present new ideas in diverse areas of dynamics, optimization and control of process systems and discuss the latest theoretical developments and control applications for the process and biotechnological industries.

General areas covered by DYCOPS include:
- Process control
- Dynamic modeling and simulation for control and operation
- Interaction between design and control
- Modeling and identification
- Batch process modeling and control
- Process and performance monitoring
- Fault detection, diagnosis, supervision, and safety
- Integration between scheduling and control
- Process optimization
- Plantwide control
- Smart manufacturing
- Model predictive control
- Scheduling, coordination and optimization
- Process control education
- Data mining tools
- Sensors and soft sensors
- Process analytical technology (PAT)
- Microbial technology
- Metabolic flux modeling and engineering
- Systems and synthetic biology
- Industrial biotechnology
- Biopharmaceutical processes
- Biocatalysis (enzymatic reactions)
- Food engineering
- Wastewater treatment processes
- Mammalian, insect, and plant cell technology
- Bioenergy production (bioethanol, algae, anaerobic digestion).

A Special Issue of Journal of Process Control will include extended versions of selected papers presented at DYCOPS 2019. All accepted papers will be available in the IFAC-PapersOnLine proceedings series hosted at the ScienceDirect web service.

IMPORTANT DATES
- September 14, 2018: Deadline for Papers / Session proposals / Pre-symposium workshop proposals
- December 14, 2018: Notification of acceptance
- January 18, 2019: Upload of final camera-ready Papers

PAPER SUBMISSION

Paper submission site: http://ifac.papercept.net/conferences/
See the conference website dycopscab2019.sites.ufsc.br for detailed instructions.

5.3. ASME Dynamic Systems and Control Conference
Contributed by: Yue Wang, yue6@clemson.edu

The 2018 Dynamic Systems and Control Conference (DSCC) will be held on September 30 – October 3, 2018 at the Hyatt Regency Atlanta Hotel, located in the heart of downtown Atlanta, Georgia. The technical program of 2018 DSCC is now available at the conference website: https://www.asme.org/events/dscc/program.
Plenary Talks. Aside from 42 technical sessions spanning a range of topics of interest to the DSCD community, the conference will feature four exciting plenary talks:
- October 1: Professor Huei Peng, University of Michigan, “How control theories were used to improve energy and safety of automotive systems” (Nyquist Lecture)
- October 2: Professor Marcia O’Malley, Rice University, “Towards robots that teach and learn through physical human-robot interaction”
- October 2: Professor Roberto Horowitz, UC Berkeley, “Modeling, control and estimation of traffic road networks” (Oldenburger Lecture)
- October 3: Professor Magnus Egerstedt, Georgia Tech, “Long duration autonomy and constraint-based coordination of multi-robot systems”

Workshops. Five workshops on emerging topics will be offered conveniently on the afternoon of September 30, before the welcome reception of the conference:
- Workshop 1: From data to models and decisions in engineering systems, 1:00 pm – 5:00 pm (Organizers: Annalisa Scacchioli, Rutgers University; Mahdi Shahbakhti, Michigan Technological University)
- Workshop 2: Enhancing energetic performance for mobile and wearable robotic systems, 1:00 pm – 5:00 pm (Organizers: Anirban Mazumdar and Aaron Young, Georgia Tech)
- Workshop 3: Connected and automated vehicles, 12:00 pm – 6:00 pm (Organizers: Mahdi Shahbakhti, Michigan Technological University; Hosam Fathy, Pennsylvania State University)
- Workshop 4: The future of mechatronics and robotics education, 1:00 pm – 5:00 pm (Organizers: Vikram Kapila, New York University; Michael A. Gennert, Worcester Polytechnic Institute; James Mynderse, Lawrence Technological University; Nima Lotfi, Southern Illinois University Edwardsville)
- Workshop 5: Autonomous control for rotorcraft operation, 1:00 pm – 5:00 pm (Organizer: Cornel Sultan, Virginia Tech)

Student Programs. The conference provides a number of student programs. In addition to student travel support, it features
- Best Student Paper competition, 6-7 pm on October 1
- Networking with Academia, 12-1 pm on October 2
- Networking with Industry, 12-1 pm on October 2

Other events:
- Early Academic Career Panel, 12-1 pm on October 1, where some NSF CAREER Awardees will share their insight and tips
- Special session on research funding programs, 1:30-3:30pm on October 2, where program directors will share information on various funding programs of interest
- Georgia Tech tour, 1-5 pm on October 3, where attendees will get a chance to tour a number of robotics and control labs on Georgia Tech campus
- Welcome reception, 6-8:30 pm on September 30
- Awards ceremony and banquet, 6:30-9:30 pm on October 2
- Networking breakfast and coffee breaks every day

5.4. European Control Conference
Contributed by: Bruno Siciliano, siciliano@ieee.org

Dear Colleagues:
We would like to invite you to submit research articles to the 17th European Control Conference (ECC19), organised by University of Naples Federico II and University of Sannio.

The European Control Conference is the annual conference promoted by the European Control Association and is intended to provide a stimulating environment for the productive exchange of ideas and developments in the area of systems and control and their various applications.

ECC19 will take place in Naples, "the city of the sun"!

We would be delighted to have you with us at the conference to hear what the technology experts and researchers have to share about both methodology and technology advancements.

Conference Venue: Hotel Royal Continental, Naples, Italy
Conference Dates: 25-28 June 2019
Paper Submission: 29 October 2018

Please do take your time to explore the conference website below for more details, check out important dates, and keep yourself up to date on recent news:

www.ecc19.eu

We kindly request you to forward this email or the conference flyer to your colleagues/researchers/students in order to promote the conference.

Thanks very much in advance and best wishes for the end of the summer!

Bruno Siciliano
Publicity Chair
Raffaele Iervolino Publicity Co-Chair

5.5. ACM International Conference on Hybrid Systems: Computation and Control
Contributed by: Taylor Johnson, taylor.johnson@vanderbilt.edu

ACM HSCC 2019 Call for Papers
22nd ACM International Conference on Hybrid Systems: Computation and Control (HSCC)
Part of CPS-IoT Week 2019
April 16-18, 2019
Montreal, Canada
URL: http://2019.hscc-conference.org/

Conference Scope
Hybrid Systems: Computation and Control (HSCC) 2019 is the 22nd in a series of conferences focusing on original research on concepts, tools, and techniques from computer science, control theory, and applied mathematics for the analysis and control of hybrid dynamical systems with an emphasis on computational aspects. By drawing on strategies from computation and control, the hybrid systems field offers techniques that are applicable to both man-made cyber-physical systems (ranging from small robots to global infrastructure networks) and natural systems (ranging from biochemical networks to physiological models). Papers in the conference are expected to range over a wide spectrum of topics from theoretical results to practical considerations, and from academic research to industrial adoption.

Topics of interest include, but are not limited to:
- Mathematical foundations, computability and complexity
- Analysis, verification, validation, and testing
- Modeling paradigms and techniques
- Design, synthesis, planning, and control
- Programming and specification languages
- Network science and network-based control
- Security, privacy, and resilience for cyber-physical systems with focus on computation and control
- Safe autonomy, Artificial intelligence and Machine learning in CPS
- Software tools for the above topics
- Applications and industrial case studies in: automotive, transportation, autonomous systems, avionics, energy and power, robotics, medical devices, manufacturing, systems and synthetic biology, models for the life sciences, and other related areas.

New this Year! Special track papers on Safe autonomy, Artificial Intelligence and Machine Learning
We invite regular submissions in topics related to safe autonomy, AI and ML in CPS. Formatting instructions are same as that for regular papers, however, the authors will indicate their interest in the special track during the submission. We will include these in a special session at HSCC along with few invited speakers related to this topic.

