E-LETTER on Systems, Control, and Signal Processing  
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Welcome to the 356 issue of the E-letter, available electronically here.  
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6.28 Faculty: Loughborough University, UK
6.29 Faculty: Clemson University, USA
6.30 Faculty: Eindhoven University of Technology, The Netherlands
6.31 Control Engineer: USA
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 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 spring solicitation will be held from May 1 to 25, 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:

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

1.2. IEEE Control Systems Society Technically Cosponsored Conferences
Contributed by: Luca Zaccarian, CSS AE Conferences, zaccarian@laas.fr

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


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

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1.3. IEEE Transactions on Automatic Control
Contributed by: Alessandro Astolfi, ieeeetac@imperial.ac.uk

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2. MISC

2.1. Summer School on Control and Robotics: Fundamentals for advanced research
Contributed by: Filomena Soares, fsoares@dei.uminho.pt

Summer School on Control and Robotics: Fundamentals for advanced research
The goal of the Summer Course is to present in a tutorial and accessible way to the largest number of doctoral students and researchers key mathematics tools that supports advanced engineering in Robotics and Control.

To Whom?
phD students and Researchers in Mathematics, Economics, Mechanical, Electrical or other Engineering or related fields.

How to apply?
Send a pre-registration email with your personal data, course graduation, and contact to:
João Miranda Lemos, jomlemos@gmail.com

Deadlines
Pre-registration: 15 May 2018
Notification of acceptance: 31 May 2018
Send payment confirmation: 30 June 2018

How much?
50 euros fee

When?
23-24 July 2018

Where?
FEUP Room I-105 (9h-17h) Campus da FEUP
2.2. Summer School on Smart Cities
Contributed by: Jonas Mårtensson, jonas1@kth.se

Summer School on Smart Cities - Call for participation
The 2018 IEEE CSS Summer School on Smart Cities will be organized by KTH Royal Institute of Technology in Stockholm 2-6 of July 2018. The summer school will provide an overview of the latest technical progresses related to smart cities via realistic case studies delivered by well known scholars, active researchers and practitioners, as well as present challenges and opportunities for future research and applications. Moreover, the summer school will provide an opportunity for all participants to gain some hand-on experience via realistic projects in a hackathon competition, and several networking opportunities.

For more information and registration, see https://www.itrl.kth.se/events/summer-school-on-smart-cities

2.3. Online Seminar by Ilya Kolmanovsky
Contributed by: Tansel Yucelen, yucelen@usf.edu

Online Seminar by Dr. Ilya Kolmanovsky - 12:00 PM Eastern Time, April 6, 2018 (Friday)
USF Forum on Robotics & Control Engineering (USF FoRCE, http://force.eng.usf.edu/) will host Dr. Ilya Kolmanovsky on April 6, 2018 at 12:00 PM Eastern Time. Specifically, Dr. Kolmanovsky will give an online seminar titled "Reference Governors for Control of Systems with Constraints" (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=m6bb5128bc4479a01e4723c5d0b0e6718
WebEx indirect link: https://force.my.webex.com/force.my (use 629 234 799 for the meeting number and 55VnrVHY for the password)

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: Reference Governors for Control of Systems with Constraints (Dr. Ilya Kolmanovsky, 12:00 PM Eastern Time, 04/06/2018)

Abstract: With the increasing trend towards system downsizing and the growing stringency of requirements, constraint handling and limit protection are becoming increasingly important for engineered systems. Constraints can reflect actuator limits, safety requirements (e.g., process temperatures and pressures must not exceed safe values) or obstacle avoidance requirements. Reference governors are control schemes that can be augmented to already existing control systems in order to provide constraint handling/limit protection capabilities. These add-on schemes exploit prediction and optimization or invariance/strong returnability properties to supervise and minimally modify operator (e.g., pilot or driver) commands, or other closed-loop signals, whenever there is a danger of future constraint violations. The presentation will introduce the basic reference governor schemes along with the existing theory. Several recent extensions and new variants of these schemes will be highlighted. Selected aerospace and automotive applications will be described. Opportunities for future research will be mentioned.

Biography: Professor Ilya V. Kolmanovsky has received his Ph.D. degree in Aerospace Engineering in 1995, his M.S. degree in Aerospace Engineering in 1993 and his M.A. degree in Mathematics in 1995, all from the University of Michigan, Ann Arbor. He is presently a full professor with tenure in the Department of Aerospace Engineering at the University of Michigan. Professor Kolmanovsky’s research interests are in control theory for systems with state and control constraints and in control applications to aerospace and automotive systems. Prior to joining the University of Michigan in January 2010, Dr. Kolmanovsky was with Ford Research and Advanced Engineering in Dearborn, Michigan for close to 15 years. He is a Fellow of IEEE, a past recipient of the Donald P. Eckman Award of American Automatic Control Council, of 2002 and 2016 IEEE Transactions on Control Systems Technology Outstanding Paper Awards and of several awards of Ford Research and Advanced Engineering. He is also named as an inventor on 98 United States patents.

2.4. LCCC Focus Period on “Learning and Adaptation for Sensorimotor Control”

Contributed by: Anders Rantzer, rantzer@control.lth.se

The LCCC Linnaeus center - Lund Center for Control of Complex engineering systems is announcing a Focus Period on “Learning and Adaptation for Sensorimotor Control” from October 8 to November 9, 2018 with a workshop in the middle. Confirmed invited speakers include Francesca Cacucci (UK), Marie Csete (USA), Ondrej Chum (Czech Republic), Mathew Diamond (Italy), John Doyle (USA), Anke Ijspeert (Switzerland), Henrik Jörntell (Sweden), Hedvig Kjellström Sidenbladh (Sweden), Per Petersson, (Sweden), Ben Recht (USA), Angela Schoelling (Canada), Terrence Sejnowski (USA), Patrick van der Smagt (Germany), Stefano Soatto (USA), Csaba Szévesvari (USA), Paul Verschure (Spain), René Vidal (USA), CI de Zeeuw (The Netherlands).

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

For more information, see http://www.lccc.lth.se/index.php?page=october-2018.
2.5. Mark W. Spong Joins Georgia Tech as Second Visiting Faculty Fellow in Robotics  
Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Mark W. Spong has been selected as the 2018 Visiting Faculty Fellow at the Institute for Robotics and Intelligent Machines (IRIM) at Georgia Tech. IRIM’s Visiting Faculty Fellow program supports extended visits (one to six months) to the Georgia Tech Atlanta campus by individuals working at other institutions or industry/government laboratories engaged in research activities focusing on robotics. IRIM provides Visiting Fellows with partial salary support, along with support for travel and living expenses. More information about the IRIM Visiting Faculty Fellows program can be found at robotics.gatech.edu/faculty/fellows.

Spong received the Doctor of Science degree in systems science and mathematics in 1981 from Washington University in St. Louis. He has held faculty positions at Lehigh University, Cornell University, and at the University of Illinois at Urbana-Champaign. Currently, he is a professor of Systems Engineering, professor of Electrical and Computer Engineering and holder of the Excellence in Education Chair in the Erik Jonsson School of Engineering and Computer Science at the University of Texas at Dallas. He was Dean of the Jonsson School at UT Dallas from 2008-2017. During his tenure as dean he added four departments of engineering, nine new degree programs, and more than doubled the number of students and faculty.

Spong is past president of the IEEE Control Systems Society, and a fellow of both the IEEE and the IFAC. His main research interests are in robotics, mechatronics, and nonlinear control theory. He has authored or coauthored more than 300 technical articles, five books, and holds one patent. His notable awards include the 2018 Bode Lecture Prize from the IEEE Control Systems Society, the 2016 Nyquist Lecture Prize from the ASME, the 2011 Pioneer in Robotics Award from the IEEE Robotics and Automation Society, the first IROS Fumio Harashima Award for Innovative Technologies in 2007, the Senior Scientist Research Award from the Alexander von Humboldt Foundation, the Distinguished Member Award from the IEEE Control Systems Society, the John R. Ragazzini and O. Hugo Schuck Awards from the American Automatic Control Council, and the IEEE Third Millennium Medal.

Georgia Tech’s Institute for Robotics and Intelligent Machines (IRIM), established in 2013, is one of the eleven Interdisciplinary Research Institutes (IRIs) at Georgia Tech and serves as an umbrella under which robotics researchers, educators, and students from across campus can come together to advance the many high-powered and diverse robotics activities at Georgia Tech. More than 70 faculty, 180+ students and 30 labs are part of IRIM, involved in research focusing on three strategic research areas: medical robotics & human augmentation, autonomy, and collaborative robotics. Additional information about IRIM may be found at robotics.gatech.edu.

3. Books

3.1. Model Predictive Control of High Power Converters and Industrial Drives
Contributed by: Tobias Geyer, tobias.geyer@ch.abb.com

Model Predictive Control of High Power Converters and Industrial Drives
by Tobias Geyer
November 2016, Wiley
Hardcover, 576 pages, £84.50 / EUR 101.40
Traditionally, power converters have been controlled by linear SISO control loops. Particularly for high power converters with multiple coupled dynamics and tight operating constraints, model predictive control (MPC) is expected to evolve into the control method of choice. MPC allows one to increase the power capability of the converter, lower the current distortions, reduce the converter hardware, achieve very fast transient responses and ensure the reliable operation within safe operating area constraints.

Consisting of two main parts, the first part of the book offers a detailed review of three-phase power electronics, electrical machines, carrier-based pulse width modulation, optimized pulse patterns, state-of-the art converter control methods and the principle of MPC. The second part is an in-depth treatment of MPC methods that fully exploit the performance potential of high-power converters. These control methods combine the fast control responses of deadbeat control with the optimal steady-state performance of optimized pulse patterns by resolving the antagonism between the two.

This book is targeted at control engineers with an interest in power electronics as well as power electronic practitioners working on control-related aspects. Readers benefit from a concise and comprehensive treatment of MPC for industrial power electronics, enabling them to understand, implement and advance the field of high-performance MPC schemes. A companion website with video animations augments the book.

