

E-LETTER on Systems, Control, and Signal Processing

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Welcome to the 343 issue of the Eletter, available electronically [here](#).

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1. IEEE CSS Headlines

1.1. IEEE Control Systems Society Publications Content Digest

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

CSS Publications Content Digest The IEEE Control Systems Society Publications Content Digest is a novel and convenient guide that helps readers keep track of the latest published articles. The CSS Publications Content Digest, available at <http://ieeecss.org/publications-content-digest> provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society.

Each issue offers readers a rapid means to survey and access the latest peer-reviewed papers of the IEEE Control Systems Society. We also include links to the Society's sponsored Conferences to give readers a preview of upcoming meetings.

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1.2. Inaugural IEEE Conference on Control Technology and Applications

Contributed by: Steve Yurkovich, steve.yurkovich@utdallas.edu

IEEE CSS – CCTA 2017 – Submission deadline approaching!

1st IEEE Conference on Control Technology and Applications August 27-30, 2017

The Mauna Lani Bay Hotel and Bungalows Kohala Coast, Hawaii

Please visit: ccta2017.ieeecss.org

The inaugural 2017 IEEE Conference on Control Technology and Applications will be held on the beautiful Big Island of Hawaii. This new conference follows in the evolution of the former IEEE Conference on Control Applications to recent successful MSC venues, the last of which was held in 2016. The CCTA 2017 technical program will focus on all aspects of control engineering for practical control systems, from analysis and design, through simulation and hardware, as well as application-driven contributions of control theory. Major themes of energy, healthcare, manufacturing, and transportation will feature applications of control technology for robotic, automotive, biomechanical, aerospace, power and energy systems, control of networks, and many others.

The deadline for submission of contributed and invited papers is March 1, 2017, and submission is now open. For more information on the venue, technical program and paper submission, please visit ccta2017.ieeecss.org

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1.3. CFP: 2017 IEEE Conference on Decision and Control

Contributed by: Sergio Galeani, sergio.galeani@uniroma2.it

2017 Conference on Decision and Control

CDC is going down under! The 56th IEEE Conference on Decision and Control will be held Tuesday through Friday, December 12-15, 2017 at the Melbourne Convention Center, Melbourne, Australia. The conference will be preceded by technical workshops on Sunday, December 10, and Monday, December 11, 2017. The workshops will be held at the Parkville Campus of the University of Melbourne, which is also sponsoring the event.

The CDC is recognized as the premier scientific and engineering conference dedicated to the advancement of the theory and practice of systems and control. The CDC annually brings together an international community of researchers and practitioners in the field of automatic control to discuss new research results,

perspectives on future developments, and innovative applications relevant to decision making, systems and control, and related areas.

The IEEE CDC is hosted by the IEEE Control Systems Society (CSS) in cooperation with the Society for Industrial and Applied Mathematics (SIAM), the Institute for Operations Research and the Management Sciences (INFORMS), the Japanese Society for Instrument and Control Engineers (SICE), and the European Union Control Association (EUCA).

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

Aside from the technical sessions, the 2017 CDC will feature three plenary lectures and the Bode Lecture.

The Bode Lecture will be presented by Prof. Naomi E. Leonard of the Mechanical and Aerospace Engineering Department, Princeton University.

The Plenary speakers will be:

- Prof. Graham C. Goodwin of the School of Electrical & Computer Engineering, University of Newcastle, Australia.
- Prof. Pablo Parrilo of the Electrical Engineering and Computer Science Department at the Massachusetts Institute of Technology, USA.
- Prof. Anna G. Stefanopoulou of the Department of Mechanical Engineering, University of Michigan, USA.

Important deadlines:

- Invited Session Proposals Due: March 10
- Initial Paper Submissions Due: March 20
- Workshop Proposals Due: May 1

Further details can be found at the CDC2017 website:

<http://cdc2017.ieeecss.org/>

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1.4. Call for Workshop Proposals: 2017 IEEE Conference on Decision and Control

Contributed by: Sergio Galeani, sergio.galeani@uniroma2.it

CALL FOR WORKSHOP PROPOSALS AT 2017 CONFERENCE ON DECISION AND CONTROL

The Technical program of 2017 CDC will include half day and full day workshops, in addition to regular and invited sessions, tutorial sessions, and special sessions along with exhibits. The technical workshops will be held on Sunday, December 10, and Monday, December 11, 2017, prior to the conference start on Tuesday, December 12. The workshops will be held at the Parkville Campus of the University of Melbourne, which is also sponsoring the event.

A Workshop proposal should focus on a specific theme related to the main conference topics, describing objectives and expected outcomes, including expected attendance. The workshop proposal should include the workshop presenters' short bio and contact information, and the list of speakers. Proposals should be submitted through PaperPlaza by the workshop proposals due date, May 1, 2017.

Further details can be found at the CDC2017 website:

<http://cdc2017.ieeecss.org/workshops.php>

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1.5. Corrected Table Of Contents on the Cover of February 2017 Issue of TAC

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

Corrected February TOC on TAC cover

There has been an error in the Table Of Contents on the cover of the February 2017 issue of IEEE Transactions on Automatic Control. The issue is correct, only the TOC contains the error. Note the TOC in IEEEExplore is the correct one and the correct February TOC is included in the March printed issue. This error occurred at the IEEE level during processing of the papers. Our apologies.

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1.6. IEEE Transactions on Control Systems Technology

Contributed by: Andrea Serrani, serrani.1@osu.edu

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1.7. CFP: IEEE-CSS Outreach Fund

Contributed by: Daniel E. Rivera, daniel.rivera@asu.edu

The IEEE CSS Outreach Task Force is providing notice that the window for submission of proposals to the IEEE-CSS Outreach Fund for its 2017 spring solicitation will be held from April 3 to 28, 2017. Please note that this time window is earlier than usual. Information regarding the program can be found in:

<http://www.ieeecss.org/general/control-systems-society-outreach-fund>

Requests for application forms (as well as inquiries and notices of intention to submit) should be made directly to Daniel E. Rivera, Outreach Task Force Chair, at daniel.rivera@asu.edu.

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1.8. 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:

- 21st International Conference on System Theory, Control and Computing (ICSTCC 2017). Sinaia, Romania. Oct 19 - 21, 2017. <http://www.icstcc2017.ac.tuiasi.ro/>
- 6th International Conference on Systems and Control (ICSC 2017). Batna, Algeria. May 7 - May 9, 2017. <http://lias.labo.univ-poitiers.fr/icsc/icsc2017/>
- 2017 International Conference on Unmanned Aircraft Systems (ICUAS'17). Miami (FL), United States. Jun 13 - Jun 16, 2017. <http://www.uasconferences.com/>
- 6th International Symposium on Advanced Control of Industrial Processes (AdCONIP 2017). Taipei, Taiwan. May 28 - May 31, 2017. <http://www.adconip2017.org/>

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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2. Summer and PhD Schools

2.1. TEMPO Summer School on Hardware Implementation of Embedded Optimisation

Contributed by: Michal Kvasnica, michal.kvasnica@stuba.sk

TEMPO Summer School on Hardware Implementation of Embedded Optimisation

We would like to point your attention to the "TEMPO Summer School on Hardware Implementation of Embedded Optimisation", which will take place July 17 to July 21, 2017 in Bratislava, Slovakia. The aim of this intensive five-days summer schools is to give hands-on experience in implementation of model predictive controllers (MPC) on embedded hardware like field-programmable gateway arrays (FPGAs), programmable logic controllers (PLCs), and Arduino microcontrollers. The course is recommended for both industrial and academic researchers as well as for master and PhD students of engineering, computer science, mathematics, and physics.