Submission guidelines
HSCC invites submissions in the categories of (1) regular papers including special track papers in Safe autonomy, AI and ML for CPS, and (2) case study and tool papers. We will employ a double blind reviewing process and will have a rebuttal phase to provide authors the opportunity to reply to reviewer concerns. Papers need to be submitted for review using EasyChair: https://easychair.org/conferences/?conf=hscc19

Paper submission information
- Regular papers including special track papers on Safety Autonomy, AL and ML in CPS (maximum 10 pages, 10pt font, two-column ACM format)
- Tool and Case Study Papers (maximum 6 pages, 10pt font, two-column ACM format)

Important dates
Abstract submission deadline (optional): October 10, 2018 (AOE)
Paper submission deadline: October 17, 2018 (AOE)
Tool paper repeatability package submission deadline: October 22, 2018 (AOE)
Rebuttal phase: December 3-5, 2018
Acceptance/rejection notifications: December 21, 2018
Camera-ready: February 15, 2019
Conference dates: April 16-18, 2019

Awards
- HSCC will have an ACM SIGBED Best Paper Award, all regular papers will be automatically eligible for this award.
- HSCC will institute an "HSCC Test-Of-Time Award". The rules for eligibility, nomination and selection of the paper for this award can be found here.
- Repeatability evaluation: Papers that pass repeatability evaluation process will receive the "artifact evaluated" badge and there will be a Best RE Award.
- Best Demo/Poster: All demos and posters accepted for presentation at HSCC’19 will be eligible for the best demo/poster award.

Program Committee Chairs
Necmiye Ozay (University of Michigan, Ann Arbor, USA)
Pavithra Prabhakar (Kansas State University, USA)
5.6. ACM/IEEE International Conference on Cyber-Physical Systems

Contributed by: Jana Tumova, tumova@kth.se

ACM/IEEE ICCPS 2019 CALL FOR PAPERS

The 10th ACM/IEEE International Conference on Cyber-Physical Systems
April 16-18, 2019 in Montreal, Canada, part of CPSWeek 2019
http://iccps.acm.org/2019

Overview: As digital computing and communication become faster, cheaper, and available in packages that are smaller and use less power, these capabilities are increasingly embedded in many objects and structures in the physical environment. Cyber-physical systems (CPS) are physical and engineered systems whose operations are monitored, coordinated, controlled, and integrated by computing and communication. Broad CPS deployment is transforming how we interact with the physical world as profoundly as the world wide web transformed how we interact with one another, and further harnessing their capabilities holds the possibility of enormous societal and economic impact.

ACM/IEEE ICCPS is the premier single-track conference for reporting advances in all CPS aspects, including theory, tools, applications, systems, test-beds and field deployments. The conferences focuses on the core science to develop fundamental principles that underpin the integration of cyber and physical elements, as well as on the development of technologies, tools, architectures and infrastructure for building CPS systems, highlighting the design, implementation, and investigation of CPS applications. Application domains include (but are not limited to): transportation, energy, water, agriculture, medical and assistive technology, sensor and social networks, robotics, smart cities, ecology, and supply-chains. Among the relevant research areas are security, control, optimization, machine learning, game theory, mechanism design, mobile and cloud computing, model-based design, verification, data mining / analytics, signal processing, and human-in-the-loop shared or supervisory control.

All submissions must be in English. Only original papers that are not submitted or published in other conferences or journals will be considered. Manuscripts should have a main body with no more than 10 pages. Up to 2 additional pages of appendices may follow the main body of the paper, within the same submitted .pdf file. The submissions must be in the ACM two-column conference style, US Letter (8.5 inch x 11 inch) paper size, and 10pt text font size.

Important Dates:
Full paper submission deadline: October 17, AoE, 2018 (FIRM deadline, see CPSWeek deadline policy),
5.7. IEEE Workshop on Cyber-Physical Networking
Contributed by: Sebastian Trimpe, trimpe@is.mpg.de

Call for Papers
1st IEEE Workshop on Cyber-Physical Networking
(CPN - co-located with IEEE CCNC 2019)
January 11 - 14, 2019 in Las Vegas, USA

Workshop website:
http://cpn2019.spp1914.de/

Increasing the data rates of communication systems has been a major research objective of the past decades. The corresponding research efforts lead to the modern information society of today. Recently, we see a rapid spread of cyber-physical applications such as telemedicine, smart production and infrastructure systems. Such systems build the backbone for e.g. Industry 4.0 environments and operate with feedback control loops that are closed over communication channels and, thus, impose real-time requirements on the communication system. Predictably low latency is generally a desirable property, however, it challenges concurring requirements for high reliability, spectral, and energy efficiency in particular when wireless links used. Classical approaches for the independent design of communication and control have reached their limits for quite some time.

The research objective in the area of cyber-physical networking is to develop a theoretical and practical basis for the paradigmatic change from throughput- to real-time-oriented communication in networked control systems. In order to meet the requirements of cyber-physical applications, a tight (horizontal and vertical) integration of all communication, control, and system components is necessary in order to fully exploit their individual elasticity and mutual adjustment potential. We understand cyber-physical networking as including all aspects of such a system, in particular network and communication, control and the physical system itself. Ultimately, this workshop aims to bring together leading researchers in the area of communication, control
and systems design - to share views on approaches to bring together these domains for enabling cyber-physical networking.

We encourage the submission of courageous research ideas and proposals that explore the potential of cyber-physical networks, also off the beaten track.

TOPICS OF INTEREST
Submissions are encouraged to cover multiple of the following top-level topics (but not limited to).

Application Scenarios for Cyber-Physical Networks:
- Benchmarks, Quality Metrics, and Testbeds
- Industry Case Studies and Experience Reports
- Consumer Products

Control Design and Architectures for Cyber-Physical Networks:
- Performance, Stability, and Robustness Guarantees
- Machine Learning and Artificial Intelligence
- Model-Predictive, Optimal, Learning-Based, and Robust Control

Network Architectures and Protocols for Cyber-Physical Networks:
- Mobility Aspects
- Latency and Resilience Awareness
- Time-Sensitive Networking

Operating System Approaches for Cyber-Physical Networks:
- Resource Management
- Timeliness and Energy Awareness
- Local and Distributed Dependability

PAPERS AND SUBMISSION
The workshop allows two types of submissions: papers and demos. Submitted papers must represent original material that is not currently under review in any other conference or journal, and has not been previously published. All paper submissions should be written in English with a maximum paper length of six (6) printed pages (10-point font) following the IEEE format. All demo submissions come in form of an extended abstract with a maximum length of two (2) printed pages with the same format as paper submissions. At the workshop, demos are required to bring a poster (A0) that accompanies their presentation. We also encourage the paper authors to optionally present a demo. This does not require a separate submission of an extended abstract but is covered by the paper submission.

For more details, please refer to IEEE CCNC 2019 conference website:
http://ccnc2019.ieee-ccnc.org/authors

Workshop website:
http://cpn2019.spp1914.de/
Science Lab, University of Illinois at Urbana-Champaign

OCTOBER 3-5 — Conference Sessions at the University of Illinois Allerton Park & Retreat Center. The Allerton House is located 26 miles southwest of the Urbana-Champaign campus of the University of Illinois in a wooded area on the Sangamon River. It is part of the 1,500 acre Robert Allerton Park, a complex of natural and man-made beauty designated as a National natural landmark. Allerton Park has 20 miles of well-maintained trails and a living gallery of formal gardens, studded with sculptures collected from around the world.

PLENARY SPEAKER — A. Stephen Morse, Dudley Professor of Electrical Engineering at Yale University

OCTOBER 7 — Final Paper Deadline Final versions of papers that are presented at the conference must be submitted electronically in order to appear in the Conference Proceedings and IEEE.

5.9. IEEE International Conference on Mechatronics

Contributed by: Michael Ruderman, michael.ruderman@uia.no

IEEE 2019 International Conference on Mechatronics (ICM2019)
18-20 March 2019, Ilmeanau, Germany


IMPORTANT DATES
15.09.2018: Deadline for Submission of Special Session Proposals
30.10.2018: Deadline for Full Paper Submission
15.12.2018: Notification of Acceptance
31.01.2019: Deadline for Final Manuscript Submission

TECHNICAL TOPICS
ICM2019 is organized under motto “Mechatronics for Cross-disciplinary Research”.