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3.2. A First Course in Predictive Control, Second Edition
Contributed by: John Anthony Rossiter, j.a.rossiter@sheffield.ac.uk

A First Course in Predictive Control, Second Edition by J.A. Rossiter
The book presents a significant expansion in depth and breadth of the previous edition. The book is an excellent starting point for any researcher or student to gain a solid grounding in MPC concepts and algorithms before moving into application or more advanced research topics. It includes substantially more numerical illustrations and copious supporting MATLAB code that the reader can use to replicate illustrations or build his or her own. The code is deliberately written to be as simple as possible and easy to edit. Sample problems and thought provoking questions for readers are embedded throughout the chapters, and in-text questions are designed for readers to demonstrate an understanding of concepts through numerical simulation. It also includes a chapter for teachers focussed on possible examination and assessment questions.

4. Journals

4.1. Contents: Systems & Control Letters

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

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4.2. Contents: Control Engineering Practice
Contributed by: John Coca, j.coca@elsevier.com

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4.3. Contents: Journal of Process Control
Contributed by: John Coca, j.coca@elsevier.com

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

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4.5. Contents: ISA Transactions
Contributed by: John Coca, j.coca@elsevier.com

ISA Transactions
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- Zhang Dynamics based Tracking Control of Knee Exoskeleton with Time-dependent Inertial and Viscous Parameters, Zhan Li* and Ziguang Yin pp.904-911
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4.10. Contents: IET Control Theory & Applications

Contributed by: Alexandria Lipka, alipka@theiet.org

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Volume 12
April 2018
http://digital-library.theiet.org/content/journals/iet-cta/12/6

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4. Output Tracking for One-Dimensional Schrödinger Equation subject to Boundary Disturbance (Pages: 659-668), Jun-Jun Liu, Jun-Min Wang and Ya-Ping Guo
5. Stabilization of Non-Linear Fractional-Order Uncertain Systems (Pages: 669-677), Yude Ji, Mingxing Du and Yanping Guo
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11. Composite Disturbance-Observer-Based Control and $H_{\infty}$ Control for High Speed Trains with Actuator Faults (Pages: 735-745), Hairong Dong, Xue Lin, Xiuming Yao, Weiqi Bai and Bin Ning
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- On Factorization of Matrix Polynomial with Respect to the Unit Circle, F.A. Aliev, V.B. Larin

Contributed by: Jing Wang, jingwang@bradley.edu

Submit a Paper to the International Journal of Cyber-Physical Systems (IJCPS)
https://www.igi-global.com/calls-for-papers/international-journal-cyber-physical-systems/191248
With the rapid development of computing, communication and sensing technology, recent years have seen an ever-increasing research interest in the study of distributed cyber-physical systems. Cyber-physical systems may be generically defined as a group of dynamical systems in which both cyber layer (computer/communication/control) and physical layer (plant models) coexist. The behaviors of cyber-physical systems are exhibited through the local interaction among subsystems that individually have the capability of self-operating. Engineered cyber-physical systems have been developed and studied as seen in robotic networks, power grids, computer networks, and sensor networks. In particular, those systems have found a wide range of potential applications in surveillance and reconnaissance, cooperative exploration for search and rescue missions, environmental sensing and monitoring, cooperative transportation, and congestion and flow control of networks. The International Journal of Cyber-Physical Systems (IJCPS) aims at presenting the state-of-the-art on controls of distributed cyber-physical systems. The particular focus is on distributed control, estimation, optimization and applications of networked cyber-physical systems. The journal provides a venue for disseminating research outcomes on unraveling the structure, security, system properties, and efficient control strategies of networked cyber-physical systems.

Coverage
Potential topics covered include, but are not limited to:
- Distributed Coordination Algorithms for Cyber-Physical Systems
- Distributed Estimation of Environment Unknowns Using a Multiagent Team
- Task Coordination of Multiagent Systems
- Security on Cyber-Physical Systems
- Detection of Emergent Behaviors in Cyber-Physical Systems
- Cooperative Control of Cyber-Physical Systems Under Limited Communication
- Path Planning and Navigation of Multiagent Systems
- Control Applications Using a Team of Ground, Aerial, and Underwater Robots
- Experimental Validation of Control of Multiagent Systems

Submission
Researchers and practitioners are invited to submit their original empirical research articles 3,000–5,000 words in length. Interested authors must consult the journal’s guidelines for manuscript submissions at http://www.igi-global.com/publish/contributor-resources/before-you-write/ prior to submission. All submitted articles will be reviewed on a double-blind review basis by no fewer than 3 members of the journal’s Editorial Review Board and 1 Associate Editor. Final decision regarding acceptance/revision/rejection will be based on the reviews received from the reviewers and at the sole discretion of the Editor-in-Chief.

All manuscripts must be submitted through the E-Editorial Discovery™ online submission manager. Please see the link at the bottom of this page.

4.15. CFP: Asian Journal of Control
Contributed by: Hassen FOURATI, hassen.fourati@gipsa-lab.fr

Special issue on “Recent Advances on Data Fusion, Estimation in Navigation and Control”
Asian Journal of Control
(Wiley, Impact Factor 1.42, indexed by ISI Journal Citation Reports, SCOPUS, Web of Science, etc.)
Deadline for papers submission: April 30, 2018
The category of paper to choose would be the topic of the special issue.
5. Conferences

5.1. International Conference on System Theory, Control and Computing  
Contributed by: Marian Barbu, Marian.Barbu@ugal.ro

22nd International Conference on System Theory, Control and Computing - ICSTCC 2018  
October 10-12, 2018, Sinaia, Romania  
Website: http://www.icstcc.ugal.ro/2018

ICSTCC 2018 aims at bringing together under a unique forum, scientists from Academia and Industry, to discuss the state of the art and the new trends in System Theory, Control and Computer Engineering, promoting professional interactions and fellowship.

ICSTCC 2018 is technically co-sponsored by IEEE Control Systems Society.  
In accordance with the Letter of Acquisition signed with IEEE, the Proceedings of ICSTCC 2018 will be submitted for inclusion in IEEE Xplore Digital Library. The Proceedings will also be submitted for indexing in Thomson Reuters Conference Proceedings Citation Index (formerly ISI Proceedings).

ICSTCC 2018 conference will be hosted by the beautiful International Center for Conferences – CASINO Sinaia. Sinaia is one of the most famous and oldest mountain tourist resorts in Romania, known as “The Carpathian Pearl”. It is best known for being the summer residence of the Romanian Royal family. We are planning a number of field trips: Bran Castle (Dracula’s Castle) and Peles Castle.

Confirmed keynote speakers:
- Alberto Bemporad (Italy)
- Gildas Besancon (France)
- Emilia Fridman (Israel)
- Ion Necoara (Romania)
- Dorothee Normand-Cyrot (France)
- Sigurd Skogestad (Norway)

Important dates:
- April 27, 2018: Invited Session proposal submission
- May 4, 2018: Initial paper submission
- June 29, 2018: Notification of acceptance
- July 27, 2018: Final submission and registration payment

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

All papers should be submitted via the online submission system at http://controls.papercept.net/conferences/scripts/start.pl#STCC18

For further information please contact the organizing committee at: icstcc2018@ugal.ro.

5.2. International Conference on Control, Automation and Systems  
Contributed by: Hye-Soo Kim, 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  
- May 31, 2018 : Submission of Regular Papers (3 6 pages)  
- June 30, 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 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 Taeback 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 Herbnrara 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  

5.3. Allerton Conference on Communication, Control, and Computing  
Contributed by: Angie Ellis, amellis@illinois.edu  

56th Allerton Conference on Communication, Control, and Computing – October 2-5, 2018  
CONERENCE CO-CHAIRS — Negar Kiyavash & Daniel Liberzon
Conference website: http://allerton.csl.illinois.edu/

Call for Papers: Submission Deadline: July 9, 2018

Manuscripts can be submitted from June 15-July 9, 2018 with the submission deadline of July 9th being firm. Please follow the instructions at allerton.csl.illinois.edu.

IMPORTANT DATES

JULY 9 — Submission Deadline

AUGUST 6 — Acceptance Date Authors will be notified of acceptance via email by August 6, 2018, at which time they will also be sent detailed instructions for the preparation of their papers for the Conference Proceedings.

AFTER AUGUST 6 — Registration Opens

OCTOBER 2 — Opening Tutorial Lectures given by Paulo Tabuada and Joao Hespanha at the Coordinated 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 Xplore.

5.4. ACM International Conference on Hybrid Systems: Computation and Control

Contributed by: Kostas Margellos, kostas.margellos@eng.ox.ac.uk

CALL FOR PARTICIPATION — 21st ACM International Conference on Hybrid Systems: Computation and Control

HSCC 2018 is the 21st in a series of single-track 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 systems, with an emphasis on computational aspects. By drawing on strategies from computation and control, hybrid systems theory finds application in both man-made cyber-physical systems and natural systems.

HSCC 2018 will be held in Porto, Portugal, from April 11 to April 13, 2018, as part of the CPS Week 2018 (http://www.cister.isep.ipp.pt/cpsweek2018/), that includes also the International Conference on Cyber-Physical Systems (ICCPS), the International Conference on Information Processing in Sensor Networks (IPSN), the Real-Time and Embedded Technology and Applications Symposium (RTAS), and several other smaller events.

PROGRAM

HSCC 2018 program covers a wide spectrum of topics, from theoretical results to practical considerations related to the implementation of tools for modeling, verification, control design. We trust that researchers from academy and industry who are interested in hybrid systems theory and its applications will find the program
of HSCC 2018 stimulating and inspiring for their work. The program (see https://www.hscc2018.deib.polimi.it/program) includes:

- nine sessions with presentations of regular and tool papers, and a Demo and Poster session
- HSCC Keynote “Compositional Synthesis for Symbolic Control” by Antoine Girard, CNRS, France
- HSCC-ICCPS Panel Session “What are the challenges posed to CPS theory by modern applications?” with the participation of Frank Allgower (University of Stuttgart), James Kapinski (Toyota Research Institute of North America), Jens Oehlerking (Robert Bosch GmbH), Patrick Panciatici (RTE French Transmission System Operator), Akshay Rajhans (MathWorks), Joao Tasso de Figueiredo Borges de Sousa (University of Porto)

AWARDS (and supporters)
Best Demo/Poster (Toyota), Best Repeatability Evaluation (Ansys), and *New this year* Test-of-Time (Bosch and MathWorks) and Best Paper (Denso)

REGISTRATION - See http://www.cister.isep.ipp.pt(cpsweek2018/registration
VENUE AND LOCAL INFORMATION can be found at http://www.cister.isep.ipp.pt(cpsweek2018/venue/

5.5. Interational Conference, NETwork Games, COntral and OPtimization
Contributed by: Quanyan Zhu, qz494@nyu.edu

Interational Conference, NETwork Games, COntral and OPtimization, New York, November 14-16, 2018
www.netgcoop.org

NETGCOOP 2018 welcomes original papers related to many network application domains, such as mobile and fixed access networks, computer networks, social networks, transportation networks, and more recently electricity grids and biological networks. Both conceptual and algorithmic tools are needed for efficient and robust control operation, for performance optimization, and for better understanding of relationships between entities which may be cooperative or act selfishly, in uncertain and possibly adversarial environments. We encourage both theoretical contributions and submissions relating to real world empirical measurements, experimental studies.