Web site: <http://www.uiam.sk/temposchool17>

Confirmed lecturers are:

- * Eric Kerrigan (Imperial College, London)
- * Michal Kvasnica (Slovak University of Technology in Bratislava)
- * Gergely Takacs (Slovak University of Technology in Bratislava)

The total workload is 40 hours including lectures, exercises, project work, and self-study, and the course gives 3 ECTS credits. The final course evaluation is based on a successful defense of the project. A certificate of attendance can be given to participants not wishing to participate in the project.

Participation in the course is limited to 50 places. The registration fee is 250 EUR and covers printed and electronic course materials, guided lab tours, social dinner, coffee breaks, and a free Arduino board for each participant.

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

Michal Kvasnica

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2.2. oCPS PhD School on Cyber-Physical Systems

Contributed by: Maurice Heemels, m.heemels@tue.nl

The 7th oCPS PhD School on Cyber-Physical Systems

Dear colleague,

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

The following lecturers form the line-up for the school:

- Prof. Alf Isaksson, ABB Corporate Research
- Prof. Christos Cassandras, Boston University, USA
- Prof. Joost-Pieter Katoen, RWTH Aachen University, Germany
- Prof. Samarjit Chakraborty, TU Munich, Germany
- Prof. Maurice Heemels, Eindhoven University of Technology, NL

Prof. Henrik Sandberg, KTH Stockholm, Sweden
Prof. Gerhard Neumann, University of Lincoln, UK
Prof. Alberto Bemporad, IMT Lucca, Italy
Prof. Dimitri Bertsekas, Massachusetts Institute of Technology, USA
Prof. Magnus Egerstedt, Georgia Tech, USA
Prof. Marios Polycarpou, University of Cyprus, Cyprus

These excellent speakers will lecture during the school covering the basic concepts and results on

- Discrete-event and hybrid systems techniques for CPS
- Resource-aware control
- Formal methods for embedded control
- Machine Learning
- Security in control of CPS
- Model predictive control
- Approximate dynamic programming
- Fault-tolerant control of distributed CPS
- Multi-agent systems
- Industrial perspectives on CPS.

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

Registration deadline: April 15, 2017. First-come-first-serve basis. Registration fee: EUR 290 (including coffee breaks, banquet, etc)

The oCPS PhD school on Cyber-Physical Systems is also the 8th edition of a series of biannual PhD schools with a focus on hybrid, networked and cyber-physical systems, which educated over 500 PhD students (!) worldwide since 2003, see <http://ocps17.imtlucca.it> for earlier editions!!

The full program of the school, other information and the registration procedure can be found at <http://ocps17.imtlucca.it/>

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

Maurice Heemels Alberto Bemporad Samarjit Chakraborty

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3. Books

3.1. Adaptive Dynamic Programming with Applications in Optimal Control

Contributed by: Derong Liu, derongliu@foxmail.com

Adaptive Dynamic Programming with Applications in Optimal Control

Authors: Derong Liu, Qinglai Wei, Ding Wang, Xiong Yang, Hongliang Li

London: Springer, 2017.

ISBN: 978-3-319-50813-9.

<http://www.springer.com/in/book/9783319508139>

This book covers the most recent developments in adaptive dynamic programming (ADP). The text begins with a thorough background review of ADP making sure that readers are sufficiently familiar with the fundamentals. In the core of the book, the authors address first discrete- and then continuous-time systems. Coverage of discrete-time systems starts with a more general form of value iteration to demonstrate its convergence, optimality, and stability with complete and thorough theoretical analysis. A more realistic form of value iteration is studied where value function approximations are assumed to have finite errors.

Adaptive Dynamic Programming also details another avenue of the ADP approach: policy iteration. Both basic and generalized forms of policy-iteration-based ADP are studied with complete and thorough theoretical analysis in terms of convergence, optimality, stability, and error bounds. Among continuous-time systems, the control of affine and nonaffine nonlinear systems is studied using the ADP approach which is then extended to other branches of control theory including decentralized control, robust and guaranteed cost control, and game theory. In the last part of the book the real-world significance of ADP theory is presented using three applications.

Table of contents (14 chapters)

01. Overview of Adaptive Dynamic Programming
02. Value Iteration ADP for Discrete-Time Nonlinear Systems
03. Finite Approximation Error-Based Value Iteration ADP
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07. Online Optimal Control of Continuous-Time Affine Nonlinear Systems
08. Optimal Control of Unknown Continuous-Time Nonaffine Nonlinear Systems
09. Robust and Optimal Guaranteed Cost Control of Continuous-Time Nonlinear Systems
10. Decentralized Control of Continuous-Time Interconnected Nonlinear Systems
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** Part of the series Advances in Industrial Control

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3.2. A Mathematical Perspective on Flight Dynamics and Control

Contributed by: Andrea L’Afflitto, a.lafflitto@ou.edu

I would like to bring to your kind attention the newly published book ”A Mathematical Perspective on Flight Dynamics and Control” by Dr. Andrea L’Afflitto published by Springer; for details, see <http://www.springer.com/us/book/9783319508078>

The scope of this book is to complement classic books on flight dynamics and control and present in a concise, self-contained, and rigorous manner several aspects of flight control, which are usually omitted or briefly mentioned in textbooks. This monograph has been written for graduate students and practitioners with strong interest in control theory and applied mathematics, who desire to have a deeper and different insight into flight dynamics and control.

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3.3. Cooperative Synchronization in Distributed Microgrid Control

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

Cooperative Synchronization in Distributed Microgrid Control

Ali Bidram, Vahidreza Nasirian, Ali Davoudi, Frank Lewis

ISBN: 978-3-319-50807-8

March 2017, Springer

Hardcover, 260 pages, \$129.00/euro 114,99

<https://link.springer.com/book/10.1007/978-3-319-50808-5>

This book brings together emerging objectives and paradigms in the control of both AC and DC microgrids; further, it facilitates the integration of renewable-energy and distribution systems through localization of generation, storage and consumption. The control objectives in a microgrid are addressed through the hierarchical control structure.

After providing a comprehensive survey on the state of the art in microgrid control, the book goes on to address the most recent control schemes for both AC and DC microgrids, which are based on the distributed cooperative control of multi-agent systems. The cooperative control structure discussed distributes the coordination and optimization tasks across all distributed generators. This does away with the need for a central controller, and the control system will not collapse in response to the outage of a single unit. This avoids adverse effects on system flexibility and configurability, as well as the reliability concerns in connection with single points of failure that arise in traditional, centralized microgrid control schemes.

Rigorous proofs develop each control methodology covered in the book, and simulation examples are provided to justify all of the proposed algorithms. Given its extensive yet self-contained content, the book offers a comprehensive source of information for graduate students, academic researchers, and practicing engineers working in the field of microgrid control and optimization.