The main conference topics include:
- Advanced Motion Control
- Sensors / Actuators
- Micro and Nano Mechatronics
- Robotics and Biomechatronics
- Intelligent Control and AI in Mechatronics
- Mechatronics Education

The targeted application fields cover:
- Ambient Assisted Living
- Personalized and Automated Transportation, Electric Vehicles
- Intelligent Manufacturing
- Energy Systems
- Cyber-Physical Systems
- Medical Systems and Bioengineering

The conference is not limited by the mentioned topics and application areas and invites researchers, engineers and practitioners to present their high-quality papers and presentations in various mechatronics-related subjects.

FURTHER INFORMATION
https://ieee-icm2019.org/
5.10. International Conference on Control, Automation and Systems
Contributed by: Zee Yeon Lee, conference@icros.org

2018 18th International Conference on Control, Automation and Systems (ICCAS 2018)
October 17 20, 2018
YongPyong Resort, PyeongChang, GangWon Province, Korea
http://2018.iccas.org

Call for Papers: http://icros.org/data/download/ICCAS2018/ICCAS2018_CFP.pdf

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

IMPORTANT DATES
- June 17, 2018 : Submission of Regular Papers (3 6 pages)
- July 13, 2018 : Submission of Organized Session/Mini-symposium Proposal with Papers and Research Poster Papers (1 2 pages)
- July 31, 2018 : Notification of Acceptance
- August 31, 2018 : Submission of Final Camera-ready Papers

PAPER SUBMISSION:

To submit papers, go "Online Paper Submission" on the website:
http://sigongji.2018.iccas.org/

PAPER SUBMISSION GUIDELINE: http://2018.iccas.org/?page_id=81

Indexed in: IEEE Xplore, EI compendex, and SCOPUS

PLENARY SPEAKERS- Edwin K. P. Chong (Colorado State Univ., USA)
- Matthew W. Smuck (Stanford Univ., USA)
- Janan Zaytoon (Univ. of Reims, France)
- Xiaoyan Zhu (Tsinghua Univ., China)
- Hideaki Ishii (Tokyo Inst. of Tech., Japan)

– Welcome to PyeongChang, 2018 Winter Olympics Venue –
PyeongChang is a county in Gangwon Province, South Korea. It’s known for Odaesan National Park, with trails crisscrossing the Taebaek Mountains. The park is also home to several Buddhist temples, including Woljeongsa Temple, with its 9-story octagonal pagoda. Lee Hyo-seok Culture Village explores the life of early-20th-century poet Lee Hyo-seok. On the Heungjeong Valley bank are the 7 themed gardens of Herbnara Farm.

General Chair: Chul Joo Hwang (President of ICROS; Jusung Engineering, Korea)
Organizing Chair: Sungwan Kim (Seoul Nat’l Univ., Korea)
Program Chair: Jung Kim (KAIST, Korea)
Organized by Institute of Control, Robotics and Systems (ICROS)
Technically Co-sponsored by: IEEE CSS; IEEE RAS; IEEE IES; SICE; ACA; ISA; CACS; TCCT, CAA; ECTI; CAAI

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5.11. IEEE Colombian Conference on Automatic Control
Contributed by: Jhon Isaza, jaisazah@unal.edu.co
First Call for Papers

4th IEEE Colombian Conference on Automatic Control 2019

Scope: The 4th IEEE Colombian Conference on Automatic Control (CCAC) will be held on October 15-18, 2019 in Medellin-Colombia. This conference is sponsored by the IEEE Control Systems Society. This is the fourth in a series that have been successfully established in the Colombian and Latin American region. The objective of the conference is to gather academics and industrial researchers and practitioners to discuss the state of the art, research, and developments in technological advances and applications of control engineering to encourage technology development in Colombia and the Latin American region. The conference includes all aspects around control engineering, from analysis and design to simulation and hardware. Major topics for the event include, but are not limited to, the following:

Applied control for industrial and non-industrial areas, applied control for robots, hybrid systems, intelligent control, mechatronics, mobile robots, modeling of dynamic systems, multi-robot systems, control of power systems, process control and automation, process optimization, sensing and sensor fusion, system identification, systems and signals, control of biological systems and biochemical processes.

Important Dates:
- Paper submission deadline: March 17 2019
- Paper decision notification: June 03 2019
- Camera-ready final manuscripts: July 15 2019

Paper submission: The program committee invites you to submit 4 to 6 pages long papers in English or Spanish through www.ieeeccac2019.com.

Submitted papers to CCAC must be original, not previously published or accepted for publication elsewhere and must not be submitted to any other event or publisher during the entire review process. IEEE policy regarding plagiarism and duplicate submission/publication will be strictly enforced. The paper format and submission instructions are available at www.ieeelarc.org. Accepted and presented papers will be published in the IEEE CCAC 2019 Conference Proceedings and submitted to IEEE Xplore®. Only English versions will be published in IEEE Xplore®.

Venue: The 4th IEEE CCAC 2019 will be held in Medellin from the 15th to 18th of October 2019. Medellin, the 2nd largest city in Colombia, is a vibrant city that offers a wide variety of tourist, gastronomic and cultural attractions.

Contact: Additional details and Conference updates are available at: www.ieeeccac2019.com
Inquiries and doubts about the conference may be addressed to: contact@ieeeccac2019.com

5.12. CDC Workshop on “Computation-aware Algorithmic Design for Cyber-Physical Systems”

Contributed by: Majid Zamani, zamani@tum.de

CDC 2018 Full-day Workshop on ”Computation-aware Algorithmic Design for Cyber-Physical Systems”

The main goal of the workshop is to highlight recent advances and developments in the field of cyber-physical systems (CPS) with a specific focus on the need of accounting for computation constraints in algorithm design, also dictated by the communication structure of the system. To this purpose, we will bring together outstanding researchers from leading institutions and industries worldwide. The target audience comprises graduate level control theorists, computer scientists and engineers, as well as researchers with a strong interest
in CPS verification and control, either from a theoretical or an application perspective. In particular, the main topics being covered are:

1- CPS models that are computation aware;
2- Performance metrics under computation limitations;
3- Algorithm design for CPSs operating in an uncertain dynamic environment;
4- Communication constrained networked control systems.

Invited Speakers:
Murat Arcak, University of California at Berkeley, USA
Massimo Franceschetti, University of California at San Diego, USA
Karl H. Johansson, KTH Royal Institute of Technology, Sweden
George J. Pappas, University of Pennsylvania, USA
Alessandro Pinto, United Technologies Research Center, USA
Jonathan Sprinkle, University of Arizona, USA
Panagiotis Tsiotras, Georgia Institute of Technology, USA

Organizers:
Raphaël Jungers – UC Louvain, Belgium
Maria Prandini – Politecnico di Milano, Italy
Ricardo Sanfelice – University of California Santa Cruz, USA
Majid Zamani – Technical University of Munich, Germany

The workshop will take place from 9:00 AM till 5:00 PM in the Splash 11 room, Fontainbleau Hotel, Miami Beach, on December 16, 2018.

Workshop website:
http://home.deib.polimi.it/prandini/CDC18_CPS_workshop.html

Registration link:
https://cdc2018.ieeecss.org/registration.php

5.13. CDC Workshop on “Parameter Convergence in Adaptive Control without Persistence of Excitation”
Contributed by: Shubhendu Bhasin, sbhasin@ee.iitd.ac.in

CDC 2018 Workshop on ”Parameter Convergence in Adaptive Control without Persistence of Excitation”
Date, Time and Location: Sunday, December 16, 2018, 9:00 am – 1:00 pm, Splash 7-8, Fontainebleau Hotel, Miami Beach, FL, USA.