Important Dates:
Manuscript submission: June 22, 2018
Notification of acceptance: August 27, 2018
Camera-Ready submission: September 15, 2018
Conference: November 14-16, 2018

Conference Organizers:
General Co-Chairs: Jean Walrand (UC Berkeley).
General Vice Co-Chair: Yezekael Hayel (University of Avignon) and Quanyan Zhu (New York University).
TPC Co-Chairs: Rachid El-Azouzi (University of Avignon), Jianwei Huang (The Chinese University of Hong Kong), and Ishai Menasche (Microsoft Research).

5.6. Indian Control Conference
Contributed by: Mathukumalli Vidyasagar, m.vidyasagar@iith.ac.in
The Fifth Indian Control Conference will take place during January 9-11 (Wednesday through Friday), 2019, on the campus of the Indian Institute of Technology Delhi. Previous ICCs were held in Chennai (2015), Hyderabad (2016), Guwahati (2017), and Kanpur (2018).

We have already lined up three excellent plenary speakers for the Fifth ICC, namely:

Prof. Andrew Alleyne, Illinois  
Prof. Subhashis Chaudhury, IIT Bombay  
Prof. Mustafa Khammash, ETH Zurich

As with previous ICCs, the Fifth ICC has received Technical Co-Sponsorship and Proceedings Acquisition from the IEEE Control Systems Society. Therefore papers presented at the ICC will appear in IEEE Xplore, after a quality review.

The paper submission deadline is May 25th, 2018. Further details can be found on our web site: icc.org.in

We look forward to welcoming you to Delhi in January 2019.

5.7. IEEE 2018 Ecuador Technical Chapters Meeting
Contributed by: Alberto Sanchez, aesanchez@ieee.org

IEEE 2018 Ecuador Technical Chapters Meeting CFP
http://sites.ieee.org/etcms-2018

Important Dates
Full Paper Submission: 10 June 2018
Acceptance Notification: 31 July 2018
Final paper Submission: 18 August 2018
Workshops & Tutorials: 15-16 October 2018
Conference Dates: 17-19 October 2018

Invitation
The IEEE Ecuador section takes great pleasure in inviting you to the 2018 IEEE ETCM, which will be held from October 17th-19th 2018 in Cuenca, Ecuador.

The 2018 IEEE Ecuador Technical Chapters Meeting (ETCM) will be the third edition of the running series of conferences organized by the IEEE Ecuador Section and which intends to provide a highly prestigious venue for researchers, students and practitioners from the IEEE Technical Society Chapters in Ecuador.


5.8. Australia & New Zealand Control Conference
Contributed by: Ljubo Vlacic, l.vlacic@griffith.edu.au

THE 2018 AUSTRALIAN & NEW ZEALAND CONTROL CONFERENCE – ANZCC 2018
07 – 08 December 2018, Melbourne, Australia

Submission of draft papers (all types): 05 June 2018
Invited Session proposals: 01 June 2018
In addition to traditional paper type submissions, ANZCC 2018 is also seeking submissions of:
* Practitioner papers, 2 – 6 pages; and
* Presentation-only papers 2 – 6 pages.


5.9. CITRIS/CPAR Control Theory and Automation Symposium
Contributed by: Abhishek Halder, ahalder@ucsc.edu

CITRIS and the Banatao Institute, People and Robots Initiative (CPAR) Control Theory and Automation Symposium will be held on Friday, April 27, 2018, 10 am - 5 pm at UC Santa Cruz.
Website: https://norcal-control.github.io/

This symposium will kick off the 1st NorCal Control Workshop, an annual event providing a forum to bring together students, postdocs and faculty from various universities, as well as representatives from industry, in the Northern California region working in the broad area of systems and control to share knowledge and build new connections.

This inaugural event is organized by CITRIS and the Banatao Institute, People and Robots Initiative (CPAR) [web: http://citris-uc.org/initiatives/robotics-2/], and the Cyber-Physical Systems Research Center (CPSRC) [https://cps.soe.ucsc.edu/] at UC Santa Cruz and focuses on a timely theme to the field of systems and control. A goal of the symposium is to spark discussions leading to answers to the following questions: What are the key challenges in the development of control and automation solutions to the complex problems of today? What are unique future opportunities and problems where control and automation would play a key role? The event features two keynote talks, a panel with systems and control experts from academia and industry on current challenges and future directions, as well as a poster and networking session.

5.10. IFAC Workshop on Distributed Estimation and Control in Networked Systems
Contributed by: Claudio De Persis, c.de.persis@rug.nl

7th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys18)
August 27-28, 2018
University of Groningen, Groningen, the Netherlands
https://fwn06.housing.rug.nl/necs18/.html

INVITATION
The Organising Committee has the pleasure of inviting you to participate in the 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys18) to be held at the University of Groningen, the Netherlands, August 27-28, 2018.
SCOPE

Networked systems and complex dynamical systems can be taken as composed of a large number of simple systems interacting through a communication medium. These systems arise as natural models in many areas of engineering and sciences, such as sensor networks, autonomous and unmanned vehicles, Internet of Things (IoT), smart manufacturing systems (Industry 4.0), biological networks, and animal cooperative aggregation.

The workshop will focus on recent theoretical and experimental developments in the last few years for the analysis, design, identification, estimation and control of networked systems. The aim of this workshop is to bring together researchers from control, computer science, communication, game theory, statistics, mathematics and other areas, as well as practitioners in the related industrial or educational fields, to discuss emerging topics in networked systems of common interest.

PROGRAMME & PLENARY SPEAKERS

Following the tradition of previous NecSys workshops, the workshop will be single track and will feature plenary presentations and poster/interactive sessions of contributed papers. The plenary speakers who have so far confirmed their presence are:

- Carlos Canudas de Wit (CNRS, GIPSA-Lab)
- Jorge Cortes (University of California San Diego)
- Florian Dorfler (ETH Zurich)
- Antoine Girard (CNRS, L2S)
- Julien Hendrickx (UC Louvain)
- Paul Van den Hof (TU Eindhoven)
- Steve Morse (Yale University)
- Giuseppe Notarstefano (University of Salento)
- Lacra Pavel (University of Toronto)

Titles and abstracts are available at https://fwn06.housing.rug.nl/necsys2018/speakers.html

IMPORTANT DATES

* Paper submission deadline: April 15, 2018 (see the conference website for the most updated information)
* Notification of acceptance: June 30, 2018
* Final paper submission deadline: July 20, 2018

COMMITTEES

Conference Co-chairs
* Claudio De Persis (University of Groningen)
* Ming Cao (University of Groningen)

International Programme Committee Chair
* Mehran Mesbahi (University of Washington)

International Programme Committee Co-chairs
* Kanat Camlibel (University of Groningen)
* Hyungbo Shim (Seoul National University)

5.11. World Congress: Mathematical Problems in Engineering, Aerospace and Sciences

Contributed by: Seenith Sivasundaram, seenithi@gmail.com
ICNPAA’s AIM

Mathematical Problems in Engineering, Aerospace and Science have stimulated cooperation among scientists from a variety of disciplines. Developments in computer technology have additionally allowed for solutions of mathematical problems. This international forum will extend scholarly cooperation and collaboration, encouraging the dissemination of ideas and information.

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

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

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

5.12. ACC Workshop on “Interdisciplinary Research to Advance the State-of-the-Art in Human Machine Interaction and Human Robot Interaction”
Contributed by: Neera Jain, neerajain@purdue.edu

We invite you to participate in our upcoming workshop at the 2018 ACC titled “Interdisciplinary Research to Advance the State-of-the-Art in Human Machine Interaction and Human Robot Interaction.” There is a growing need for expertise from the social science and human factors communities to strengthen our modeling, theoretical foundations, and data collection and analysis methods. While a large number of recent requests for proposals specifically call for multidisciplinary collaboration, building the necessary relationships to do so is often difficult. Therefore, the goals of this workshop are to 1) facilitate networking among researchers in both engineering and the social sciences, 2) brainstorm critical research needs in HMI and HRI, and 3) discuss strategies for successful collaboration across disciplines for HMI and HRI research. Participants will be engaged through talks delivered by experts in academia, government, and industry, break-out group
discussions, and networking activities. Faculty, students, and other researchers who are interested in the broader area of human-machine and/or human-robot interaction, with a particular emphasis on engaging in multidisciplinary collaborations, are encouraged to register for the workshop. Confirmed speakers include researchers in human factors and psychology at Sandia National Laboratories and the Air Force Research Laboratory.

Date: June 26th, 8:30 AM – 5:30 PM
Organizers: Neera Jain and Tahira Reid (Purdue University)

You can find more info here: http://acc2018.a2c2.org/technical-program/workshops/

6. Positions

6.1. PhD: University of Houston, USA
Contributed by: Zheng Chen, zchen43@central.uh.edu

The Bio-inspired Robotics and Controls Lab in the Department of Mechanical Engineering at the University of Houston has available NSF funding to support PhD students in the general area of Bio-inspired Robotics, Soft Actuators and Sensors, Bio-mechatronics, and Dynamics and Control. The successful candidate is expected to have a strong background in control theory, modeling of complex dynamic systems, real-time control system design, system identification, micro/nano fabrication. Good programming skills and experience with C/C++, MATLAB/Simulink is an asset. A background in soft actuators and sensors as well as prior working experience with underwater robot design will be an advantage. Applicant to this position should already have completed (or will soon complete) a Master degree in systems and controls, electrical engineering, and/or mechanical engineering. The funding covers the cost of full tuition and stipends at a competitive rate and can start as early as Fall 2018. The position will remain open until filled. Interested individuals should send their detailed curriculum vitae, copies of their recent transcripts, personal statement, a copy of their best publication in English, and if applicable GRE/TOFEL test scores to Dr. Zheng Chen (zchen43@central.uh.edu).