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4. Journals

4.1. Newly Launched: IFAC Journal of Systems and Control

Contributed by: Alison Waldron, a.waldron@elsevier.com

Announcing the launch of a new journal:

IFAC Journal of Systems and Control

IFAC Journal of Systems & Control is a new IFAC journal published by Elsevier. Launched in January 2017, the journal is now open for submissions at: <http://www.evise.com/evise/jrnl/IFACSC>

The journal publishes high-quality research papers containing generalizable, extensible and transferable innovations across all aspects of the field of control and automation.

4 reasons to publish in the journal are that it will:

- Deliver high quality, ground breaking research with relevance to the broader IFAC community.
- Facilitate interdisciplinary communication across the technical areas of IFAC.
- Benefit from informed high quality peer review by experts.
- High visibility via Elsevier's platform, ScienceDirect

The Editor-in-Chief, Dr. Bob Bitmead, draws on a personal wealth of experience across many aspects of Automation and Control, from fundamental theory to modeling to implementation across many application sectors: aerospace, telecommunications, sonar, sugar, steel, and photolithography. He was awarded the 2014 ASME Rufus Oldenburger Medal and the 2015 IEEE Control Systems Society Transition to Practice Award.

For the full Aims & Scope and more information about this new exciting journal please visit the journal homepage: <https://www.journals.elsevier.com/ifac-journal-of-systems-and-control/>

Throughout 2017 papers published in IFAC Journal of Systems and Control will be made freely available online on ScienceDirect.

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4.2. Contents: Automatica

Contributed by: Elisa Capello, elisa.capello@polito.it

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Contributed by: Martin Böck, cep@acin.tuwien.ac.at

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- Yuting Dai, Chao Yang, Chaolei Wang, Strategy for robust gust response alleviation of an aircraft model, Pages 209-215
- Radhakant Padhi, Pradeep R Ambati, Robust Auto-landing of Fixed-wing UAVs using Neuro-Adaptive Design, Pages 216-230

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4.12. CFP: IEEE Transactions on Control Systems Technology

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

CFP: Special Issue on System identification and control in biomedical applications in IEEE Transactions on Control Systems Technology

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

- theoretical and implementation challenges which arise in medical systems,
- control engineering tools for solving specific system design problems in medical technology,
- novel data-driven modeling techniques capturing the dynamics of biomedical systems, and accounting for intra- and inter-individual variability,

- evidence of successful projects in biomedicine enabled by system identification and control, such as the artificial pancreas and closed-loop anesthesia.
- application areas in healthcare and medical systems, such as assistive devices and therapeutics in medical rehabilitation, and mathematical models of infectious disease spread.
- prevention and treatment of chronic, relapsing disorders and illnesses such as cancer, diabetes, obesity, and HIV.

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

Time line:

Manuscripts Due: November 1, 2017

Notification to authors (after the first round of reviews): March 1, 2018

Notification of final decision: June 1, 2018

Publication Date: January 2019

Authors can submit their manuscripts via <https://mc.manuscriptcentral.com/tcst>

Information for Authors prior to submitting a paper is available via <http://www.ieeecss.org/publications/tcst/information-authors>

All inquiries should be directed to G. Mercère you can contact via his email address: guillaume.mercere@univ-poitiers.fr

Guest Editors:

Guillaume Mercere, Universitede Poitiers, France (LEAD)

Bayu Jayawardhana, University of Groningen, The Netherlands

Alexander Medvedev, Uppsala University, Sweden

Daniel E. Rivera, Arizona State University, Tempe, Arizona, USA

Caterina Scoglio, Kansas State University, Manhattan, Kansas, USA

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4.13. CFP: IEEE Transactions on Robotics

Contributed by: Soon-Jo Chung, sjchung@caltech.edu

Call for Papers

IEEE Transactions on Robotics

Special Issue on Aerial Swarm Robotics

Guest Editors:

Prof. Soon-Jo Chung, Caltech and Jet Propulsion Laboratory, Pasadena, CA

Prof. Vijay Kumar, University of Pennsylvania, Philadelphia, PA

Dr. Aditya Paranjape, Imperial College London, London, UK

Prof. Philip Dames, Temple University, Philadelphia, PA

Prof. Shaojie Shen, Hong Kong University of Science and Technology, Hong Kong

Aerial robotics has been one of the most active areas of research within the robotics community, and recently there has been a surge of interest in aerial swarm systems. This IEEE T-RO special issue reflects on advances

in aerial robotics and unmanned aerial vehicles, and aims to put together a cohesive set of research goals and visions towards realizing fully autonomous aerial swarm systems. In the near future, our airspace will be shared by a large number of aerial robots and autonomous aircraft, performing complex tasks that would be not possible for a single ground robot. A number of technological gaps need to be bridged in order to achieve full autonomy and reliable and safe operation of swarms of aerial robots. The papers selected for this special issue will represent the most promising ideas to address such research issues in modeling, design, control, sensing, planning, and computation of aerial swarms, with an emphasis on enhanced scalability, adaptability, robustness, and autonomy.

Contributions must have a direct connection to the central themes of the special issue: swarms of aerial robots flying in a three-dimensional (3-D) world. Each contribution should emphasize how to address challenges in transitioning from 2-D to 3-D in areas such as SWaP (size, weight, and power), swarm coordination or collaboration, and use of 3-D vehicle dynamics.

Topics of interest include the following:

- Aerial swarming: modeling, design, and control
- Motion planning, guidance, and control of distributed aerial systems
- Algorithmic innovation enabling control of large-scale swarms of aerial robots
- Novel system-level or hardware design concepts for aerial swarms
- Distributed sensing or estimation techniques leveraging aerial swarm platforms
- Real-world results and lessons learned from testing state-of-the-art techniques
- Real-time optimal control, planning, and decision making for aerial swarms
- Scalability, stability, and robustness issues in distributed aerial systems
- Planning and control using vision-based sensing
- Traffic control of swarms of drones in indoor or outdoor environments
- Human-swarm interaction
- Long-term autonomy of aerial swarms
- Research issues in large-scale deployment of aerial swarms
- Enabling applications using aerial swarms
- Verification and validation of multi-agent systems and algorithms
- Decentralized planning and its applications to aerial swarms

Interested authors are encouraged to contact the special issue editors with an abstract of their paper to confirm that their submission is within the scope of the special issue. Abstracts should be sent via email to sjchung@caltech.edu, vijay.kumar@seas.upenn.edu, a.paranjape@imperial.ac.uk, pdames@temple.edu, and eeshaojie@ust.hk.

Important Dates:

Call for Papers: February 24, 2017

Deadline for Initial Paper Submission: May 31, 2017

Notification of First Round Decision: September 1, 2017

Deadline for Revised Paper Submission: October 1, 2017

Target Publication Date: February 2018

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5. Conferences

5.1. Annual Allerton Conference on Communication, Control, and Computing

Contributed by: Rachel Palmisano, rep2@illinois.edu

FIFTY-FIFTH ANNUAL ALLERTON CONFERENCE ON COMMUNICATION, CONTROL, AND COMPUTING

October 3, 2017 – Opening Tutorials

October 4-6, 2017 – Conference Sessions

CALL FOR PAPERS

The Fifty-Fifth Annual Allerton Conference on Communication, Control, and Computing will kick off with Opening Tutorials being held on Tuesday, October 3, 2017 at the Coordinated Science Laboratory. The conference sessions will start on Wednesday, October 4, 2017 through Friday, October 6, 2017, at the Allerton Park and Retreat Center. The Allerton House is located twenty-six 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 fifteen-hundred acre Robert Allerton Park, a complex of natural and man-made beauty designated as a National natural landmark. Allerton Park has twenty miles of well-maintained trails and a living gallery of formal gardens, studded with sculptures collected from around the world.

