

E-LETTER on Systems, Control, and Signal Processing
Issue 353
January 2018

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Welcome to the 353 issue of the Eletter, available electronically [here](#).
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1. IEEE CSS Headlines

1.1. 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:

- 37th Chinese Control Conference (CCC2018), Wuhan, China. Jul 25 - Jul 27, 2018. <http://ccc2018.cug.edu.cn/English/Home.htm>
- 22nd International Conference on System Theory, Control and Computing (ICSTCC 2018), Sinaia, Romania. Oct 10 - Oct 12, 2018. <http://www.icstcc.ugal.ro/>
- 23rd International Conference on Methods and Models in Automation and Robotics (MMAR 2018), Miedzyzdroje, Poland. Aug 27 - Aug 30, 2018. <http://mmar.edu.pl/>
- 30th Chinese Control and Decision Conference (2018 CCDC), Shenyang, Liaoning Province, China. Jun 9 - Jun 11, 2018. <http://www.ccdc.neu.edu.cn/>
- 14th Workshop on Discrete Event Systems (WODES'18). Sorrento Coast, Italy. May 30 - Jun 1, 2018. <http://wodes2018.unisa.it/>

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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1.2. IEEE Transactions on Control Systems Technology

Contributed by: Michelle Colasanti, ieeetct@osu.edu

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Contributed by: Francesca Bettini, bettini@dei.unipd.it

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1.4. IEEE Control Systems Society Publications Content Digest

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

The IEEE Control Systems Society Publications Content Digest is a novel and convenient guide that helps readers keep track of the latest published articles.

The CSS Publications Content Digest, available at

<http://ieeecss.org/publications-content-digest>

provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society.

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

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2. Award

2.1. Best Paper Award of 2017 Asian Control Conference

Contributed by: LiChen Fu, lichen@ntu.edu.tw

Asian Journal of Control

Best Paper Award, 2017

In 2001 Asian Control Conference, the Editorial Board of Asian Journal of Control has conveyed the 1st Best Paper Award. The award includes a plaque and US\$ 1,000. Now, we would like to announce the winner of the 9th Best Paper Award. The award was conveyed during 2017 Asian Control Conference (Dec. 17-20) in Gold Coast, Australia.

Award Paper

Title: Distributed MPC for Tracking and Formation of Homogeneous Multi-agent System with Time-varying Communication Topology

Authors: Baocang Ding, Liang Ge, Hongguang Pan and Peng Wang

Volume 18, Issue 3, May 2016, Pages: 1030–1041

DOI: 10.1002/asjc.1186

Full text: <http://onlinelibrary.wiley.com/doi/10.1002/asjc.1186/epdf>

Abstract:

The distributed model predictive control (MPC) is studied for the tracking and formation problem of multi-agent system with time-varying communication topology. At each sampling instant, each agent solves an optimization problem respecting input and state constraints, to obtain its optimal control input. In the cost function for the optimization problem of each agent, the formation weighting coefficient is properly updated so that the adverse effect of the time-varying communication topology on the closed-loop stability can be counteracted. It is shown that the overall multi-agent system can achieve the desired tracking and formation objectives. The effectiveness of the results is demonstrated through two examples.

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3. Courses & Seminar

3.1. Graduate Course on “Modeling and Control of Distributed Parameter Systems: the Port Hamiltonian Approach”

Contributed by: Yann Le Gorrec, legorrec@femto-st.fr

Dear Colleagues,

It is our pleasure to inform you that the course:

”Modeling and Control of Distributed Parameter Systems: the Port Hamiltonian Approach”

will be held from Monday 12 February 2018 to Friday 16 February 2018 at Centrale Supélec, Paris Saclay, France in the context of the 2018 International Graduate School on Control (EECI-IGSC-2018).

This course presents a system oriented approach to modeling, analysis, and control of distributed parameter systems (DPS), i.e., systems governed by partial differential equations (PDEs). This class of systems is more and more encountered in control engineering due to the increased use of complex, heterogeneous and smart and compliant materials in applications. Analysis and control of DPS is thus of high theoretical and practical interest, especially when considering the evolution of computing capacities that allows to deal with very high order systems. The formalism used in this course is the port-Hamiltonian framework. Well-known in control of nonlinear systems governed by ordinary differential equations, this formalism based on the notion of energy and power exchanges has been extended to distributed parameter systems. The aim of this course is to show how this formalism can be advantageously used to study stability and derive simple (boundary) control laws for the stabilization of un-(or weakly) damped (linear) distributed parameter systems.