6.2. PhD: Norwegian University of Science and Technology, Norway
Contributed by: Lars Imsland, lars.imsland@ntnu.no

A fully funded PhD research fellowship position within “Economic Model Predictive Control Across Different Time Scales” is available at the Department of Engineering Cybernetics, Norwegian University of Science and Technology, Trondheim, Norway. Candidates that expect to complete their Master degree studies by summer 2018 can apply.

Further information and application form can be found at https://www.jobbnorge.no/ledige-stillinger/stilling/149184/phd-research-fellowship-position-in-economic-model-predictive-control-across-different-time-scales

6.3. PhD: University of Exeter, UK
Contributed by: Tim Hughes, t.h.hughes@exeter.ac.uk
PhD: University of Exeter.
"Economic uncertainty and the robust design of sustainable financial systems"
Closing date for applications: 6 April 2018
The University of Exeter’s College of Engineering, Mathematics and Physical Sciences is inviting applications for a fully-funded PhD studentship to commence in September 2018 or as soon as possible thereafter. This award provides annual funding to cover UK/EU tuition fees and a tax-free stipend. For students who pay UK/EU tuition fees the award will cover the tuition fees in full, plus at least £14,777 per year tax-free stipend. Students who pay international tuition fees are eligible to apply, but should note that the award will only provide payment for part of the international tuition fee and no stipend. The student would be based in Mathematics in the College of Engineering, Mathematics and Physical Sciences at the Penryn Campus in Cornwall.
Project Description:
Recent years have seen sustained growth in aggregate debt levels (private + public debt) and rising inequality. Indeed, excessive rises in debt levels are attributed as one of the main causes of the 2008 financial crisis. Attempts to explain this instability have led to several competing economic models, which exhibit differing dynamics and result in differing conclusions on important issues such as austerity and banking regulations. This project will use and develop techniques from mathematical systems and control to (1) investigate the sensitivity of economic dynamics to these differing modelling assumptions; and (2) design mechanisms for controlling aggregate debt levels and other key economic indicators, which are robust to the inherent modelling uncertainties. The objective is to inform the understanding of contemporary economic dynamics and the design of more sustainable, equitable and efficient financial systems.
For further details, see http://www.exeter.ac.uk/studying/funding/award/?id=3063

6.4. PhD: GIPSA-Lab, Grenoble, France
Contributed by: C. Prieur, christophe.prieur@gipsa-lab.fr
PhD position at GIPSA-Lab, Grenoble, France.
The proposed work will consist in exploring different approaches to estimate the attitude and position of the body by using magnetic, inertial and vision measures. Each types of measure have its own bias, drift, and possible perturbation, but we aim in designing new estimation algorithms. A possible track will consist in developing a thorough model of all the measured signals (continuous time and discrete time) in the context of developing a new observer, integrating all measures in one step, and not using separate objectives and separate observers, with a post-processing of observer outputs.
PhD candidates should have a Masters degree with a strong background in control theory. Knowledge of observers and nonlinear dynamics with computed skills are welcome.
Starting date: flexible, as soon as a competent candidate has been selected.
For more information, see http://www.gipsa-lab.fr/ christophe.prieur/Offers/phd1.pdf
Contact christophe.prieur@gipsa-lab.fr with a detailed resume, the CV and a list of (at least) two references.
6.5. PhD: University of Lübeck, Germany
Contributed by: Georg Schildbach, georg.schildbach@uni-luebeck.de

Ph.D. Position in Autonomous Systems

We are looking for a passionate doctoral student to join the research group on Autonomous Systems with focus on “intelligent planning and control”. Your responsibilities are to carry out an independent research project, to support our teaching, to supervise Bachelors and Masters theses, and to help with laboratory experiments. Possible areas of research include:

- Algorithms for advanced control
- Numerical optimization for embedded systems
- Machine learning for object detection and situation interpretation
- Motion planning and trajectory tracking
- Strategies for the reliability of safety-critical systems

The main prerequisite is a good Masters degree in any subdiscipline of computer science, engineering, or mathematics as well as a strong motivation for research. In addition, you should have some experience with computer programming and scientific writing, and be able to communicate fluently in English. Prior in the field of robotics or mechatronics would be a plus, but not a strict requirement.

For more information see: https://www.uni-luebeck.de/fileadmin/uzl_personal/stellenausschreibungen/1007_18_-_Ausschreibungstext.pdf

If you would like to apply for this position, please send your full documents (cv, transcripts, etc.) to:
Prof. Dr. Georg Schildbach (georg.schildbach@uni-luebeck.de)

6.6. PhD: University of Lorraine, France
Contributed by: Dominique Sauter, dominique.sauter@univ-lorraine.fr

A fully funded Ph.D. position is available in the area of control theory and informatics at University of Lorraine, France. The appointment will be for 3 years with 1 year extension possible.

The design of secure and safe Networked Control Systems (NCS) is of high importance in the control of large-scale critical infrastructures or industrial plants such as power grids, transportation systems, communication networks, oil and gas pipelines,... The distributed monitoring and control of Cyber Physical Systems (CPS) relies on the use of information exchanged via networks between controllers, actuators and sensors. The information exchanged is therefore vulnerable to malicious attacks applied to the signals received and issued by the controllers.

In this PhD thesis, to go beyond the current state of the art solutions, the original idea is to jointly design dynamic resource reallocation/scheduling and control law synthesis for drastically increasing the resilience of CPS face to malicious attacks. This can be achieved in SDN framework where physical plant controller and network controller may be merged.

This thesis aims to design distributed control algorithms and SDN-based network resource reallocation/scheduling policies resilient to malicious attacks applied to the CPS measurements received and issued by the controllers.

Applicants shall have a Master’s degree or equivalent in systems and controls, computer science, applied Math or a related discipline.
To apply for this Ph.D. position, send an email to dominique.sauter@univ-lorraine.fr (please attach CV and motivation letter).

**6.7. PhD: University of Groningen, The Netherlands**
Contributed by: Ming Cao, ming.cao@ieee.org

PhD position at the University of Groningen, the Netherlands
Department of Discrete Technology and Production Automation (DTPA)
Research Institute of Engineering and Technology (ENTEG)
University of Groningen, the Netherlands

Project title: Control of autonomous agents

General description: This project is funded by the European Research Council (ERC). The aim is to study how to design novel strategies and algorithms to control the collective behavior of interacting autonomous agents. It is envisioned to apply systems and control theory to model and analyze such complex networks, and uses robotic teams as case studies to implement and validate theoretical results. The project will enrich multidisciplinary research at the interface of systems theory, game theory, optimization theory and complex network theory, and will also promote the application of autonomous robotic teams. The PhD position is for 4 years and the starting gross salary is about EUR 2200 per month in the first year and increases to about EUR 2800 gross per month in the final year. After the first year, there will be an evaluation. The position will start in 2018.

Research group profile: The Department of Discrete Technology and Production Automation (DTPA) at the University of Groningen, the Netherlands, provides a leading education and research environment for students and researchers who are interested in the inter-disciplinary study in engineering, computer science, mathematics and applied sciences in general. The research activities at DTPA focus on developing quantitative and analytical theories and methodologies for complex industrial processes and systems, such as autonomous robots, sensor networks, micro-assemblies, energy systems and space systems. The research of the group is funded by both public agencies and industrial partners.

Candidate profile: Applicants should have a Masters degree in one of the following disciplines: electrical or mechanical engineering, applied mathematics, computer science or applied physics. It is desirable for the applicants to have solid knowledge about systems and control theory, game theory, optimization or network theory.

Application: Applicants must submit the following materials:
- Curriculum vitae;
- Transcripts;
- List of two references

These should be emailed to Prof. Ming Cao (ming.cao@ieee.org, www.rug.nl/staff/m.cao/), who is available for further inquiry.

**6.8. PhD: CNRS, Grenoble, France**
Contributed by: LEON Lydie, lydie.leon@gipsa-lab.fr

PHD Offer : Traffic control in large-scale urban networks
Supervisors: Carlos Canudas-de-Wit (DR-CNRS, main supervisor), Maria Laura Delle Monache (CR-Inria, co-supervisor)

Application type: PhD. Gross salary: 1757 Euros/month (CNRS PhD official salaries).

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

More details on our website: http://scale-freeback.eu/openings/

Requested Background: Control systems, applied mathematics, estimation theory

6.9. PhD: Newcastle University, UK

Contributed by: Sadegh Soudjani, sadegh.soudjani@ncl.ac.uk

A fully funded Ph.D. position is available in the area of ”Formal Verification and Synthesis of Cyber-Physical Systems” in the School of Computing at Newcastle University.

Cyber-physical systems (CPS) are systems of collaborating computational elements controlling physical entities. Composition of continuous and discrete models is essential for capturing the behaviour of such systems. Verification and synthesis of CPS are algorithmically studied using abstraction techniques and model checking tools. The goal of this research is to focus on formal verification and controller synthesis of CPS models by addressing robustness and scalability of the algorithms, while taking uncertainty into account, utilising available data from the system and synthesising optimal controllers. Application areas of the research include, among others, smart grids, energy networks and systems biology.

This studentship provides a unique opportunity to perform interdisciplinary, high-impact research within a group of interdisciplinary researchers. The successful candidate will work closely with Dr Soudjani and will join the AMBER group, which gives possibility of collaboration and interaction with scientists in CESI centre on energy applications and in ICOS group on Biosystems.

The successful candidate has an excellent first degree in, e.g., computer science, mathematics, or engineering. For this interdisciplinary research, the candidate is expected to have a strong background in one of the three areas (control theory, computer science, probability theory) and wish to gain knowledge on the other areas.

The School of Computing, including the AMBER group, has recently moved in a new, state-of-the-art, £58 million building which is highly sensorised and can be used as a unique research facility.

Application closing date is 15 June 2018 or until funding a suitable candidate. Expected start date is October 2018 or soon thereafter. The appointment will be for 3 years.

Interested individuals should send their detailed curriculum vitae and other supporting documents to Dr Sadegh Soudjani (sadegh.soudjani@ncl.ac.uk). Only potential suitable candidates will be contacted.