Speakers:
Sayan Basu Roy, IIT Delhi, India.
Shubhendu Bhasin, IIT Delhi, India.
Rushikesh Kamalapurkar, Oklahoma State University, USA.
Girish Chowdhary, UIUC, USA.
Warren Dixon, University of Florida, Gainesville, USA.

Broad Areas Covered:
Stability/Convergence properties of Classical Adaptive Control
Stability/Convergence properties of Composite Adaptive Control
Persistence of Excitation (PE) condition and its practical limitations
Recent Advances to relax the PE condition for parameter convergence
Concurrent Learning (CL)-based Adaptive Control
Integral Concurrent Learning (ICL)-based Adaptive Control
Initial Excitation (IE)-based Adaptive Control
Registration link: https://cdc2018.ieeecss.org/registration.php
Workshop webpage: http://web.iitd.ac.in/sbhasin/docs/CDC_2018_Workshop.htm

5.14. CDC Workshop on “Learning for Control”
Contributed by: Konstantinos Gatsis, kgatsis@seas.upenn.edu

Workshop on Learning for Control, 57th IEEE Conference on Decision and Control, Miami Beach, Florida, December 16, 2018

Over the past two decades, advances in computing and communications have resulted in the creation, transmission and storage of data from all sectors of society. Over the next decade, the biggest generator of data is expected to be Internet-of-Things devices which sense and control the physical world. This explosion of data that is emerging from the physical world requires a rapprochement of areas such as machine learning, control theory, and optimization. The availability and scale of data, both temporal and spatial, brings a wonderful opportunity for our community to both advance the theory of control systems in a more data-driven fashion, as well as have a broader industrial and societal impact. The goals of our workshop are:

- Present state-of-the-art results in the theory and application of Learning for Control, including topics such as statistical learning for control, reinforcement learning for control, online and safe learning for control
- Bring together some of the leading researchers across the fields in order to promote cross-fertilization of results, tools, and ideas, and stimulate further progress in the area
- Attract new researchers in these exciting problems, creating a larger yet focused community that thinks rigorously across the disciplines and asks new questions

KEYNOTE SPEAKER
Michael I. Jordan, University of California, Berkeley

INVITED SPEAKERS
Dimitri P. Bertsekas, Massachusetts Institute of Technology
Francesco Borrelli, University of California, Berkeley
Giuseppe Carlo Calafiore, Politecnico di Torino
Maryam Fazel, University of Washington
Frank L. Lewis, University of Texas at Arlington
Benjamin Recht, University of California, Berkeley
Angela Schoellig, University of Toronto
Claire J. Tomlin, University of California, Berkeley

ORGANIZERS
Konstantinos Gatsis, University of Pennsylvania
Pramod P. Khargonekar, University of California, Irvine
Manfred Morari, University of Pennsylvania
George J. Pappas, University of Pennsylvania

The workshop will take place on Sunday December 16, 2018 during the 57th IEEE Conference on Decision and Control at the Fontainebleau in Miami Beach, FL, USA. Please note that only people who have registered for the conference can register for the workshop.
6. Positions

6.1. PhD: LAAS, France
Contributed by: Aneel Tanwani, aneel.tanwani@laas.fr

Open PhD position: Analysis and control of complex interconnected dynamical systems
A PhD position is available within team MAC at Laboratoire d’Analyse et d’Architecture des systèmes (LAAS) in Toulouse, France. The position is expected to last three years with a monthly stipend of nearly 1500 euros net. The thesis will focus on the study of control of interconnections of constrained dynamical systems. Primary objective of the thesis is to develop mathematical tools for numerical and stability analysis of such systems, and use them in designing appropriate feedback controllers. Some intermediate details about the project can be found at: http://homepages.laas.fr/atanwani/ConVan.html

6.2. PhD: University of Sannio in Benevento, Italy
Contributed by: Davide Liuzza, davide.liuzza@unisannio.it

PhD positions in mobile robotics - Unisannio, Italy
PhD Position available at the Department of Engineering of the University of Sannio in Benevento, Italy. Contacts: Prof. Luigi Glielmo (email glielmo@unisannio.it), Prof. Luigi Iannelli (email luigi.iannelli@unisannio.it), Dr. Davide Liuzza (email davide.liuzza@unisannio.it), Giuseppe Silano (email giuseppe.silano@unisannio.it).

The GRACE (Group for Research on Automatic Control Engineering) at the University of Sannio offers two PhD positions for an incoming European Project on CPS for farming scenarios to be started in October 2018.
The successful candidates will conduct original research on drone navigation and control in unknown environments (with special emphasis on woods and orchard) based on visual odometry information.
Our ideal candidates have a sound knowledge in robotics and computer vision from their Bachelor and Master degrees, experience in drone navigation, SLAM, computer vision algorithms and virtual reality environments for robotic applications (such as Gazebo, V-Rep, Webots, AirSim, etc.). Furthermore, a basic knowledge of ROS is desirable.
The candidates will also have to demonstrate experience in object programming (C++, Java), general skills in computer programming (Python, C, XML, and so on) an excellent academic track record, well developed problem solving skills and a strongly motivated personality. Familiarity with open source OS (Ubuntu) and version control systems (Git and Mercurial) is a plus. Interests in both theoretical robotic research and mobile robotic applications as well as the ability of working independently complete the candidate profiles.
The candidates will be selected according to applicant fulfilment of the above qualifications.
Interested candidates must send detailed CV, two contacts to whom we can ask reference letters, and any other useful documentation to the email address: luigi.iannelli@unisannio.it, davide.liuzza@unisannio.it and giuseppe.silano@unisannio.it (please, include all the addresses).

Answers will be given at the beginning of September, 2018.

The selected candidate will join the control system group at the University of Sannio in Benevento, Italy. The project involves an academic and industrial panel of roughly 50 European partners.

6.3. PhD: Delft University of Technology, The Netherlands

Contributed by: Sergio Grammatico, s.grammatico@tudelft.nl

3 PhD positions: Game theoretic Control, Complex Systems of Systems, Operator Theory
Delft Center for Systems and Control (DCSC), Delft University of Technology, The Netherlands.

I am looking for 3 talented, outstanding candidates with an M.Sc. degree (or close to completion) in Systems and Control, or Applied Mathematics, Electrical or Mechanical Engineering, or related field, with theoretical background and interest in System Theory, Automatic Control, Optimization, Game Theory, and with good command of the English language (knowledge of Dutch is not required).

General project description: The candidates will conduct theoretical and algorithmic research on complex multi-agent systems characterized by the presence of: (i) mixed cooperative and noncooperative agents; (ii) uncertain and stochastic variables; (iii) mixed-integer decision variables. The research will develop and build upon tools from game theory, monotone and fixed-point operator theory, statistical learning, distributed optimization and control. The main application areas are distributed control for smart power grids and multi-vehicle automated driving.

The PhD positions are in the context of the research projects "Complex Network Games: The Scenario Approach" (OMEGA), funded by the Netherlands Organization for Scientific Research (NWO) as TOP grant in Mathematics, and "Game theoretic Control for Complex Systems of Systems" (COSMOS), funded by the European Research Council as ERC Starting Grant.

Conditions of employment: The appointments will be for 4 years. The PhD students will participate in the training and research activities of the TU Delft Graduate School and of the Dutch Institute of Systems and Control (DISC). As an employees of TU Delft, the PhD students will receive a competitive salary in accordance with the Collective Labour Agreement for Dutch Universities (CAO), from 2.2k EUR/month (gross, 1st year) to 2.8k EUR/month (gross, 4th year), possibly from 1.7k EUR/month (after taxes, 1st year) to 2.0k EUR/month (after taxes, 4th year), plus holiday allowance (8% of gross annual income) and end-of-year allowance (8.3% of gross annual income), travel budget, secondary benefits, discounts for health insurance and sport membership. Assistance with accommodation can be arranged.