Papers presenting original research are solicited in the areas of:

biological information systems

coding techniques and applications

coding theory

data storage

information theory

multiuser detection and estimation

network information theory

sensor networks in communications

wireless communication systems

intrusion/anomaly detection and diagnosis

network coding

network games and algorithms

performance analysis

pricing and congestion control

reliability, security and trust

decentralized control systems

robust and nonlinear control

adaptive control and automation

robotics

distributed and large-scale systems

complex networked systems

optimization

dynamic games

machine learning and learning theory

signal models and representations

signal acquisition, coding, and retrieval

detection and estimation

learning and inference

statistical signal processing

sensor networks
data analytics

Final versions of papers that are presented at the conference are required to be submitted electronically by October 8, 2017 in order to appear in the Conference Proceedings and IEEE Xplore.

PLENARY LECTURE is scheduled for Friday, October 6, 2017 at the Allerton Park and Retreat Center. (we will add the speaker info when confirmed)

OPENING TUTORIAL LECTURES will be presented on Tuesday, October 3, 2017 at the Coordinated Science Laboratory, University of Illinois at Urbana-Champaign. (we will add the speakers info when confirmed)

INFORMATION FOR AUTHORS: Regular papers suitable for presentation in twenty minutes are solicited. Regular papers will be published in full (subject to a maximum length of eight 8.5" x 11" pages, in two column format) in the Conference Proceedings. Only papers that are actually presented at the conference and uploaded as final manuscripts can be included in the proceedings, which will be available after the conference on IEEE Xplore.

For reviewing purposes of papers, a title and a five to ten page extended abstract, including references and sufficient detail to permit careful reviewing, are required.

Manuscripts can be submitted during June 16-July 10, 2017 with the submission deadline of July 10th being firm. Please follow the instructions at the Conference website: <http://www.csl.illinois.edu/allerton/>.

Authors will be notified of acceptance via e-mail by August 7, 2017, at which time they will also be sent detailed instructions for the preparation of their papers for the Proceedings.

Important Dates:

Submission Deadline: July 10, 2017

Acceptance Date: August 7, 2017

Registration Opens: after August 7, 2017

Conference Dates: October 3-6, 2017

Final Submission Deadline: October 8, 2017

Conference Co-Chairs: Naira Hovakimyan and Negar Kiyavash

Email: amellis@illinois.edu URL: www.csl.illinois.edu/allerton/

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5.2. IEEE International Conference on Automation Science and Engineering

Contributed by: (Samuel) Qing-Shan Jia, jiaqs@tsinghua.edu.cn

The deadline for regular/special session submissions at CASE2017 has been extended to March 15, 2017!!!

There will not be any further extensions. The list of special sessions is available at

http://case2017.org/submission/special_sessions.html

We invite you to submit papers (including regular/special session/presentation-only submissions) in time!

The 13th IEEE International Conference on Automation Science and Engineering (IEEE CASE 2017, <http://www.case2017.org>), sponsored by the IEEE Robotics and Automation Society (RAS), will be held in Xi'an, China, August 20 to 23, 2017. IEEE CASE is a flagship automation conference of the IEEE RAS and constitutes the primary forum for cross-industry and multi-disciplinary research in automation. Its goal is to provide a broad coverage and dissemination of foundational research in automation among researchers, academics, and practitioners.

The technical program of IEEE CASE 2017 will consist of tutorials/workshops, keynote/plenary speeches, automation forums, and oral presentations. Papers describing original work on abstractions, algorithms, theories, methodologies, and case studies are invited. There is a track on International Symposium on Assembly and Manufacturing (ISAM). Accepted and presented papers will be published in the conference proceedings, and submitted for inclusion into IEEEExplore as well as other Abstracting and Indexing(A&I) databases. IEEE CASE is an offspring of the journal IEEE Transactions on Automation Science and Engineering. The journal will publish a Special CASE Issue of top-rated papers.

Regular papers and special session papers should be submitted online at <https://ras.papercept.net> . One new feature of CASE 2017 is that the authors of the papers published or accepted in and after 2016 by IEEE Transactions on Automation Science and Engineering or IEEE Transactions on Robotics can request presentation of their papers at the conference in the newly organized "transaction paper sessions". General inquiries should be addressed via Email to the Program Chair, Prof. (Samuel) Qing-Shan JIA at jiaqs@mail.tsinghua.edu.cn. The best conference paper award, the best application paper award, and the best student paper award will be selected.

The organizing committee of CASE 2017 cordially invite you to submit full paper contributions and hope to see you in Xi'an, China in August 2017!

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5.3. IEEE Colombian Conference on Automatic Control

Contributed by: José García-Tirado, ieeccac2017@gmail.com

Call for Papers

3rd IEEE Colombian Conference on Automatic Control 2017

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

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

Important Dates:

- May 9, 2017 Papers submission deadline
- June 30, 2017 Papers acceptance notification
- August 11, 2017 Final manuscripts in camera-ready format

Paper submission: The program committee invites you to submit 4 to 6 pages long papers in English or Spanish through www.ieeccac2017.org

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

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

Contact: Additional details and Conference updates are available at: <http://www.ieeccac2017.org> Inquiries and doubts about the Conference may be addressed to: info@ieeccac2017.org

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5.4. International Symposium on Multi-Robot and Multi-Agent Systems

Contributed by: Antonio Franchi, antonio.franchi@laas.fr

International Symposium on Multi-Robot and Multi-Agent Systems (MRS 2017)

4-5 December 2017

University of Southern California, Los Angeles, USA

<http://multirobotsystems.org/mrs2017>

Submissions due: 27 May 2017

General inquiries: mrs2017@laas.fr

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

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

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

IMPORTANT DATES

27 May 2017: Full paper submission (US Pacific Standard Time)

2 September 2017: Notification to authors

4-5 December 2017: The inaugural MRS conference

ORGANIZING COMMITTEE

Conference Chair: Gaurav Sukhatme (USC)

Junior Conference Chair: Nora Ayanian (USC)

Finance Chair: M. Ani Hsieh (Drexel University, USA)

Program Chairs:

Lorenzo Sabattini (University of Modena and Reggio Emilia, Italy)

Antonio Franchi (LAAS-CNRS, France)

Robert Fitch (University of Technology Sydney, Australia)

Editorial Board Editor-In-Chief: Paolo Robuffo Giordano (CNRS, France)

Publications Chair: Dylan Shell (Texas A&M University, USA)

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Alcherio Martinoli (EPFL, Switzerland)

Lynne Parker (NSF, USA)

Daniela Rus (MIT, USA)

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5.5. International Conference on Methods and Models in Automation and Robotics

Contributed by: Pawel Dworak, pawel.dworak@zut.edu.pl

22nd International Conference on Methods and Models in Automation and Robotics

28-31 August 2017

Amber Baltic Hotel, Miedzyzdroje, Poland

It is our great pleasure to invite You to participate in the 22nd International Conference on Methods and Models in Automation and Robotics, MMAR 2017 to be held in Miedzyzdroje, Poland, from August 28th to August 31st, 2017.