6.10. PhD: University of Louisiana at Lafayette, USA

Contributed by: Afef Fekih, afeef.fekih@louisiana.edu

The Advanced Controls Laboratory at the University of Louisiana at Lafayette, USA has available funding to support a PhD student in the general area of advanced control design/Fault Tolerant Control with application to dynamic systems. Special considerations will be given to students who have previously worked with power systems such as wind turbines and/or PVs, smart grid. The successful candidate is expected to have a strong background in control systems theory, and a very good knowledge of power systems in general. Programming skills in MATLAB/Simulink are required. A genuine interest and curiosity in the subject, excellent oral and written English communication skills are needed.
Applicants shall have a Master’s degree or equivalent in systems and controls, power systems, electrical engineering, mechanical engineering, applied Math or a related discipline. The PhD student is expected to carry out original research and complete coursework throughout the period of appointment. Results will be communicated in the form of journal publications, conference presentations, and the PhD dissertation. The funding covers the cost of full tuition and stipends at a competitive rate and will start in Fall 2018.

Interested individuals should send their detailed curriculum vitae to Dr. Afef Fekih (afef.fekih@louisiana.edu).

6.11. PhD: University of Strasbourg, France
Contributed by: Hassan OMRAN, homran@unistra.fr

Following previous works within the Control-Vision-and-Robotics group of ICube lab, this Phd subject is at the interface between control and robotics. Indeed, we wish to contribute to the development of methods for system analysis and controller synthesis that suits for cable-driven parallel robots (CDPR). CDPR are composed of a platform connected to attachment points through cables whose length and tension are adjusted by winding. Their low invasiveness, large workspace and high load-mass-per-robot-mass ratio make them interesting solutions for original applications. The control of these systems has to face many complexities. On the one hand, as for all parallel robots, models exhibit algebraic equations in addition to dynamic equations - we speak of a differential algebraic equation (DAE), which represents a complexity to be managed for modelling and simulation. On the other hand, it must be ensured that the cable tensions remain positive. Moreover, they introduce flexible modes to the non-linear dynamics of these systems which are also multi-variable. In this research work, the simplifying hypothesis of straight cables will be relaxed and the models will be processed directly in DAE form. A first contribution was produced by the team on the possibility of directly addressing the problem in DAE form a simplistic example of plane robot with three straight cables. Moreover, we have studied taking into account the non-rectilinear character of cables in dynamics based on the "assumed mode" method commonly used for series manipulators with deformations. In this work, the idea will consist in approaching the non-linear DAE model by a linear DAE model with variant parameters in order to use the methods available for these classes of systems.

Applicant profile:
Applicants should be in second year of a Master or in the last year of an Engineering School, with a strong specialization in Automatic Control. They should be comfortable with the concept of multi-variable systems control and the use Matlab/Simulink. They should have excellent communication skills, especially in English, and the capability to read scientific articles without difficulty.

How to apply:
Send a resume, a cover letter explaining your skills with respect to the project, your motivations and your Master grades (use a unique pdf document) to homran@unistra.fr

Application deadline: May, 15 2018

For more details:

6.12. PhD: Aarhus University, Denmark
Contributed by: Erdal Kayacan, erdal.kayacan@gmail.com
Applications are invited for a fully funded PhD studentship position within the Department of Engineering at Aarhus University, Denmark starting in the fall 2018. At Aarhus University, you will have thrilling opportunity to apply the latest artificial intelligence technologies to solve real-world problems, in particular advanced autonomy for aerial robots.

Research area and project description:
We are looking for qualified and talented enthusiast PhD students who wish to investigate embedded guidance, control and navigation problem of unmanned aerial systems using artificial intelligence/machine learning methods with emphasis on reinforcement learning, deep neural networks, and learning controls for robotics.

Our aim is to leverage the current state-of-the-art autonomy level towards smarter robots, which will learn and interact with their environment, collaborate with people and other robots, plan their future actions and execute the given task accurately.

If you wish to shape the future through the marriage of robotics with artificial intelligence/machine learning, come and join us, we can create this vision with your help through the alliance of robotics with artificial intelligence/machine learning.

What you stand to gain? A fully funded PhD position for 3 years (starting Fall 2018) at the Department of Engineering, Aarhus University; a fun environment to drive your passion for robotics.

Qualifications and specific competences:
Required:
· A master’s degree in mechanical engineering, electrical engineering, aerospace engineering, computer science/engineering, control theory, mechatronics, applied mathematics, or other related disciplines
· Excellent verbal and writing skills in English with very good communication skills
· Experience in Robot Operating System (ROS)
· Concrete knowledge in C/C++

Preferred:
· Experience in machine/deep learning
· Hands on experience in UAVs
· Demonstration of research activities (conference or journal papers)

Application:
Please refer to the official advert [1] for application details and guideline. The deadline for applications via the online system [1] is 01 May 2018.


Do you want to study for a PhD at a top 100 university?
Aarhus University is a modern, academically diverse and research-intensive university with a strong commitment to high-quality research and education and the development of society nationally and globally. The university offers an inspiring research and teaching environment to its 42,500 students and 11,500 employees and has an annual budget of EUR 840 million. Over the course of the past decade, the university has consolidated its position in the top 100 on the most influential rankings of universities world-wide.


Denmark is home country for Aarhus University and provides a safe and stable environment with great conditions as well as lots of social opportunities. Aarhus is innovative and international, big city but in
walking distance, surrounded by forests, parks and sea.
Learn more at http://talent.au.dk/working-at-aarhus-university/

Salary range:

PhD fellows are employed on the basis of academic trade union agreements, and the salary is regulated accordingly (depending on seniority). The salary amounts to approx. DKK 26,000 per month before tax, excluding pension and holiday (2017). The working and fiscal status of a recipient of a PhD fellowship is that of a university employee.
Learn more at http://talent.au.dk/phd/scienceandtechnology/financing/

Contacts:

Applicants seeking further information are invited to contact:
Associate Professor Erdal Kayacan, e-mail: erdal.kayacan@gmail.com, www.erdal.info

6.13. PhD: Delft University of Technology, The Netherlands
Contributed by: Henk Blom, h.a.p.blom@tudelft.nl

The Aerospace Engineering department of Delft University of Technology is offering a PhD position on Risk Modelling and Simulation for Adaptive Aircraft Maintenance. This research will be done at the section Air Transport Operations (ATO), in connection with the European H2020 project ‘ReMAP’, which aims at using condition-based health monitoring to ensure safe and reliable aircraft maintenance. The ATO section is a vibrant and youthful group of 30 enthusiastic staff members and PhDs with 40 MSc students per year. ATO has three research aims: 1) to develop radical new ways to optimise aircraft operations for efficiency, safety, cost, and environmental impact; 2) to extend the analysis to an airline fleet and network level to include capacity and resilience; 3) to synthesise these to include operational safety at an airline and ATM level.

The research challenge: Aircraft maintenance is of crucial importance to ensure safe and cost-efficient air transport operations. As such, aircraft maintenance is performed periodically according to well-defined schedules and maintenance procedures. Despite this systematic approach, there are many factors that affect the aircraft maintenance process such as unforeseen component breakdowns or insufficient/erroneous data on the condition of components. In turn, this can result in undesirable maintenance-related aircraft accidents.

To improve maintenance planning and limit the risk of undesirable, maintenance-related events, in this project a model and simulation of the maintenance process will be developed to analyse maintenance risks. Promising techniques to explore for this project are stochastic Petri nets, rare-event Monte Carlo simulation, data assimilation methods for simulations, data clustering techniques.

Requirements:

• A Master of Science degree in aerospace engineering, applied mathematics, computer science, operations research, mechanical engineering.
• Strong mathematical, analytical and programming skills.
• Interest in modelling and simulation of large, complex systems, involving uncertainty.
• Knowledge of data analysis techniques.
• Excellent communication skills in spoken and written English, and teamwork skills.
• Creativity, positive attitude, and perseverance.
• Knowledge of stochastic modelling is an asset.

Conditions of employment: TU Delft offers a customisable compensation package, a discount for health insurance and sport memberships, and a monthly work costs contribution. Flexible work schedules can be arranged. An International Children’s Centre offers childcare and an international primary school. Dual
Career Services offers support to accompanying partners. Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities. As a PhD candidate you will enroll in the TU Delft Graduate School. TU Delft Graduate School provides an inspiring research environment; an excellent team of supervisors, academic staff and a mentor; and a Doctoral Education Programme aimed at developing your transferable, discipline-related and research skills. Please visit www.phd.tudelft.nl for more information.

For more information, please contact Dr. M.A. (Mihaela) Mitici, phone +31 (0)15 27 87082, e-mail: m.a.mitici@tudelft.nl. To apply, please e-mail a detailed CV, both BSc and MSc transcripts, and a letter of motivation by 1st May 2018 to V.M. van Bragt, V.M.vanBragt@tudelft.nl.

When applying, please refer to vacancy LR18-ReMAP.

6.14. PhD: Lund University, Sweden
Contributed by: Anders Rantzer, rantzer@control.lth.se

Positions as PhD student at the Department of Automatic Control, Lund University. The department has a stimulating and international environment consisting of PhD students, postdocs and teachers coming from all corners of the world. Research and teaching are conducted in an open and progressive atmosphere with challenges and cooperation both within academia and with industry, with national and international networks. Lund University and the Department of Automatic Control welcome applicants with diverse backgrounds and experiences. See http://www.lth.se/english/about-lth/vacant-positions.

6.15. PhD/PostDoc: Chemnitz University of Technology, Germany
Contributed by: Stefan Streif, stefan.streif@etit.tu-chemnitz.de

The Automatic Control & System Dynamics Lab in the Faculty of Electrical Engineering and Information Technology at the Chemnitz University of Technology offers several positions for Research Associates (PhD students as well as postdocs; full-time positions; initially limited to three years and with the possibility of continuation).

Job and project descriptions:
You will work on research projects and aim for publications of your results in reputed journals and participate at international conferences. Your research addresses but is not limited to:
* learning-based and adaptive optimal control (with particular focus on MPC and ADP);
* set-based and probabilistic methods for control and fault diagnosis;
* hierarchical control and scheduling for networked systems;
* formal verification of control systems.

Besides theoretical research topics, we offer a variety of applications in the area of energy and automation, agriculture and food production. You will be given large freedom for own research ideas and/or practical implementations. New offices, laboratories and IT facilities provide an ideal working environment. Furthermore, postdocs are given the chance to build up their own group and actively strengthen and shape the above activities by supervision of doctoral students and interaction with industrial and academic partners. The salary is competitive (Germany’s standard remuneration group 13 TV-L; salary after-tax and with full health insurance at least 2200 EUR / month or higher depending on your experience).