Applications shall include the following documents:
• curriculum vitae;
• statement of motivation and research interests (up to one page);
• transcripts of all exams taken and obtained degrees (in English);
• names and contact information of up to three references (e.g. project/thesis supervisors);
• up to two research-oriented documents (e.g. thesis, conference/journal publication).

Applications or inquires shall be emailed to prof. Sergio Grammatico (s.grammatico@tudelft.nl).

The starting date are flexible. The call for applications will remain open until the ideal candidates are found.
6.4. PhD: Florida State University, USA
Contributed by: Lichun Li, lli8@fsu.edu

Two open positions are available for PhD students in Department of Industrial and Manufacturing Engineering at Florida State University. The positions are available as early as January 2019. The topics and the desired background are as follows:

1. Secure Cyber-Human-Physical System
   This project is to design satisfying sequential strategies based on real time data in adversarial environment. This topic evolves uncertainties dynamic systems, propagation, Bayesian estimation, and optimization. In particular, backgrounds in the following topics are desired.
   a. Game theory
   b. Discrete time dynamic systems
   c. Stochastic analysis
   d. Matlab, Simulink

2. Large-Scale Networked Systems
   This project is to design resilient and efficient large-scale networks which can allocate resources in a timely manner to meet network agents’ needs and to withstand extreme events. Backgrounds in the following topics are desired.
   a. Dynamic systems
   b. Control theory
   c. Stochastic analysis
   d. Matlab, Simulink

A competitive research assistantship and full tuition waiver will be offered.

The application deadlines for Spring, summer, and fall 2019 application are Oct. 1, Jan. 1, and Mar. 1, respectively. Please check https://www.eng.famu.fsu.edu/ime/graduate/admissions for further details.

To apply, please contact Prof. Lichun Li at lli8@fsu.edu. The application should include
1. A cover letter (explicitly describing the candidate background and how they fit the open positions).
2. A detailed CV (including the list of publications).
3. Unofficial copies of their BS (and, if applicable, MS) transcripts.

Please include all materials into a single PDF file.

6.5. PhD: University College Dublin, Ireland
Contributed by: Giovanni Russo, giovanni.russo1@ucd.ie

One Ph.D. position is available at the Systems and Control Group within the School of Electric and Electronic Engineering of the University College Dublin. The Ph.D. student will work under the supervision of Dr. Giovanni Russo (email: giovanni.russo1@ucd.ie).

For this position, we are seeking candidates for our mobility work with the Science Foundation Ireland Research Center Lero (https://www.sfi.ie/sfi-research-centres/lero/). The project seeks to develop closed loop strategies, leveraging Distributed Ledger Technology, for the control of autonomous and connected
vehicles. The work will be aimed at developing novel tools from nonlinear dynamics, distributed optimization and AI to design collaborative services within vehicles. The research will have both a theoretical and applied, hands-on, aspect. The main reference use case that will be developed will be in the context of intelligent transportation systems.

The ideal candidate should have a background in:
1. nonlinear dynamics and complex systems;
2. intelligent transportation;
3. optimization;
4. statistics.

To apply:

send a cover letter stating your interest in the position and your CV to giovanni.russo1@ucd.ie. Pre-applications and informal inquiries can be made to Dr Giovanni Russo. The positions are available starting from September/October 2018.

6.6. PhD: CNRS, France

Contributed by: Perrin Julie, julie.perrin@gipsa-lab.fr

Resilient Control in Scale-Free Networks

Supervisors: Carlos Canudas-de-Wit (DR-CNRS, main supervisor), Federica Garin (CR-INRIA),

Application type: PhD student. Gross salary: 1757 Euros/month (CNRS official salary for PhD students).

Start: anytime from Sept. 2018. Duration: 36 months. Employer: CNRS. Location: Grenoble, France

Applications: http://scale-freeback.eu/openings/

Required background: Master in control systems engineering or applied mathematics

Context.

Scale-FreeBack is an ERC Advanced Grant 2015 awarded to Carlos Canudas-de-Wit, Director of Research at the National Center for Scientific Research, (CNRS), during Sept. 2016-2021. The ERC is hosted by the CNRS. The project will be conducted within the NeCS group (which is a joint CNRS (GIPSA-lab)-INRIA team). Scale-FreeBack is a project with ambitious and innovative theoretical goals, which were adopted in view of the new opportunities presented by the latest large-scale sensing technologies. The overall aim is to develop holistic scale-free control methods of controlling complex network systems in the widest sense, and to set the foundations for a new control theory dealing with complex physical networks with an arbitrary size. Scale-FreeBack envisions devising a complete, coherent design approach ensuring the scalability of the whole chain (modelling, observation, and control). It is also expected to find specific breakthrough solutions to the problems involved in managing and monitoring large-scale road traffic networks. Field tests and other realistic simulations to validate the theory will be performed using the equipment available at the Grenoble Traffic Lab center (see GTL), and a microscopic traffic simulator replicating the full complexity of the Grenoble urban network. The proposed work will be undertaken in the context of this project.

Topic description.

Vulnerabilities in network systems involve faults and disruptions not only of some system components (sensors and actuators), but also of the communication interconnections. Such faults might be either random intrinsic malfunctions, or malicious external attacks. For example, in an intelligent road infrastructure, intrinsic faults might be the breakdown of some traffic lights, some closed roads for repair work, or failures of some sensors, while an example of external attack is a deception attack, where some roadside access point is shunted, so as to compromise data integrity (injection of fake signals replacing the sensor measurements) and possibly create
a congestion compromising the system. Resilient closed-loop control must preserve correct functioning, or at least a graceful degradation, under a variety of possible risks, including malicious attacks exploiting some partial or total knowledge of the system dynamics.

Finding means of detecting and mitigating failures and attacks are the two main goals of this work. Resilient control of cyber-physical systems is a recent topic attracting a growing attention. Most current literature concerns linear network systems, in particular for electrical power-distribution networks. Scale-FreeBack proposes to investigate the resilient control issues arising in traffic networks, and more in general in complex network systems. This work will build upon previous results from the Scale-FreeBack project, where the complexity of controlling large network systems is tackled by controlling aggregated variables (e.g., average densities of some local zones of the traffic network), possibly with evolutionary (i.e., time-varying and state-dependent) aggregations. More specifically, it is proposed: 1) to develop diagnostic tools for detecting anomalies and revealing cyber-physical attacks, 2) to define security metrics for evolutionary networks, and 3) to revisit the optimal control design to attenuate the consequences of possible cyber-physical attacks affecting the most vulnerable nodes.

6.7. PhD: French-German Research Institute of Saint-Louis, France

Contributed by: Spilios Theodoulis, Spilios.Theodoulis@isl.eu

The Guidance, Navigation & Control (GNC) group of the French-German Research Institute of Saint-Louis (ISL) is inviting applications (only EU citizenship applications will be considered) for three (3) fully funded PhD positions in the general area of flight dynamics and robust guidance and control of aerial vehicles. The successful candidate must hold (or soon complete) an MSc degree in automatic control with additional skills in flight mechanics being also appreciated. Excellent programming skills in MATLAB/Simulink are also required. The positions are to be filled starting from October 2018 and are in collaboration with industry and academia from France and Germany. The institute offers an attractive salary, a multidisciplinary working environment with great scientific interactions and is located near the metropolitan area of Basel. To apply for this position, send a CV, transcripts and motivation letter to Spilios.Theodoulis@isl.eu

6.8. PhD: Frankfurt Institute for Advanced Studies, Germany

Contributed by: Esteban Hernandez-Vargas, vargas@fias.uni-frankfurt.de

PhD Position in Control Theoretical approaches to Infectious Diseases

The group of Systems Medicine at the Frankfurt Institute for Advanced Studies invites applications for a 3 years PhD position.

Major duties:
• Develop mathematical models describing diseases using deterministic models, stochastic models, and compartmental models.
• Analyze clinical and experimental data from collaborators using machine learning and bioinformatics approaches.
• Develop novel algorithms to treat diseases.
• Publish research findings in scientific journals and present them at major scientific meetings.