The Conference will be a good opportunity for highlighting the new results and directions of Automatic Control theory, technology and applications. As such, it mainly will concentrate on the following key points:

- emphasis on invited lectures including plenaries,
- industry participation promotion,
- attract young people to study and work in the field.

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

Important Dates: (Please check the latest information at www.mmar.edu.pl)

6 March 2017 – Full Paper Submission

15 May 2017 – Notification of Acceptance

26 June 2017 – Author Registration and Payment

3 July 2017 – Camera-Ready Paper Submission

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

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

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5.6. International Conference on Control, Automation and Systems

Contributed by: Hye-Soo Kim, conference@icross.org

2017 17th International Conference on Control, Automation and Systems (ICCAS 2017)

October 18(WED)-21(SAT), 2017

Ramada Plaza, Jeju Island, Korea

<http://2017.iccas.org>

2ND CALL FOR PAPERS: http://icross.org/data/download/ICCAS2017/ICCAS2017_CFP.pdf

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

IMPORTANT DATES

Proposal for Invited/Organized Session (Mini-symposium)

- June 10, 2017: Submission deadline

Regular Papers (3 - 6 pages) & Invited/Organized Session Papers (1 - 6 pages)

- June 15, 2017: Submission deadline

- August 1, 2017: Notification of acceptance

- August 31, 2017: Submission of final camera-ready papers

Research Poster Papers (1 - 2 pages)

- August 22, 2017: Submission deadline

- August 31, 2017: Notification of acceptance

- September 7, 2017: Submission of final camera-ready papers

PLENARY SPEAKERS

- Richard D. Braatz (Massachusetts Inst. of Tech., USA)

- Reza Moheimani (Univ. of Texas, USA)

- Antonella Ferrara (Univ. of Pavia, Italy)

- Huijun Gao (Harbin Inst. of Tech., China)

- Atsuo Takanishi (Waseda Univ., Japan)

Organized by Institute of Control, Robotics and Systems (ICROS)

General Chair: Dongil "Dan" Cho (Seoul Nat'l Univ., Korea / ICROS President)

Organizing Chair: Doyoung Jeon (Sogang Univ., Korea)

Program Chair: Hyosung Ahn (GIST, Korea)

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5.7. Workshop on Brain Dynamics and Neurocontrol Engineering

Contributed by: ShiNung Ching, shinung@wustl.edu

2017 Workshop on Brain Dynamics and Neurocontrol Engineering, June 26-27, 2017

We are pleased to invite participants to the 2017 Workshop on Brain Dynamics and Neurocontrol Engineering at Washington University in St. Louis (St. Louis, MO, USA), to be held this summer (June 26-27).

** Travel awards are available for students, postdocs and junior faculty. **

Spurred by the development of both new technologies and new scientific initiatives, interest is coalescing around the use of dynamical systems and control theory to study the workings of the human brain. Neuroscience affords several research challenges and opportunities for the dynamics and control community, due to the immense complexity of the system at hand, the dynamics of which span many spatial and temporal scales. Understanding how these dynamics mediate brain function is a pivotal neuroscience question that

is well-aligned with methodological approaches innate to systems and control engineering. The goal of this workshop is to provide a focused forum for the discussion of research synergy between experts from the dynamics, control and neuroscience communities.

For full information, including speaker list, award and registration details, please visit:

<http://sites.wustl.edu/brain>

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6. Positions

6.1. PhD: Grenoble Institute of Technology & GIPSA-lab, France

Contributed by: Olivier Sename, olivier.sename@gipsa-lab.fr

PhD Position Grenoble Institute of Technology / GIPSA-lab (France)

Supervisors: Prof Olivier Sename and Mazen Alamir

Project title: Embedded modelling and control of vehicle dynamics: application to a small car pilot plant with ER dampers

DATE : June/July 2017 to June/July 2020

Description:

This thesis is part of the European project, EMPHYSIS (within the framework of ITEA3), whose European leader is Bosch, the French leader Siemens PL (see <https://itea3.org/project/emphasis.html>)

The major goal of the project is to enhance production code of embedded control systems in automotive vehicles in order to improve the performance of the underlying system: faster and safer operation, improved driving dynamics, driving automation, reduced energy consumption, reduced emission and reduced maintenance costs. Additionally, cost and time for the software development of these embedded systems shall be reduced. This is achieved by providing physics-based models in an automated way on electronic control units (ECU), micro controllers, or other embedded systems. The strategies developed by GIPSA-lab include the development of simplified modeling tools for vehicle dynamics (in various software contexts), synthesis of control laws and their integration into a real-time control system. In this framework, among many research works, we will consider robust/LPV and MPC approaches in order to account for non linearities in the considered vehicle and subsystems models, for the adaptation of the vehicle behavior to critical situations and also for the road conditions.

The proposed study concerns more specifically the integration of physical modeling and synthesis of control law applied to automotive chassis. The proposed work plan is as follows:

- Study of existing Hinf control methods for Linear Parameter Varying Systems and Model Predictive Control (MPC), in particular applied to vehicles.
- Study of the existing models and of the "Automotive control" toolbox of GIPSA-lab. Study and training on LMS Imagine.Lab Amesim software for physical modeling of mechatronic systems.
- Development of control architectures for the chassis vertical dynamics (using semi-active suspensions), integrating physical models of the considered subsystems.
- Simulation validation on complete vehicle models and in real-time simulation HIL on DSPACE MicroAutobox
- Experiments on the INOVE platform (www.gipsa-lab.fr/projet/inove/)

Candidates should have a strong background in mechanical engineering and/or control engineering with some experience in modelling physical systems.

Contact: Olivier.Sename@gipsa-lab.fr, mazen.alamir@gipsa-lab.fr

- CV with contact details
- Bachelor and master transcripts (including list of courses with corresponding grades)
- A summary of (or an e-link to) your master thesis
- Name and email of two references

Closing date for applications

01.04.2017

Gross salary / Salaire brut /: 1750 euros / month

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6.2. PhD: University of Texas at Dallas, USA

Contributed by: Tyler Summers, tyler.summers@utdallas.edu

Multiple PhD positions in Control and Optimization in Cyber-Physical Networks

Description:

Several fully funded PhD positions for highly motivated students are available starting in Summer or Fall 2017 in the Control, Optimization, and Networks Laboratory (<http://www.utdallas.edu/tyler.summers>) in the Departments of Mechanical and Electrical Engineering at the University of Texas at Dallas. The lab seeks to understand the rich interplay of dynamics, control, optimization, information, and uncertainty in large-scale networks. The research emphasizes theoretical analysis and computational tools and is strongly driven various applications, including future power grids and distributed multi-robot systems.

Applications from underrepresented minorities are encouraged.