Your profile:
* strong background in optimal and/or nonlinear control theory;
* ability and/or interest to apply theoretical results in application-oriented projects is an advantage;
* postdocs must have a high-quality publication record with a clear relation to our research and application profile; furthermore, project supervision and coordination skills are desirable;
* excellent writing and communication skills;
* basic knowledge of German is an advantage outside of the university, but not strictly required.

Application process:
To apply or to request more information, please contact control@etit.tu-chemnitz.de as soon as possible. Application documents should include CV, publication record, and contact details of references.

Application deadline: 30 April 2018

6.16. Researcher: Politecnico di Torino, Italy
Contributed by: Giuseppe Calafiore, giuseppe.calafiore@polito.it

Researcher: Politecnico di Torino, Italy
The Department of Electronics and Telecommunications (DET) at Politecnico di Torino, Italy, is looking to appoint one full-time Junior Researcher to undertake research in the broader area of automatic control.

The position is fixed term, for 36 months. The approximate gross salary is 41,800 Euro per year. The position is reserved to candidates who obtained their Ph.D. degree on or after Jan. 1, 2013.

Candidates should hold a Master’s degree in the fields of Control Engineering, Electrical Engineering, Applied Mathematics, Data Science, Mechanical Engineering, or Physics. The successful candidate will have a developing research profile showing the ability to publish high quality research output. He/she is required to be an excellent communicator with strong communication skills, and be able to evidence excellent interpersonal skills with relevant experience of working independently and as part of a team. The successful candidate will have experience and/or knowledge in one or more of the following areas: control theory, system identification, optimization, robotics, applied probability, statistics, and data science or machine learning.

For informal discussion of this opportunity, please contact Prof. Giuseppe Calafiore at giuseppe.calafiore@polito.it.

The closing date for applications is 26 April, 2018.

Code of the procedure is: 01/18/PR/RA-13
Scientific Sector: 09/G1 Automatica.

Applications are accepted via an on-line application system. Information are available at https://www.swas.polito.it/services/concorsi/240.asp?id_documento_padre=151409

6.17. PostDoc: University of Warwick, UK
Contributed by: Zhuqing Meng, xiaowei.zhao@warwick.ac.uk

Research Fellow (postdoc) in Wind Turbine Control, University of Warwick
Fixed Term position for 12 months, with the possibility of an extension for a further 2 years. Salary: £29,799 - £38,833 per annum. Any researcher who is interested in this post can talk with me (xiaowei.zhao@warwick.ac.uk) before making formal application.
The School of Engineering of the University of Warwick is seeking to appoint a full-time Research Fellow to work on an EPSRC-funded project on wind turbine control. You will undertake independent and collaborative research and will be expected to write up your research for publication. You will be expected to deal with any management/administration problems that may arise from the project and produce journal and conference publications ensuring that the project objectives and deadlines are met.

It is essential that you have a good honours degree and a PhD (or expect to be awarded the PhD shortly) in the fields of Control Engineering, Electrical Engineering, Data Science, or Mechanical Engineering. You will have a developing research profile with the ability to publish high quality research output and will be able to contribute to the development of funding proposals. You will have excellent IT skills including demonstrable ability to use IT to write technical research papers and presentations. You are also required to be an excellent communicator with strong communication and interpersonal skills. You should have strong experience in at least one of the following areas: mathematical modelling, controller design, optimisation, wind turbines/farms, and data science. You should have excellent interpersonal skills and be able to work well within a team.

If you have not yet been awarded your PhD but are near submission or have recently submitted your PhD, any offers of employment will be made as Research Assistant on level 5 of the University grade structure. Upon successful award of your PhD and evidence of this fact, you will be promoted to Research Fellow on the first point of the level 6 of the University grade structure.

The University aims to promote work life balance for all employees and the School of Engineering will consider a range of possible flexible working arrangements in order to recruit the best candidate.

This post is for a fixed term of 12 months, with the potential for extension for a further 2 years. For informal discussion of this opportunity, please contact Dr. Xiaowei Zhao at xiaowei.zhao@warwick.ac.uk.

Click the link below for application:
https://atsv7.wcn.co.uk/search_engine/jobs.cgi?owner=5062452&ownertype=fair&jcode=1716832&vt_template=1457&adminview=1

6.18. PostDoc: University of Waterloo, Canada

Contributed by: John W. Simpson-Porco, jwsimpson@uwaterloo.ca

John W. Simpson-Porco at the University of Waterloo seeks a post-doctoral fellow in the area of decentralized wide-area control design for modern power systems. The project is titled "Wide-Area Hierarchical Frequency and Voltage Control for Next Generation Transmission Grids". The broad research objective is to leverage the latest advances in controller synthesis and distributed optimization to design real-time controllers for power transmission (and eventually, distribution) systems. A distinguishing aspect of the project will be a focus on blending modern principled controller design procedures with both hierarchical control and distributed optimization approaches. Responsibilities will include the principled design of distributed control solutions for power systems, and the extensive validation of these control solutions using realistic power system models.

The successful candidate must hold (1) a Ph.D. degree in either systems and control theory, convex optimization, or power system dynamics and control, (2) have an established track-record of academic publications in top venues, (3) have exceptional written and verbal communication skills, and (4) be highly motivated to make contributions in the area of decentralized power system control.

To apply, E-mail your CV, a Google Scholar link, two to three representative publications, and a list of three references to jwsimpson@uwaterloo.ca
6.19. PostDoc: University of Texas at Dallas, USA
Contributed by: Mario Rotea, rotea@utdallas.edu

Open Research Associate Position in Optimization & Control of Wind Energy Systems

The wind energy team at the University of Texas at Dallas seeks to fill a postdoctoral research associate position in optimization and control of wind energy systems. The successful candidate will be part of a team of faculty members, graduate students and industry partners developing methodology and new technologies to enhance the performance and reliability of wind energy systems and their integration to the power grid. UT Dallas is home to a site of WindSTAR, an NSF Industry/University Cooperative Research Center for use-inspired R&D to advance wind energy science & technology.

Ph.D. in Engineering or Computer Science required. Must be recent Ph.D. graduate within the past three years. To apply for this position go to https://jobs.utdallas.edu/postings/9649


Responsibilities

• Utilize wide range of resources to conduct quality research
• Assist team members in designing and conducting experiments and simulations
• Solve problems as they arise and establish solutions
• Assist in writing proposals for new research and write reports for existing research
• Maintain database of results and write high-quality articles

Qualifications

• Ph.D. in Engineering or Computer Science with emphasis in one or more of the following: control theory, control systems technology, real-time optimization, machine learning.
• Ph.D. graduate within the past three years
• Experience in renewable energy systems
• Proficient in Matlab/Simulink, NI LabVIEW, LaTeX and MS Office
• Strong work ethic and passion for research
• Strong communication (English), analytical and critical thinking skills

6.20. PostDoc: Khalifa University of Science and Technology, UAE
Contributed by: Igor Boiko, i.boiko@ieee.org

A Postdoctoral Fellow Position is available in the area of “Fuel Cell Control” at the Electrical and Computer Engineering Department, Khalifa University of Science and Technology, Abu Dhabi, UAE (1.5 year contract).

Description: A Postdoctoral position is currently available at the Petroleum Institute, a part of Khalifa University of Science and Technology (Abu Dhabi, UAE) under the project related to a low temperature Polymer Electrolyte Membrane (PEM) fuel cell modeling and control. Low temperature PEM Fuel Cell is an electrochemical device which ensures generation of electricity from a chemical reaction between hydrogen and oxygen. This technology has gone through extensive research and development, primarily because of its sustainable nature and zero gas emissions as compared to fossil fuels. They can be used as a power source...
in different applications, stationary or mobile. The project will involve: (i) Development of a detailed non-linear model of the PEM fuel cell, particularly using the approaches to the modeling of complex electrical and thermo-dynamic components developed within the process control group of the Petroleum Institute; (ii) Development and design of the model-based control of PEM fuel cell system; (iii) Implementation of the complete system and experimental testing. Candidates must have PhD in Electrical Engineering or related discipline, experience in modeling and simulation of complex electro-thermodynamic processes using Matlab/Simulink and in fuel cell modeling and control in particular, be able to work with hardware and conduct experiments.

Review of applications will begin April 1 and continue until position is filled. Expected start date: September 2018. The successful applicant will be offered a competitive salary.

Interested applicants can send their CV to Prof. Igor Boiko (iboiko@pi.ac.ae) and Dr. Ahmed Al-Durra (aal-durra@pi.ac.ae). Please note that due to an expected high number of applications, only selected candidates will be contacted for an interview.

6.21. PostDoc: Uppsala University, Sweden
Contributed by: Anders Ahlen, anders.ahlen@signal.uu.se

Postdoctoral position – Secure and Energy-Neutral Signal Processing and Control over Networks

The position is at the Signals and Systems division, Department of Engineering Sciences, The Angstrom Laboratory, Uppsala University. The position is for two years starting 2018-05-01 or as soon as possible thereafter.

Duties: To conduct original research in the area of signal- and information processing and control over wireless sensor networks, in particular, (i) theoretical analysis of secure and resilient networked estimation and control subject to malicious attacks such as denial of service, data integrity and eavesdropping attacks, (ii) game theoretic algorithms for strategic system design, and (iii) integration of energy harvesting based sensor networks in estimation and control of dynamical systems. Relevant areas also include distributed and decentralized estimation- and control algorithm design, e.g., with respect to wireless control applications.

Experience of theoretical and experimental work within the field is important, as is experience of extensive programming in MATLAB and preferably also in LabVIEW. The duties include theoretical analysis, algorithm design and implementation via software based simulations, and documentation in the form of technical papers and reports. Some teaching in the undergraduate and/or graduate education and supervision of PhD students may be included in the position not exceeding 20.

Qualifications required: To qualify for an employment as a post-doctor, the applicants must hold a PhD degree or a foreign qualification deemed equivalent to a PhD and the PhD degree must have been obtained no more than three years prior to the application date; however, for example, periods of sick leave or parental leave are deducted from the three-year period.