Qualifications:
• A PhD degree in a quantitatively-oriented field, such as engineering, computer science or applied mathematics.
• Excellent command of English.
• Knowledge in analytical and quantitative methods.
• Experience in MATLAB, Python, or R, and LaTex.
• Knowledge of immunology is a plus.

Please send questions or your application with a motivation letter, outlining your interest in the position, along with your curriculum vitae which should include the names and contact details of three referees, to jobs@systemsmedicine.de

Positions are open until filled. The planned start date is January 2019.

6.9. PhD: Chalmers University of Technology, Sweden
Contributed by: Yiannis Karayiannidis, yiannis@chalmers.se

PhD student position in Learning-based control for robotic manipulation of deformable objects.

Information about the project:
The doctoral student will work in an exciting new project lying in the intersection of the areas of machine learning, robotics and automatic control. The doctoral student will specialize in AI and learning-based approaches for robot control, namely robotic manipulation of deformable objects. The main goal of this research project is to deal with the manipulation of deformable objects by combining i) data-driven modeling of robot-object interaction based on Deep Neural Networks and vision/force data, and ii) design of control policies based on Reinforcement Learning principles. You are expected to design algorithms and test them in real-world and simulated robotic setups.

The position is with the Mechatronics research group in the division of Systems and Control. The candidate will work under the supervision of senior researchers with background in robotics, automatic control and optimization with the Division of Systems and Control. There will also be close collaboration with the Dept. of Robotics Perception and Learning at Royal Institute of Technology (KTH) under the umbrella of WASP (http://wasp-sweden.org/).

Major responsibilities:
The PhD student will carry out original research and complete coursework throughout the period of appointment. Results will be communicated in the form of scientific articles, conference presentations, etc. and the PhD thesis.

The working time of a Ph.D. student is mainly devoted to research. Undergraduate teaching duties, not exceeding 20% of the working time, may include supervision of MSc students.

Position summary:
Full-time temporary employment. The position is limited to a maximum of five years.

Qualifications:
Applicants should have a Master’s degree (or Diploma) in Automation and Mechatronics or Electrical Engineering or Computer Science or Mechanical Engineering or Applied Math corresponding to at least 240 higher education credits or an equivalent or similar background. Basic knowledge on machine learning, control systems and robotics as well as experience in programming are required. Furthermore, the position requires sound verbal and written communication skills in English. High grades in relevant undergraduate courses, C/C++ and hardware implementation experience are advantageous.
6.10. PhD/PostDoc: Virginia Tech, USA  
Contributed by: Mazen Farhood, farhood@vt.edu

Postdoc and PhD Positions in Formal Verification of Cyber-Physical Systems  
Aerospace and Ocean Engineering, Virginia Tech, Blacksburg VA 24061, U.S.A.

Application deadline: Interested researchers are encouraged to apply as soon as possible. Applications will be accepted until positions are filled.

Projects:  
Applications are invited for Postdoc and PhD positions to work on projects focusing on the compositional verification of cyber-physical systems such as autonomous vehicles.

Candidates:  
For the Postdoc positions, we seek candidates with a strong background in formal methods applied to cyber-physical systems. Ideally, candidates will hold a PhD or have equivalent experience, though candidates who are close to submitting a PhD dissertation will be considered.

Application:  
Please email your application to Dr. Mazen Farhood (farhood@vt.edu). The application should include your CV, a brief statement of research experience and interests, and the names of three references.

The appointments for the Postdoc positions start as soon as possible and will be for one year with renewal contingent on performance. PhD student(s) are expected to join the graduate program at Virginia Tech either in the Spring 2019 or Fall 2019 semesters.

More Information:  
Further details may be obtained from Dr. Mazen Farhood (farhood@vt.edu).

6.11. PostDoc: Shanghai Jiao Tong University, China  
Contributed by: Weidong Zhang, wdzhang@sjtu.edu.cn

Postdoctoral position in Shanghai Jiao Tong University, China  
The Engineer Research Center of Marine Automation, Shanghai Municipal Education Commission (in the Department of Automation, Shanghai Jiao Tong University, China) seeks to fill 3 postdoctoral positions as soon as possible thereafter. We are interested in candidates in broad areas of control engineering, marine engineering, unmanned autonomous systems, etc.

Applied conditions as follows:  
- PhD degree  
- Experience in theory or engineering research  
- Good communication skills in English or Chinese  
- Strong work ethic and passion for research

Main tasks:  
- To conduct original research  
- Assist in writing proposals for new research and write reports for existing research  
- Supervision of student projects and thesis at both master and Ph.D levels
Salary and others:
- RMB 120-200k/year (approximately, 18-30kUSD)
- Apartment with very cheap rent
- It is a 2 year position and can be extended to 5 years

Required documents
- Detailed curriculum vitae and list of publications;
- Names and contact information of three references.

For further information, please contact Prof. Dr. Weidong Zhang, Email: wdzhang@sjtu.edu.cn, tel: +86-21-34204019. Address: Dongchuan Road 800, Shanghai Jiao Tong University, Shanghai 200240, China.

Contributed by: Sergio Grammatico, s.grammatico@tudelft.nl

2 PostDoc positions: Game theoretic Control, Complex Systems of Systems, Operator Theory
Delft Center for Systems and Control (DCSC), Delft University of Technology, The Netherlands.
I am looking for 2 talented, outstanding research fellows with a Ph.D. degree (or close to completion) in Systems and Control, or Applied Mathematics, Electrical or Mechanical Engineering, or related field, with theoretical background and interest in System Theory, Automatic Control, Optimization, Game Theory, and with good command of the English language (knowledge of Dutch is not required). Expertise in mixed-integer optimization is appreciated.

General project description: The researchers will conduct theoretical and algorithmic research on complex multi-agent systems characterized by the presence of: (i) mixed cooperative and noncooperative agents; (ii) uncertain and stochastic variables; (iii) mixed-integer decision variables. The research will develop and build upon tools from game theory, monotone and fixed-point operator theory, statistical learning, distributed optimization and control. The main application areas are distributed control for smart power grids and multi-vehicle automated driving.

The PostDoc positions are in the context of the research project "Game theoretic Control for Complex Systems of Systems" (COSMOS), funded by the European Research Council as ERC Starting Grant.

Conditions of employment: The appointments will be for 3 years. As an employees of TU Delft, the research fellows will receive a competitive salary in accordance with the Collective Labour Agreement for Dutch Universities (CAO), of about 3.2k EUR/month gross, possibly from 2.5k EUR/month after taxes, plus holiday allowance (8% of gross annual income) and end-of-year allowance (8.3% of gross annual income), travel budget, secondary benefits, discounts for health insurance and sport membership. Assistance with accommodation can be arranged.

Applications shall include the following documents:
• curriculum vitae;
• statement of motivation and research interests (up to one page);
• transcripts of all exams taken and obtained degrees (in English);
• names and contact information of up to three references (e.g. project/thesis supervisors);
• up to three research documents (e.g. thesis, conference/journal publication).

Applications or inquires shall be emailed to prof. Sergio Grammatico (s.grammatico@tudelft.nl).

The starting date are flexible. The call for applications will remain open until the ideal candidates are found.
6.13. PostDoc: NC A&T State University, USA
Contributed by: Ali Karimoddini, akarimod@ncat.edu

Post-Doctoral Position in Machine Learning

The Autonomous Control and Information Technology (ACIT) Institute at NC A&T State University, invites applications for a full-time, post-doctoral research associate position in Artificial Intelligence and Machine Learning and its applications to control of autonomous vehicles. The project uses data driven methods to develop and implement control, as well as testing and evaluation techniques for autonomy algorithms of autonomous vehicles.

This is a non-tenure-track, year-to-year appointment, renewable annually for up to two years subjected to satisfactory performance, availability of resources, and the needs of the Institute. We particularly look for applicants that have a demonstrated track record in Fuzzy Logic Systems, Approximate Reasoning, Machine Learning, Data Science and their applications to systems and control problems. Demonstrated proficient programming skills are required (Preferably Python), and practical experiences with embedded real-time systems are desired.