Required qualifications:

- (1) B.S. in mechanical engineering, electrical engineering, computer science, applied mathematics, or a related field
- (2) Strong background in systems and control theory, optimization, and mathematics, including relevant coursework and/or work experience
- (3) Excellent communication skills
- (4) Proficiency in at least one scientific programming language, such as MATLAB, Python, Julia, C/C++, etc.

Preferred qualifications:

- (1) M.S. degree
- (2) Publication(s) in reputable control, optimization, robotics, or power systems conferences or journals
- (3) Hands-on experience with robotic systems is a plus for candidates interested in robotics applications

To express interest:

Please send the following documents to tyler.summers@utdallas.edu

- (1) One page cover letter describing your research interests, background, and professional goals
- (2) CV or resume

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6.3. PhD: University of Luxembourg, Luxembourg

Contributed by: Jorge Goncalves, jorge.goncalves@uni.lu

Two Phd Positions are available in the SYSTEM CONTROL GROUP of the Luxembourg Centre for Systems Biomedicine, Luxembourg University, Luxembourg, in the framework of the Doctoral Training Unit CriTiCS on Critical Transitions in Complex Systems.

PhD position #1: Classification and detection of critical transitions

PhD position #2: Using cardiac data for predicting atrial fibrillation and heart attack

Supervisor: Prof. Jorge Goncalves.

Start Date: flexible during 2017.

Closing date for applications: open until filled.

Funding: full funding available for 4 years, with a highly competitive salary.

These positions are inserted in the framework of the Doctoral Training Unit CriTiCS which encompasses 11 PhD positions and confronts the topic of critical transitions in complex systems within a range of disciplines including the areas of clinical science, immunology, biology and finance. More information at: www.critics.uni.lu.

Candidate profile:

- Hold a Master in Control Systems, Theoretical Machine Learning or Mathematics.
- Strong mathematical background is a requirement, biological knowledge is not essential.
- We will only consider students that graduate in their top 20% undergraduate and Master's class rank (equivalent to a UK first class degree).
- Excellent working knowledge of English.

To apply and for further information: www.critics.uni.lu.

Informal inquires: Dr. Stefano Magni, info.critics@uni.lu.

The University of Luxembourg is an equal opportunity employer. All applications will be treated in the strictest confidence.

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6.4. PostDoc: Chalmers University of Technology, Sweden

Contributed by: Balazs Kulcsar , kulcsar@chalmers.se

Information about the division

The Department of Signals and Systems within the Chalmers University of Technology, Gothenburg, Sweden, consists of several divisions such as Systems and Control, Communication Systems, Signal Processing and Biomedical Engineering, and Antennas. This research knowledge is complemented by a new initiative from Chalmers, through the Transport Area of Advance aiming at promoting cross-fertilized transportation research and by the SAFER Vehicle and Traffic Safety Center focusing on safe and efficient transportation solutions.

Major responsibilities

We invite candidates to apply for a post-doctoral position in the research field of decentralized sensing and control algorithms for large-scale transportation networks. Our main goal is to develop real-time vehicle routing strategies for a mixed human- and self-driven vehicular network, with emphasis on post-accident scenarios in large-scale road networks. We will rely on an inter-disciplinary approach between traffic theory, communication technologies and accident risk management. The topics include the duality of theoretical and application-oriented research. Her/his research activity will be shared between the Automatic Control, the Communication Systems, and the Vehicle Safety Groups (SAFER) at Chalmers University of Technology.

More information, and instructions how to apply, can be found at

<http://www.chalmers.se/en/about-chalmers/vacancies/Pages/default.aspx?rmpage=job&rmjob=4664>

Application deadline: 15/02/2017.

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6.5. PostDoc: Nanyang Technological University, Singapore

Contributed by: C.C. Cheah, eccccheah@ntu.edu.sg

The School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore invites applications for one postdoc research fellow position and one PhD student position in the following areas:

- 1) Wireless sensor networks
- 2) Human motion tracking
- 3) Optimal sensor placements

Applicants for the postdoc research fellow position should hold a Ph.D degree in relevant areas; have a track record of competitive research experience in terms of journal publications; have a good command of English and are able to communicate well. The starting salary is about S\$4,000/month and may be adjusted depending on experience.

General information about the research scholarships for PhD candidates at Nanyang Technological University, can be found at:

<http://www.hss.ntu.edu.sg/Programmes/graduate/Scholarships/Pages/NTURSS.aspx>

Application Procedure:

Suitably qualified candidates are invited to submit a CV, cover letter initially. Short-listed candidates will be notified for submission of full application packages. Electronic submission of application is encouraged and can be sent to:

Prof C. C. Cheah
School of Electrical & Electronic Engineering
Nanyang Technological University
50 Nanyang Avenue
Block S1
Singapore 639798

E-mail Address for E-mailed Applications: ECCCheah@ntu.edu.sg

Application closes when the positions are filled.

Only shortlisted candidates will be notified for interview.

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6.6. PostDoc: Université Libre de Bruxelles, Belgium

Contributed by: Emanuele Garone, egarone@ulb.ac.be

POSITIONS AVAILABLE : 2 Post-doc positions

SUPERVISOR : Emanuele Garone

DURATION: 24 months

SALARY: approximately 2150 Euros/months after taxes

DESCRIPTION: This postdoc is in the framework on the MIS project “optimization-free constrained control of nonlinear systems”. The ideal candidate should have a strong background in control and should master at least one of the following subjects

- nonlinear control;

- Model Predictive Control;
- Continuous Optimization Methods;
- Set invariance;
- Sum of Squares ;

STARTING DATE: Between July 2017

REQUIREMENTS: The candidate must have obtained the title of PhD less than 5 years before the date of start of the post-doc contract. He must have spent or worked in Belgium less than 24 months in the last 36 months.

TO APPLY: Send an email to Prof. Emanuele Garone (egarone@ulb.ac.be) with your curriculum vitae in English, as well as contact information of two referees.

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6.7. PostDoc: Shanghai Jiao Tong University, China

Contributed by: Bowen Yi, yibowen@ymail.com

Postdoctoral position in Shanghai Jiao Tong University, China

The Optimization & Control Engineering Research Center of Shanghai (in the Department of Automation, Shanghai Jiao Tong University, China) offers 3 postdoc positions in control engineering as soon as possible thereafter. We are interested in candidates in the broad areas of advanced control theory, multi-agents formation, machine learning, pattern recognition, industrial networked control systems, etc.

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

Requirements and qualifications:

- PhD degree
- Documented experience with research dissemination in international scientific journals
- Experience with writing research applications
- Good communication skills in English or Chinese
- Self-motivation and the ability to work both independently and as a team player with researchers from different disciplines

Main tasks:

- Active involvement in research efforts
- Supervision of student projects and thesis at both master and Ph.D. levels

Salary and others:

- RMB 120-200k/year (approximately, 18-30kUSD)
- Apartment with very cheap rent
- It is a 2 year position and can be extended to 5 years

Required documents

- One self-recommendation letter covering your research statements, your achievements, as well as your possible requirements from us
- A list of your publications

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

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6.8. PostDoc: Washington University in St. Louis, USA

Contributed by: ShiNung Ching, shinung@wustl.edu

Postdoctoral Opening: Optimal Control of Neural Activity

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

This project will involve the development and implementation of optimal control methods for the precise manipulation of neuronal activity at the level of neurons and networks thereof. Candidates should have a strong background in the general areas of systems theory, control engineering, machine learning and/or optimization. Prior experience in neuroscience is not needed, but a general interest/curiosity about brain dynamics is a plus!