For this position it is required to have PhD in Automatic Control, Signal Processing or Wireless Communications with applications to networked systems or a closely related subject with high quality publications in the related area of signal processing, control and wireless communications. Particular emphasis will be placed on a strong mathematical background (including stochastic control and optimization theory, game theory (desirable), and systems and control theory), and documented research experience in signal and information processing/control for/via wireless sensor networks.

For further information about the position, please refer to
Postdoctoral position: Complex Dynamical Networks
Delft Center for Systems and Control (DCSC), Delft University of Technology, The Netherlands.

We are looking for a talented post-doctoral research fellow with background and interest in System Theory, Automatic Control, Optimisation; strong mathematical skills; a track record of publications in high-quality journals and/or conferences; and an excellent command of the English language (knowledge of Dutch is not required).

The researcher will conduct fundamental theoretical and algorithmic research on complex dynamical networks, with possible applications to systems in both engineering and biology.

The researcher will not be assigned to a pre-defined project. She/He will be free to follow her/his own preferences within the research activities and expertise of the group. For more information on the possible research topics, see:
http://giordanogiulia.altervista.org/research.html

Requirements:
Applicants should have the following qualifications
- Ph.D. degree (or close to completion) in Systems and Control, Operations Research, Applied Mathematics, Electrical Engineering, or a related field.
- Strong mathematical skills, along with ability and interest to work at the intersection of several technical research domains, in particular System Theory, Automatic Control, Optimisation.
- Good programming skills (e.g., in Matlab).
- Excellent command of the English language and communication skills.

Expertise in either networked dynamical systems, decentralised control or systems biology is highly appreciated.

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

Information and application:
For more information about this position, please contact dr Giulia Giordano, e-mail: g.giordano@tudelft.nl. An application dossier consists of the following documents:
- detailed curriculum vitae and list of publications;
- a brief statement of motivation, research interests and vision (1-2 pages);
- academic transcripts of all exams taken and obtained degrees (in English);
- names and contact information of up to three references (e.g. PhD supervisors);
- up to five publications (possibly, also currently unpublished work and PhD thesis).
Postdoctoral position: Shaping collective dynamics in multi-robot systems

Delft Center for Systems and Control (DCSC), Delft University of Technology, The Netherlands.

The number of potential applications of self-organizing multi-robot systems is vast: swarms of nano-robots can perform distributed sensing tasks and drug delivery in the human body; groups of robots can form self-deploying sensor networks that operate in inaccessible or dangerous environments, and teams of robots can guide pedestrian flows in panic escape situations. The aim is to produce versatile and reconfigurable robotic systems that can perform complex tasks fully autonomously by using only simple, reliable and low-cost building blocks. The challenge is to steer robust organisation of collective dynamics by controlling only local dynamics.

Requirements:

We are looking for a candidate with a PhD degree (or close to completion) in Systems and Control, Applied Mathematics, Mathematical Physics, or Computer science, with a strong interest in mathematical modeling and the ability to do interdisciplinary research. Basic programming skills in Matlab are expected and a good command of the English language is required.

Conditions of employment:

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

Information and application:

For more information about this position, please contact dr. Erik Steur, e-mail: e.steur@tudelft.nl.

An application dossier consists of the following documents:
- detailed curriculum vitae and list of publications;
- a brief statement of motivation, research interests and vision (1-2 pages);
- names and contact information of three references.

Applications can be submitted to Irina Bruckner, e-mail: application-3mE@tudelft.nl.

When applying for this position, please refer to vacancy number 3ME18-24.

The call for applications will remain open until the ideal candidate is found.

The starting date is flexible, but ideally would be July/August 2018.
6.24. **PostDoc: Chalmers University of Technology, Sweden**

Contributed by: Jonas Sjöberg, jonas.sjoberg@chalmers.se

We invite applications for one post-doctoral position in 3D perception and prediction of pedestrians for improved decision-taking in autonomous driving and active safety.

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

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

**Application deadline:** 15 April 2018


For questions, please contact:
Fredrik Kahl, Computer Vision Group, fredrik.kahl@chalmers.se, tel: +46 31 7725057

6.25. **PostDoc: University of Michigan, USA**

Contributed by: Alfred Hero, hero@eecs.umich.edu

Postdoctoral Opening: Hybrid black-box/white-box modeling for data-aided scientific discovery

Electrical Engineering and Computer Science Department, University of Michigan, Ann Arbor, USA

The Hero and Violi groups (http://web.eecs.umich.edu/~hero/research.html, http://www.umich.edu/~violilab/index.html?whereami=menubar), University of Michigan (Ann Arbor, MI, USA) is inviting applications for one postdoctoral research associate position.

**Starting Date:** Open from June 2018.

The successful candidate will work on theory and algorithms for network inference in the physical sciences and engineering with particular emphasis on dynamical chemical and biological reaction networks. Hybrid methods using machine learning (black-box) and mechanistic state space modeling (white-box) are of special interest. The project will involve developing sparse learning algorithms for discovering new principles for predicting network dynamics. The duration of the position is one year and may be renewable for another year depending on satisfactory progress and availability of funds.

The ideal candidate will have some experience in modeling dynamical systems, optimization, and machine learning. Candidates with experience in at least two out of these three areas will be considered.

Interested applicants should send a CV, a brief description of interests and goals, and a list of two references in a single PDF file to Professor Alfred Hero (hero@eecs.umich.edu). Applications will be evaluated as soon as they are received, until the position is filled. The position is immediately available.
6.26. Faculty: Uppsala University, Sweden
Contributed by: Anders Ahlen, anders.ahlen@signal.uu.se

Tenure Track Position as Associate Senior Lecturer in Signal Processing at Uppsala University, Sweden

The position is placed at the Department of Engineering Sciences, Division of Signals and Systems.

Duties: The position includes teaching, research and administration. Teaching duties include course responsibility, course administration and supervision of second- and third-cycle students. The holder shall also keep abreast of developments within the subject area and the developments in wider community that are significant for the work at the university. Furthermore, the holder of the position is required to participate in some of the different research projects of the division within the areas Signal Processing, Wireless Communications, and Automatic Control, as well as participating in the application of external research funding. It is also expected that the holder of the position will develop the capacity to attract external grants for his/her own research. A position as associate senior lecturer is intended to qualify the holder for a teaching position with higher qualification requirements.

Appointment Period: The position can be held for a maximum of four years. An associate senior lecturer can apply for promotion to senior lecturer. If the associate senior lecturer is deemed suitable and fulfills the criteria for promotion established by the Faculty Board he/she shall be promoted to and employed as senior lecturer.

Qualifications Required: According to the Swedish Higher Education Ordinance those qualified for appointment as associate senior lecturer are persons who have obtained a doctoral degree or achieved the equivalent competence. Applicants who have obtained a doctoral degree or achieved the equivalent competence in seven years or less prior to the end of the application period will be given priority.

According to Uppsala University’s appointments regulations, teaching expertise is an eligibility requirement for appointment as an associate senior lecturer. To obtain teaching expertise, the applicant should have participated in teacher training for higher education of relevance to operations at the University, comprising at least five weeks, or be considered to have acquired the equivalent competence. If it has not been possible to acquire this qualification prior to employment, qualifying training for teachers in higher education shall be completed during the first two years of employment.

More information about the position can be found at:
http://www.uu.se/en/about-uu/join-us/details/?positionId=196374

6.27. Faculty: IMT Atlantique, France
Contributed by: Vincent Lebastard, vincent.lebastard@emn.fr

French IMT ATLANTIQUE Bretagne-Pays de la Loire school recruits an assistant professor in Bio-Inspired Robotics (Locomotion).


Start date of employment: 01/09/2018

IMT Atlantique (Ecole Nationale Supérieure Mines-Télécom Atlantique Bretagne-Pays de la Loire) is a leading general engineering school and an international research centre under the French Ministry of Economy and Industry. Resulting from the January 1, 2017 merger of Télécom Bretagne and Mines Nantes, it is a school of the French Institut Mines-Télécom.

On 3 campuses in Brest, Nantes and Rennes, IMT Atlantique aims to combine digital and energy to transform society and industry through teaching, research and innovation and to be the leading French higher education
and research institution in this field. Every year, IMT Atlantique supervises 2300 students in engineering education, graduate students (Master) and PhD students. Its research activities, at the crossroads of the business and higher education worlds, are carried out by 290 permanent researchers and teacher-researchers, 110 whom are qualified to direct research, and give rise each year to 1000 publications and EUR 18 million in contracts. Its training courses are based on cutting-edge research, within 6 laboratories labeled by the French CNRS (UMRs): GEPEA, IRISA, LATIM, LABSTICC, LS2N and SUBATECH.

The candidate will join IMT Atlantique’s Automatic, Computer-Integrated Manufacturing and Computer Sciences training and research group and the bio-inspired robotics activity of the REV (Robotique Et Vivant) team of the Nantes Digital Sciences Laboratory, UMR CNRS 6004 (LS2N). The research of the REV team in bio-inspired locomotion deals with the modelling, simulation and control of legged, swimming, creeping and flying robots; mechatronics (design and manufacture of bio-inspired robots and experimental benches); and the bio-inspired perception of electrical fish (sensors, for navigation and perception in underwater robotics).

Administrative status: Maître assistant des Mines et des Télécom, fonctionnaire du Ministère de l’Économie et des Finances.

Missions :
The recruited candidate will participate in teaching, research and development missions.

Teaching :
The pedagogical activities concern the following disciplines:
Robotics (Mechanical, Automatic)
Physics for the engineer.
Physical modeling for Robotics and Automation;
Mechatronics or experimental physics;
Numerical simulation and scientific calculations (Matlab, C++)

Research and development:
The candidate will carry out research activities in the fields of bio-inspired robotics and in particular locomotion. The multidisciplinary nature of this field implies collaborative research and the expected candidate must be motivated for teamwork.

In this perspective, the candidate will contribute to boost the team’s research in the fields of the dynamics of bio-inspired robots of fish, snakes and other flying insects without excluding other animal models of her/his choice. Her/His work may focus on modeling-simulation (multibody systems, continuous or soft robots), and/or mechatronic design (bio-inspired robots, innovative actuators) and control of these systems. Since bio-inspired locomotion is highly dependent on the physical environments on which animals rely to propel themselves, a background in mechanics (hydro-dynamics and aerodynamics) will be appreciated. Finally, a curiosity for life sciences is an important asset.

The recruited candidate will contribute to the influence of the School and the Laboratory through national or international academic collaborations, in particular within the framework of national (ANR) and international (H2020) cooperative projects.