The candidate will also be working with both graduate and undergraduate students in a mentoring role, and will be involved in developing research proposals, conducting workshops, and seminars. The candidate will enjoy a dynamic and collaborative working environment of our cutting-edge autonomous vehicle research team. U.S. citizenship is preferred and minority candidates are strongly encouraged to apply. If interested, please apply electronically by sending a detailed curriculum vitae, copies of your top three publications, the summary of your PhD dissertation, names and contact information of three references, and other information that might be relevant to your application to Dr. Homaifar (homaifar@ncat.edu) and Dr. Karimoddini (akarimod@ncat.edu).

6.14. PostDoc: Georgia Tech, USA
Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Several postdoctoral positions are available with the Dynamics and Control Systems Laboratory (dcsl.gatech.edu) at the School of Aerospace Engineering and the Institute for Robotics and Intelligent Machines (robotics.gatech.edu) at Georgia Tech. Candidates with extensive expertise and demonstrated accomplishments in one or more of the following areas are encouraged to apply:

1) Stochastic control, stochastic games, sequential decision-making, MDP/POMPDs.
2) Information-theoretic methods in autonomy & robotics.
3) Visual perception, SLAM, SM algorithms for autonomous robots.

The successful candidate should have a PhD degree in Engineering, Mathematics or Computer Science, with a demonstrated record of publications in these areas.

The appointment will be initially for 12 months with a possible extension for up to 24-36 months.

Interested candidates should submit an extended resume, along with a list of publications and the names of three (3) references to: Prof. Panagiotis Tsiotras, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0150 USA, Email: tsiotras@gatech.edu. Applications received before September 15, 2018 will receive full consideration.
6.15. PostDoc: KU Leuven, Belgium
Contributed by: Jan Swevers, jan.swevers@kuleuven.be

PostDoc: KU Leuven, Belgium
Postdoc position on implementation and application of linear parameter varying system identification methods.

The MECO research team of KU Leuven (Belgium), Department of Mechanical Engineering is searching for a motivated and skilled postdoctoral researcher with a strong background in the development and application of linear and linear parameter varying systems identification methods, numerical optimization, and programming (Matlab, C/C++).

In this research project you will interface existing LTI and LPV system identification methods (toolboxes) with the Linear Control Toolbox that is currently being developed by the MECO research team (https://github.com/meco-group/lc_toolbox), and apply these techniques on various challenging mechatronic applications. You will cooperate with two PhD researcher that focus on the development and application of LPV $H_2/H_\infty$ feedback control techniques.

The research will take place in the MECO (Motion Estimation Control and Optimization) research team of the Department Mechanical Engineering of KU Leuven. The MECO research team focusses on modeling, estimation, identification, analysis and optimal control of motion and motion systems such as mechatronic systems or machine tools. It combines theoretical contributions (development of design methodologies) with experimental knowhow (implementation and experimental validation on lab-scale as well as industrial setups).

The theoretical research benefits from the group’s expertise on numerical optimization, especially convex optimization. MECO is member of Flanders Make - the strategic research center for the manufacturing industry.


Offer:
A fully funded postdoctoral position in an international context for one year at KU Leuven (renewable); a start date in course of 2018/2019 is to be agreed upon. KU Leuven is among the top European universities and a hub for interdisciplinary research in the fields of systems, control and optimization.

Include:
- an academic CV with photo,
- a pdf of your diplomas and transcript of course work and grades,
- a list and pdf files of your publications,
- a statement of research interests and career goals (max. 2 pages),
- contact details of at least two referees,

Deadline: October 31, 2018. The position might be filled in earlier if an excellent candidate is found.

6.16. PostDoc: University of Melbourne, Australia
Contributed by: Peter M. Dower, pdower@unimelb.edu.au

Postdoctoral Research Fellow Position at the University of Melbourne, Australia.

A postdoctoral research fellow with a solid background in applied mathematics (or equivalent) is sought to conduct mathematical systems theory research in the area of optimal control for continuous time nonlinear
dynamical systems, with an emphasis on the development of new theory and computationally efficient methods arising from analysis and application of Pontryagin's minimum principle, dynamic programming and Hamilton-Jacobi-Bellman partial differential equations. An initial appointment for one year is available.

Contribution: Peter M. Dower, University of Melbourne.
E: pdower@unimelb.edu.au — W: http://people.eng.unimelb.edu.au/pdower

6.17. PostDoc/Research Scientist: Karlsruhe Institute of Technology, Germany
Contributed by: Timm Faulwasser, timm.faulwasser@kit.edu

Postdoc / research scientist position on optimization-based control of energy systems
The Karlsruhe Institute of Technology (KIT), Institute for Automation and Control, Optimization and Control Group is searching for a motivated and skilled postdoctoral researcher with a strong background in the development of optimization methods for electrical and multi-carrier energy systems and/or background in distributed and decentralized algorithms that are able to consider stochastic uncertainties.

Profile
You will join a project on distributed control of energy systems which is conducted in close collaboration with a German Transmission System Operator (TSO). You hold a master degree in Applied Mathematics, Cybernetics, Electrical Engineering or a similar discipline. Ideally, you have already finished, respectively you are about to finish, your doctorate/PhD and you have profound knowledge of numerical optimization, systems theory and control engineering; a background on distributed control algorithms and computations as well as knowledge of optimization under uncertainty would be a plus. Basic on knowledge on modelling of energy systems would also be helpful.

Language proficiency in English as well as good communication skills and team skills are required.

A start date in 2018 would be preferred.

Required documents
- Detailed curriculum vitae and list of publications;
- Names and contact information of three references.

For questions, please contact:
Timm Faulwasser, (timm.faulwasser@kit.edu)
Institute for Automation and Applied Informatics, KIT. Tel.: +49 721 608 26494

6.18. Research Group Leader: University of Stuttgart, Germany
Contributed by: Frank Allgower, allgower@ist.uni-stuttgart.de

Independent Research Group Leader in the Cyber Valley Initiative, University of Stuttgart, Germany

At the University of Stuttgart a new Cyber Valley Research Group will be established as part of the Cyber Valley initiative (http://www.cyber-valley.de/en). The group will be funded by the Christian Bürkert Foundation. Cyber Valley is a new center for AI research in the Stuttgart/Tübingen region of Germany, bringing together partners from science and industry to create a world-leading hub for research in intelligent systems and to establish an ecosystem for startups in the field of artificial intelligence.

We are seeking applications for the position of Group Leader for this new group. The position is a senior postdoc level position, initially for four years and is non-tenure track. The person holding the position will
be expected to work independently and will have the right to supervise and graduate own PhD students and
to teach at the University of Stuttgart. The funding provided to the group includes the group leader position
(TV-L E14, senior postdoc level), two additional PhD positions as well as startup and running budgets for up
to four years. The group will be embedded into the Institute for Systems Theory and Automatic Control at
the University of Stuttgart (www.ist.uni-stuttgart.de /index.en.html) and will benefit from its infrastructure,
support structures and research environment. The working language at the institute is English.
We are looking for a young, highly motivated and emerging researcher, who will take the lead in building
up the new group and a competitive research program. The ideal candidate should have an excellent
international early-career track record. The research group is expected to engage actively with the existing
research environment, including the Cyber Valley partners and Arena 2036 (www.arena2036.de/en).
Applicants from all fields of engineering and science working at the interface between modern manufacturing
engineering on one side and control, automation, artificial intelligence or Big Data on the other side are
encouraged to apply. Both, theoretical and more application oriented research directions are of interest.
Applicants should submit a description of past and planned research activities (up to three pages), a CV,
the names and addresses of at least three potential references as well as pdf files of up to 5 key publications.
Applications should be submitted as a single pdf-file to search@ist.uni-stuttgart.de. The closing date for
applications is October 7, 2018.
Please contact Frank ALLGOWER (allgower@ist.uni-stuttgart.de) for further information.