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

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6.9. PostDoc: University of Southampton, UK

Contributed by: Bing Chu, b.chu@soton.ac.uk

Research Fellow in Control Systems, University of Southampton, UK

Full Time Fixed Term - 2 years

Closing Date: Tuesday 04 April 2017

Reference: 843017FP

<https://jobs.soton.ac.uk/Vacancy.aspx?ref=843017FP>

We are looking for a highly-motivated post-doctoral researcher in the field of control systems. The post holder will work under the guidance of Dr Bing Chu and Dr Chris Freeman in undertaking research on the development and assessment of novel control approaches. Some experience in the area of iterative learning control, model predictive control, networked dynamical systems, distributed optimisation, or optimal control is desirable but not essential. Experience in experimental implementation of control algorithms is also desirable (e.g. in robotics, automation, power inverters, or rehabilitation systems).

The post is split between 80% research and 20% teaching activities. The latter is expected to comprise:

- Supervising projects at postgraduate student level in the area of control systems
- Supervising laboratory experiments in the area of control systems
- Giving a limited number of lectures in the area of control systems at postgraduate level

It is also expected that candidates can provide evidence of the following:

- An awarded PhD or equivalent qualification related to control systems (theory and/or implementation)
- The ability to work independently and a good team work attribute
- A willingness and ability to assist with the supervision of postgraduate students
- Excellent communication and organisational skills and proven track record in journal publications and conference presentations

The job provides an opportunity for you to develop your academic career and gain a wide range of research experience; you will be supported by an experienced research team who are international leaders in their fields.

Further enquiries about the position should be directed to Dr Bing Chu (tel: +44 (0) 23 8059 6653; email: b.chu@ecs.soton.ac.uk) or Dr Chris Freeman (tel: +44 (0) 23 8059 3486; email: cf@ecs.soton.ac.uk)

Application procedure: You should submit your completed online application form at www.jobs.soton.ac.uk. The application deadline will be midnight on the closing date stated above. If you need any assistance, please call Suzanne Stone (Recruitment Team) on +44 (0) 23 8059 4043.

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6.10. PostDoc: University of Melbourne, Australia

Contributed by: Michael Cantoni, cantoni@unimelb.edu.au

Research Fellow Positions: University of Melbourne, Australia.

Two post-doctoral positions are available to work on systems and control theory research that is relevant to the automation of large-scale gravity-powered water distribution networks. The ideal candidate has a PhD in engineering or applied mathematics, and expertise in one or more of the following topics:

- (i) Modelling, identification and feedback control of distributed-parameter systems;
- (ii) Robust control with decentralized information;
- (iii) Fault monitoring and performance analysis for large-scale systems;
- (iv) Robust / stochastic MPC for constrained control in the presence of uncertainty;
- (v) Structured and distributed computation for optimization; and/or
- (vi) Hierarchical control and scheduling for dynamical systems.

Both positions are with the Department of Electrical and Electronic Engineering, for up to 24 months.

The closing date for applications is 10 March 2017.

For more details, including how to apply, search jobs.unimelb.edu.au for "systems and control" or "0042604".
<http://jobs.unimelb.edu.au/caw/en/job/889885/research-fellow-in-systems-and-control-2-positions-available>

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6.11. Faculty: Zhejiang University of Technology, China

Contributed by: Qiu Xiang, qiuxiang@zjut.edu.cn

Faculty Position: Zhejiang University of Technology , Hangzhou, China

<http://www.auto.zjut.edu.cn/WebSite/Job/JobList.aspx>

Zhejiang Control Science and Engineering First-Class (Class A) Discipline Recruitment Announcement

Zhejiang University of Technology (ZJUT), sitting by the beautiful West Lake, Hangzhou, is a Zhejiang Province and the Ministry of Education co-supported, provincially governed key university, who owns one of the only 14 Collaborative Creation Centers in the first initiative of the state "2011 Program". ZJUT has its beautiful campus covering more than 3000 mu, which accommodates 24 Colleges, more than 37,000 full-time students and more than 3,300 staffs. ZJUT is proudly to have 2 self-owned and 2 sharing Fellows of the Chinese Academy of Engineering, as well as more than 1400 faculties with senior professional titles. ZJUT has State Key Disciplines, State Engineering Research Centers, State University Science Parks, Centers for Postdocs, as well as the power of awarding Doctors, Masters, MBAs and recruiting foreign students and those from Hong Kong, Macao and Taiwan.

The Control Science and Engineering Discipline within the College of Information Engineering was one of the Priority-among-Priorities Disciplines (selected by Zhejiang Provincial Government in 2009), and is now one of the Zhejiang First-Class (Class A) Disciplines in the first initiative of the Program in 2015. The Discipline now has the Doctoral Program at the first-level discipline, the Center for Postdocs, and the Zhejiang Collaborated Key Laboratory of Embedded Systems. The College of Information Engineering where the Discipline is in has 5 undergraduate programs: Automation, Electrical Engineering and Its Automation, Electronic Information Engineering, Communication Engineering, and Electronic Science and Technology. The Discipline is now recruiting faculties in the following areas at the levels of State and Zhejiang Provincial “1000 Plan” high-level talents, Zhejiang “Qianjiang Scholars”, ZJUT “Yunhe Specially-Appointed Professors”, “ZJUT Professors”, outstanding PhDs and postdocs, etc.

(1) Control Science and Engineering, including advanced control theory, robotics, machine vision, pattern recognition, industrial networked control systems, MES, etc.

(2) Electrical Engineering, including electric drive, power electronics, new energy, etc.

(3) Mechatronic Engineering, including high-precision servo control of mechatronic devices, the modelling and dynamic analysis of robots, etc.

(4) Computer Science and Technology, including smart city, smart healthcare, big data, cloud computing, IoT, industrial control software, etc.

A. Selection criteria

High-level talents (Changjiang Scholars, 1000 Plan Scholars, Qianjiang Scholars, etc.) You have major achievements and influence in your research area that have already been recognized by national and international researchers, or have great potentials of future development; You also meet the criteria of corresponding talents programs.

ZJUT Professors /Associate Professors You have a PhD degree obtained from a recognized university or research institutes with at least one year of oversea research experience in a well-known foreign institute; You have research achievements recognized by national and international researchers; Your application also passes the review process at the university level (ZJUT).

Outstanding PhDs/Postdocs You have a PhD degree obtained from a recognized university or research institute; You have high-quality research outputs and the professional skills required by a university lecturer, and great potentials of your future career.

B. Salary and welfare

(1)National-Level Top Tier Talents: Fellows of Chinese Academy of Sciences or Chinese Academy of Engineering, “Special Support Program” Distinguished Talents, Principal Investigators of NSFC Innovative Research Team, or other talents at the equivalent level. Treatment:Negotiation on the case by case basis.