Profile:
We are expecting a candidate with a robotic profile (mechanical, automatic), or a candidate with a physicist or mechanic background (applied and/or theoretical), highly motivated to apply his knowledge in robotics.

Contacts :
Frédéric Boyer, Prof. IMT-A : frederic.boyer@imt-atlantique.fr , +33 6 75 21 07 43
Vincent Lebastard, M. Assistant IMT-A : vincent.lebastard@imt-atlantique.fr, +33 6 22 40 21 95
The deadline for submitting the application is 30 April 2018 inclusive. To withdraw an application form, please contact the Human Resources Department:

Florence MOULET – florence.moulet@imt-atlantique.fr - tél : 02 51 85 83 63

or

Jean-Philippe ROULLAND – jean-philippe.roulland@imt-atlantique.fr – tél : 02 51 85 83 54

Institut Mines Telecom Atlantique
4 rue Alfred Kastler
CS 20722
44307 Nantes CEDEX 3.


6.28. Faculty: Loughborough University, UK
Contributed by: Wen-Hua Chen, w.chen@lboro.ac.uk

The Department of Aeronautical and Automotive Engineering at Loughborough University, UK, is looking to recruit a Lecturer in Intelligent Mobility / Autonomous Vehicles. It has identified intelligent mobility, Advanced Driver Assistance Systems (ADAS) and autonomy as an important area for growth and this post forms part of the department’s long term investment to expand its capability and to strengthen Loughborough’s growing reputation in this area. We are interested in candidates that can demonstrate that their research activity complements one or more of our current major research strengths and can also show that they can grow our activity in ground vehicle (Automotive) intelligence and autonomy.

We are therefore interested in candidates from a range of backgrounds including, for example, autonomous vehicles, autonomous functions and ADAS, the application of information and computer technology to vehicles, artificial intelligence, machine learning, robotics, computer vision and image processing, driver and intelligent vehicle interaction, advanced verification and validation techniques, and electric and hybrid integration in intelligent powertrains. It is essential that candidates complement our existing research capabilities and have the vision to expand our research into the growing areas of intelligent and smart vehicles and systems.

Please follow the link to make your application or find more detail
http://www.jobs.ac.uk/job/BIB750/lecturer-in-intelligent-mobility-autonomous-vehicles/

For more information please contact Prof Martin Passmore M.A.Passmore@lboro.ac.uk 01509 227250.

Application closing date: 20 April 2018.

Dr Wen-Hua Chen FIEEE CEng FIMechE FIET
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6.29. Faculty: Clemson University, USA  
Contributed by: Pierluigi Pisu, pisup@clemson.edu

Assistant or Assoc. Professor- Automotive Engineering  
Clemson University: College of Engineering, Computing and Applied Sciences: Automotive Engineering  
Location: 4 Research Drive Greenville, SC 29607

Clemson University’s Department of Automotive Engineering is searching for outstanding applicants for a tenure- track faculty position, at the Assistant or Associate Professor level, related to the broad area of connected and automated vehicles.

Research areas of interest include connected and automated vehicles with expertise in the domain(s) of perception, sensor-fusion, navigation, optimization, learning and/or control; and deployment experience with real-time software/hardware architectures for intelligent and autonomous vehicle systems. Candidates are expected to establish an internationally-recognized research and education program around the vehicle automation systems.

The position will include a competitive salary and startup package to support the research mission of the Vehicle Automation Group lead by Prof. Venkat Krovi, the Michelin Endowed Chair in Vehicle Automation. Candidates will also interact with existing research groups throughout Clemson University, and participate in interdisciplinary research initiatives.

QUALIFICATIONS

Leading candidates should possess:
• A Ph.D. or equivalent in a relevant technical discipline (such as Electrical, Mechanical, Automotive, Systems, or Computer Science)
• The ability to build a research program, produce scholarly publications and have a strong dedication to undergraduate and graduate level teaching
• The qualities of an “entrepreneurial scholar.” This means an individual who converts a vision into reality through superior strategic planning and execution skills, while leading the intellectual exploration of new methods related to automated vehicles
• A knowledge base in global automotive and/or aerospace technologies with connections to industry is a plus.

APPLICATION INSTRUCTIONS

Applicants should apply via Interfolio (https://dossier.interfolio.com/apply/49372) by submitting a resume/CV, statements of research, teaching interests, and the name and contact information of at least three references. Applications will be welcomed on an ongoing basis until the search is complete but application review will begin by March 15th 2018.

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

6.30. Faculty: Eindhoven University of Technology, The Netherlands  
Contributed by: Maurice Heemels, m.heemels@tue.nl

Four (4) Faculty Positions (assistant/associate/full professors) at Eindhoven University of Technology
The Department of Mechanical Engineering of the Eindhoven University of Technology (TU/e) seeks to hire four (4) outstanding faculty members at all levels (Assistant/Associate/Full Professor) within the field of Autonomous Systems and Artificial Intelligence. Candidates with a strong background and track record in Systems and Control Theory and Engineering are encouraged to apply!

General

Autonomous engineering systems are being developed at high pace worldwide with examples being autonomous vehicles, drones and robotics for manufacturing, care, cure, agricultural and domestic applications. Both industry and society foster high expectations on the future impact of autonomous systems. Industrial examples are fully automated distribution of goods in harbors, warehouses and factory floors, and the automated inspection of crops in agriculture. Societal impact is envisioned, e.g., in automated highways or in hospitals where surgery robots cooperate with surgeons or patient support systems reaching higher levels of autonomy aiming at cost reduction and improved care or city-wide parcel delivery by drones. In general, system autonomy allows, on the one hand, to take the (expert) human out of the loop to achieve increased performance, safety and efficiency of engineering systems, while, on the other hand, it allows such systems to interact in more complex, real-world environments where interaction with (non-expert) humans is actually required. Both aspects will allow for a step change in the pervasiveness of engineering systems in industry and society.

System autonomy is often achieved by some form of task automation (perception, decision-making and action). Automation and control systems are commonly perceived as ‘artificial intelligence’ (AI) if these are capable of adapting to and interacting with their environment in a smart way. Such interaction with their environment (both technology and humans) typically takes place by data-exchange (e.g., by sensing and/or data-base access) and physical interaction (e.g., interaction with humans). In this sense, systems can be made more ‘intelligent’, by making their automation strategies adaptive to such real-life data and interactions. A further synergy of model-based control techniques on the one hand and data-based learning techniques, from the field of artificial intelligence, on the other hand is envisioned to be the key enabler for such artificially intelligent, autonomous systems.

Research field

The further development of (artificially) intelligent autonomous systems, however, poses many challenges, on sensing, control, world modelling, human-machine interaction, hardware & software design, and (big) data management and algorithmic design. Another key aspect is that of the adaptability of such systems. When operating in the real world, uncertainties, faults and hazards are unavoidable and systems need to be able to automatically adapt to ensure safety and security or to ensure optimal performance. Research in this field requires an inherently multi-disciplinary approach relying on expertise not only from mechanical engineering, but also from electrical engineering and computer science (a.o., artificial intelligence).

This research theme provides ample opportunity for fundamental, interdisciplinary research and valorization in a wide range of applications, many of which are strongly rooted in the Dutch high-tech & manufacturing industry, and the agriculture and transportation sectors.

Research field candidates

The Department of Mechanical Engineering of the TU/e seeks to hire four (4) outstanding faculty members at all levels (assistant/associate/full professor) within the field of Autonomous Systems and Artificial Intelligence, which should play a leading role in addressing these challenges and trends in the above-mentioned areas. Core disciplines that are envisioned to be needed are:

- Systems and Control
- Artificial Intelligence & machine learning,
- Autonomous monitoring and smart diagnostics
- Networks of distributed sensors and actuators.
- Sensing and world modelling, human-machine interaction,
- Systems engineering, equipment and system design,
- Knowledge on relevant application domains such as, for example, robotics, mechatronics, transport systems, health applications, smart industry, energy, agricultural systems, etc.

Candidates can apply to (tenure-track) assistant, associate and full professor positions and are expected to be experienced in at least one of the core disciplines mentioned above.

Embedding

The candidate’s group will strongly co-operate with existing groups in the Department, in particular the groups within the sections of Control Systems Technology and Dynamics and Control. Depending on the function level to which the candidate applies, the candidate’s group can be embedded in the Section of Control Systems Technology, the Section of Dynamics and Control, or could form a new section within the department (possibly consisting of multiple assistant/associate/full professors). The department fosters a personnel strategy stimulating personal growth towards faculty forming independent groups within larger coherent sections.

The candidate’s group will be embedded in the High-Tech Systems Institute within the University. The group will also be embedded in research schools of the Dutch Institute of Systems and Control (DISC) and Engineering Mechanics (EM).

More information
- More information regarding the positions (vacancy number V35.3291) can be found at https://jobs.tue.nl/en/vacancy/assistant-associate-full-professors-autonomous-systems-336404.html
- Questions regarding the academic content of the positions can be directed to prof.dr.ir. Maurice Heemels (email: m.heemels@tue.nl) and prof.dr.ir. Nathan van de Wouw (email: n.v.d.wouw@tue.nl)
- Other information can be obtained from drs. S. van Heijst, HR department, (email: s.van.heijst@tue.nl)

Applying
If you are interested in this position and want to apply, please go to https://jobs.tue.nl/en/vacancy/assistant-associate-full-professors-autonomous-systems-336404.html

6.31. Control Engineer: USA
Contributed by: Lisa Kay Fiore, l.fiore@internationalstarconsultants.com

Title: Controls Engineers (2)
Full-time/Direct-hire
Location: Forest, VA –relocation assistance offered.
Start Date: ASAP
Salary: 80K+ based on experience.
Benefits: 401K Match, Medical, Dental, Vision, and Vacation
Degree: Highly Preferred
Travel: 25%

Job Description:
The control engineer position will assist in the development, implementation and testing of complete machine control systems. This position requires significant prior experience. Position will be required to design new
control systems and support existing system installation. Additional desirable design skills include integrated robotics, vision and conveyor-based material handling experience.

Must be able to be handed a spec from the PM and integrate full systems from scratch. Experience must encompass electrical design, print redesign for repurpose, Allen-Bradley PLC, programming and integrating FANUC robots. Must have OEM industry experience.

US Citizens and Green Card Holders ONLY.