6.19. Faculty: Stanford University, USA
Contributed by: Edwin, edwinm1@stanford.edu

Faculty Position
Department of Electrical Engineering
Stanford University
The Department of Electrical Engineering at Stanford University (http://ee.stanford.edu/) invites applica-
tions for a tenure-track faculty appointment at the junior level (Assistant or untenured Associate Professor)
in the broadly defined field of electrical and computer engineering. The department is especially interested in
candidates in robotics, autonomous systems, embedded systems, signal processing, control, optimization, and
machine learning. Priority, however, will be given to the overall originality and promise of the candidate’s
work over any specific area of specialization.

Applicants should have an earned Ph.D., evidence of the ability to pursue an independent program of
research, a strong commitment to both graduate and undergraduate teaching, and the ability to initiate and
conduct research across disciplines. A successful candidate will be expected to teach courses at the graduate
and undergraduate levels and to build and lead a team of graduate students in Ph.D. research.
Applications should include a brief research and teaching plan, a detailed resume including a publications
list, and the names and email addresses of at least five references.
Candidates should apply online at http://ee.stanford.edu/job-openings. Applications will be accepted through
November 15, 2018.
Stanford is an equal employment opportunity and 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, protected veteran status, or any other characteristic protected by law.
Stanford also welcomes applications from others who would bring additional dimensions to the University’s research, teaching and clinical missions.

6.20. Faculty: University of Houston, USA
Contributed by: Karolos Grigoriadis, karolos@uh.edu

The Department of Mechanical Engineering at the University of Houston (UH) invites applications for a tenure-track faculty position in the general area of controls and dynamic systems beginning Fall 2019. The position is at the Assistant Professor level, but exceptional candidates with outstanding credentials and appropriate academic experience may be considered for the rank of Associate Professor. Successful candidates must hold a PhD in a relevant area of engineering, and should have a demonstrated record of high quality scholarship, a strong potential to attract external funding and commitment to teaching. Candidates are expected to establish a nationally recognized externally funded research program in the field of controls and dynamic systems. Emerging targeted areas of application in energy and the environment, health and biomedicine, manufacturing, cyber-physical systems, social and behavioral systems, and networked systems will be given special consideration. Candidates must have a demonstrated ability to conduct independent research and show promise for excellence in teaching, mentoring and entrepreneurship.

UH is a designated Carnegie Tier One Research university and one of Texas’ premier public research and teaching institutions with over 40,000 students. The UH campus is a park-like campus proximal to downtown Houston, the fourth-largest city in the nation. Houston, in addition to being the energy capital of the world, is home to the Texas Medical Center, the largest medical center in the world, and to NASA’s Johnson Space Center. Houston supports a full spectrum of cultural organizations, as well as sports, and year-around outdoor activities.

UH is a recipient of the National Science Foundation ADVANCE Institutional Transformation Award to increase the participation of women in academic science and engineering careers. The University of Houston is responsive to the needs of dual career couples.

Please apply via http://jobs.uh.edu under Faculty Positions (Keyword: Controls).

6.21. Robotics & Backend Developer: TU Munich, Germany
Contributed by: Yannick Morel, yannick.morel@in.tum.de

Robotics & backend developer position at TU Munich, Germany

The Human Brain Project (HBP) is an ambitious large-scale research initiative funded by the European Commission with a high worldwide visibility. About 100 research institutes from different disciplines all over Europe cooperate intensively to achieve a multi-level, integrated understanding of brain structure and function through the development and use of Information and Communication Technologies. Inside HBP, the Neurorobotics Platform (NRP) is a web-based platform developed under the leadership of Prof. Alois Knoll (Technical University of Munich - TUM). It grants neuroscientists easy access to state-of-the-art simulators: spiking neural networks (NEST), robotics (Gazebo) and physics (ODE, bullet). These simulators are interfaced together and synchronized inside a closed-loop simulation, which provides neuroscientists with the ability to perform in silico experiments based on embodiment of brain models, and to close the action-perception-cognition loop inside virtual environments. To strengthen our Neurorobotics team in TUM we are looking for an
Experienced Backend Developer for Neurorobotics

Profile sought: Ph.D. or similar experience in computer science, robotics, mathematics, engineering or a related field; alternatively, a strong track record in software development and robotics.

Major duties and responsibilities:
. Carrying out R&D activities on the topic of neural control for robotics that leverage the NRP.
. Carrying out project-related work including software development, progress monitoring and reporting, and community engagement.
. Dissemination of project results in leading journals and conference in both the robotics and neuroscience communities.

Essential skills and experience required:
. Solid knowledge of robotics, mathematics, software engineering, and model-based development
. Proficiency in C, C++, and Python is a must; a good knowledge of, and practical experience with ROS, MATLAB and Simulink will be considered a strong asset. Experience with Docker is a plus.
. Experience in developing robotics software, e.g., kinematics/dynamics, actuator/sensor drivers, Guidance-Navigation-Control (GNC) algorithmics, ontological world models, distributed systems. Experience with real-time systems will be a real plus.
. Experience in AI & artificial neural networks, control theory, and/or dynamical systems theory will be considered a significant asset.
. Fluency in spoken and written English (German desirable but not critical).
. Willingness to travel.
. Ability to work independently with minimal supervision while delivering quality code on time.
. High motivation and willingness to work in an international and interdisciplinary team (openness to working with neuroscientists is a key element).

What we offer:
. A full-time position with interesting and challenging tasks in an interdisciplinary team.
. Worldwide networking opportunities with robotics and neuroscience experts.
. The chance to grow in responsibility through the development of new project opportunities.
. Remuneration in line with the current German public service.

TUM and HBP strive to increase the proportion of their female employees, and therefore explicitly invite women to apply.

Applicants should submit a cover letter and a detailed CV in PDF format only, with file name "⟨surname⟩_HBP_cover" and "⟨surname⟩_HBP.CV" electronically to morinf@in.tum.de

Start date: 1st of October 2018.
Deadline for application: until position is filled.
Duration of contract: until the 30th of March 2020, with possibility of extension.

6.22. Development Engineer: ENERCON, Germany

Contributed by: Sönke Engelken, soenke.engelken@enercon.de

Development Engineer – Wind Turbine Controls

With more than 27,900 turbines installed worldwide ENERCON has been one of the technology leaders in the wind power sector for more than 30 years. The product portfolio comprises wind turbines with outputs
from 800 to 4,200 kW. Our products are known for their reliable technology, low maintenance requirements and a long service life, thereby guaranteeing a high level of profitability for our customers.

We are proud of our greatest asset of more than 18,000 talented, highly motivated professionals. We are currently expanding the team of Wind Turbine Controls. As a Development Engineer - Wind Turbine Controls, you will

• Develop new control algorithms to reduce loads and improve efficiency of wind turbines
• Model and analyze wind turbine dynamics
• Validate control algorithms, evaluate and analyze measurement data
• Work in multidisciplinary teams to develop new strategies for turbine control
• Develop simulations in Matlab/Simulink
• Work on research projects with partner companies/institutes

We are looking for a candidate with the following profile

• Completed studies (PhD, Masters/Diplom) in the area of Mechatronics, Electrical or Informatics engineering with focus on controls and systems engineering or related field
• Several years of experience in the field of control algorithm development and implementation
• Good knowledge of predictive and robust control concepts and their application in industry
• Good knowledge of wind turbine technology
• Experience with tools like Matlab/Simulink
• Analytical mindset, good communications skills, and enjoy both team- and independent work
• Ability and willingness to travel
• Good German and English language proficiency

The job location is Bremen, Germany, however other locations may be possible.

At ENERCON we are committed to take on challenges and promise you an environment to nurture your technical and leadership abilities by offering you different career development paths. Interested?

We are looking forward to receive your application (cover letter, CV, transcripts) via our web portal https://www.enercon.de/en/karriere-portal/home/ (Reference code DE109332)