(2)National-Level Top Tier Talents: National “1000 Plan” Scholars (long-term), Changqiang Scholars, NSFC Distinguished Young Scholars, “Special Support Program” Outstanding Talents, winners (rank first) of three major national science awards, or other talents at the equivalent level. Salary (CNY): $\geq 700K$ /Year; Housing Benefit(CNY):3M-5M; Startup Funds(CNY):Case by case.

(3)National-Level Young Talents:“Special Support Program” Outstanding Young Talents, “1000 Plan” Young Scholars, “Changjiang Young Scholars, NSFC Outstanding Young Scholars, 973 Program Young Scholars, “Millions of Talents Program” Scholars, or other talents at the equivalent level. Salary (CNY): $\geq 450K$ /Year; Housing Benefit(CNY):1.5M-2.5M; Startup Funds(CNY):1M-3M.

(4)Provincial-and-Ministry-Level Talents,Yunhe Specially-Appointed Professors:CAS “100 Plan” Scholars, Zhejiang ”Qianjiang Scholars”, Zhejiang “1000 Plan” (long-term) Scholars, or other talents who have made significant academic contributions with great potentials of development and who are awarded “Yunhe Specially-Appointed Professors” after the review of ZJUT. Salary (CNY): $\geq 350K$ /Year; Housing Bene-

fit(CNY):1.5M; Startup Funds(CNY):0.5M-1M.

(5)ZJUT Professors,ZJUT Associated Professors:You have a PhD degree obtained from a recognized university or research institutes with at least one year of oversea research experience in a well-known foreign institute; You have research achievements recognized by national and international colleges; Your application also passes the review process at the university level. Salary (CNY):Salaries at the appropriate levels; Housing Benefit(CNY):0.4M-0.5M; Startup Funds(CNY):0.1M-0.2M.

(6)Outstanding PhDs/Postdoctors: You have a PhD degree obtained from a recognized university or research institute; You have high-quality research outputs and the professional skills required by a university lecturer, and great potentials of your future career. Salary (CNY):Salaries at the appropriate levels; Housing Benefit(CNY):0.3M.

(7)Postdocs (leading to a faculty): Besides the basic salary and welfare, 50K/Year subsidy is provided for the first two years, with the possibility of continuing this subsidy plus a one-off 200K housing benefit if you are accepted to ZJUT public institution business unit.

C. Required documents

(1)One self-recommendation letter covering your study and professional records, your teaching and research statements, your achievements, your work plan as well as your possible requirements from us.

(2)A list of your research funds, awards, and publications in the recent five years.

D. Contact us

Dr. Qiu,

Email : qiuxiang@zjut.edu.cn

Mobile: +86-13867469319

Address: Xiaoheshan College Park, College of Information Engineering, Zhejiang University of Technology, 310023

Zhejiang Control Science and Engineering First-Class (Class A) Discipline

Feb 02, 2017

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6.12. Faculty: Washington University in St. Louis, USA

Contributed by: Hiro Mukai, facsearch@ese.wustl.edu

Tenured/Tenure-Track Faculty

Washington University in St. Louis

Electrical and Systems Engineering

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

Technical areas of interest include, but are not limited to, applied physics, integrated circuits, nano devices, device packaging, imaging, signal processing, cyber-physical systems, control systems, operations research, optimization, applied mathematics, and applied statistics. Applications include biomedicine, robotics, financial engineering, and modeling of physical and complex systems. Successful candidates are expected to

conduct high-quality research and teaching, publish in peer-reviewed journals, and participate in department and university service.

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

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

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

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

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6.13. Control System Engineers: nuTonomy

Contributed by: Andrea Censi, censi@mit.edu

nuTonomy (self-driving cars) - Control Systems Engineers

nuTonomy is looking to expand its workforce, hiring dozens of people in all areas of robotics, and at all levels (from interns to management). nuTonomy has a presence in Cambridge, MA; Santa Monica, CA; Singapore; and Zurich. Today I would like to draw your attention to our positions open for Control System Engineer. Come help us make our ride safe and comfortable!

nuTonomy aims to be the first company in the world to launch an autonomous taxi system, and we are building up an awesome team to make this goal a reality. nuTonomy is developing the first-of-its-kind complete solution for providing point-to-point mobility via large fleets of autonomous vehicles. This includes software for autonomous vehicle navigation in urban environments, smartphone-based ride hailing, fleet routing and management, and controlling a vehicle remotely through teleoperation. The company's software has been tested in the U.S., Singapore, and Europe.

We are seeking highly talented control system engineers to help ensure our vehicles are robust and perform at the highest levels. The ideal candidate will be a problem solver – someone who is able to track down and solve problem across an incredibly complex system of software and hardware.

Job Responsibilities

- * Design and implement control systems for self-driving cars
- * Debug problems arising from a complex interaction of hardware and software

Education and Experience

- * PhD or MSc in Engineering or related field with focus on robotics / mechatronics
- * 3+ years professional work experience at automotive company developing control systems for ADAS products or autonomous vehicle prototypes

Core Skills

- * Expert in control system theory
- * Familiarity with RTOS (real-time operating systems)
- * Experience with real-time constraints, and hardware interfaces (e.g. Ethernet, UART, SPI, I2C)
- * Good C/C++ development skills on Linux platforms
- * Experience developing software as part of a team
- * Experience with version control systems (e.g., Git)
- * Desire to work in a fast-paced startup environment

Preferred

* Experience in a regulated, safety critical environment

For more information about nuTonomy, visit: <http://nutonomy.com>

To see the complete listing of jobs, visit: <http://nutonomy.com/jobs.html>

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6.14. Research Scientist: Rockwell Automation, USA

Contributed by: BIJAN SAYYARRODSARI, bsayyarrodsari@ra.rockwell.com

Research Scientist: Rockwell Automation, Strategic Development, USA

Rockwell Automation (<http://www.rockwellautomation.com>) has an open position for a research scientist within our corporate research group in Austin, TX. The successful candidate will join a dynamic research team to develop innovative solutions for a diverse range of applications. This position will put the candidate's technical and creative skills to test. The specific activities will focus on the development of optimization algorithms and models for real-time analytics applications in the manufacturing and process industries.

Required Skills:

- Developed applications or algorithms, which required use of optimization theory.
- Developed applications or algorithms, which required use of complex modeling.
- Demonstrated experience to develop creative solutions for real world problems.
- Strong programming background, or demonstrated learning proficiency with programming languages. Specific languages of interest: Python, C/C++, nodejs.

Desired Skills:

- Experience in algorithmic development for optimization. Of special interest is the ability to analyze and enhance the robustness and computational efficiency of optimization algorithms for real-time applications.
- Experience in uncertainty modeling.
- Familiarity with statistical data analysis algorithms and concepts.
- Prior work with Big data is a plus.
- Familiarity with control theory.
- Ability to communicate effectively with people of diverse technical backgrounds and across technologies, disciplines and functions.

Education Requirements:

- Graduate degree (preferably Ph.D) in Engineering, Physics, or Computer Science specializing in one or more of the following: Optimization, Statistical Data Analysis, Learning Algorithms for Big data, Complex System Modeling, Control.

Salary and contract conditions:

- Compensation package will be commensurate with the qualifications of the applicant.
- Minimal travel requirements.

Please send your application (including a full CV) to Bijan Sayyar-Rodsari (bsayyarrodsari@ra.rockwell.com).

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