The course is intended for PhD students and researchers willing to have an introduction to the modelling and control of distributed parameters systems using the port-Hamiltonian framework.

More information can be found on the website

<http://events.femto-st.fr/MCDPS-PHS/en>

If you are interested in following this course please register through the website <http://www.eeci-igsc.eu/online-registration/>

Note that financial support will be awarded to few selected PhD or Master students attending a module of IGSC 2018 Program

- 1) 400 EURO for students in French universities outside Region Ile de France and in Europe;
- 2) 500 EURO for students from other countries

Application will be closed on 31/12/2017.

Best regards

Yann Le Gorrec and Hans Zwart

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3.2. Online Seminar on “Quo Vadis Model Predictive Control? From Stabilizing to Distributed Economic MPC”

Contributed by: Tansel Yucelen, yucelen@usf.edu

Online Seminar by Dr. Frank Allgower - 12:00 PM Eastern Time, January 24, 2018

USF Forum on Robotics & Control Engineering (USF FoRCE, <http://force.eng.usf.edu/>) will host Dr. Frank Allgower on January 24, 2018 at 12:00 PM Eastern Time. Specifically, Dr. Allgower will give an online seminar titled ”Quo Vadis Model Predictive Control? From Stabilizing to Distributed Economic MPC” (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=mec3b285f67956a305c4e25195b8e821>

WebEx indirect link: <https://force.my.webex.com/force.my> (use 628 502 348 for the meeting number and mdRMbkyN for the password)

WebEx phone link: +1-510-338-9438 USA Toll (global call-in numbers:

<https://force.my.webex.com/force.my/globalcallin.php?serviceType=MC&ED=628264832&tollFree=0>)

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.

During Spring 2018, other USF FoRCE speakers will include Drs. Daniel Liberzon, Ilya Kolmanovsky, Jeff Shamma, and Hassan Khalil. 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: Quo Vadis Model Predictive Control? From Stabilizing to Distributed Economic MPC (Dr. Frank Allgower, 12:00 PM Eastern Time, 01/24/2018)

Abstract: During the past decades model predictive control (MPC) has become a preferred control strategy for the control of a large number of industrial processes. Computational issues, application aspects and systems theoretic properties of MPC (like stability and robustness) are rather well understood by now. For many application disciplines a significant shift in the typical control tasks to be solved can, however, be witnessed at present. This concerns for example robot control, autonomous mobility, or industrial production processes. This will be exemplarily discussed with the vision of the smart factory of the future, often termed Industry 4.0, where the involved control tasks, are undergoing a fundamental new orientation. In particular the stabilization of predetermined setpoints does not play the same role as it has in the past. In this talk we will first give an introduction to and an overview over the field of model predictive control. Then new challenges and opportunities for the field of control are discussed with Industry 4.0 as an example. We will in particular investigate the potential impact of Model Predictive Control for the fourth industrial revolution and will argue that some new developments in MPC, especially connected to distributed and economic model predictive control, appear to be ideally suited for addressing some of the new challenges.

Biography: Frank Allgöwer is director of the Institute for Systems Theory and Automatic Control and professor in Mechanical Engineering at the University of Stuttgart in Germany. Frank's main interests in research and teaching are in the area of systems and control with a current emphasis on the development of new methods for optimization-based control, networks of systems and systems biology. Frank received several recognitions for his work including the IFAC Outstanding Service Award, the IEEE CSS Distinguished Member Award, the State Teaching Award of the German state of Baden-Württemberg, and the Leibniz Prize of the Deutsche Forschungsgemeinschaft. Frank served as IEEE CSS Vice-President for Technical Activities over in 2012-2015 and is President of the International Federation of Automatic Control (IFAC) for the years 2017-2020. He was Editor for the journal Automatica from 2001 to 2015 and is editor for the Springer Lecture Notes in Control and Information Science book series. He has published over 500 scientific articles. Since 2012 Frank serves a Vice-President of the German Research Foundation (DFG).

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3.3. Course on Modeling and Simulation of Cyber-Physical Systems

Contributed by: Ricardo Sanfelice, ricardo@ucsc.edu

New Course on Modeling and Simulation of Cyber-Physical Systems

Cyber-physical systems (CPS for short) combine digital and analog devices, interfaces, networks, computer systems, and the like, with the natural and man-made physical world. The inherent interconnected and heterogeneous combination of behaviors in these systems makes their analysis and design an exciting and challenging task.

This course provides you with an introduction to modeling and simulation of cyber-physical systems. The main focus is on models of physical process, finite state machines, computation, converters between physical and cyber variables, and digital networks. The instructor of this course is Ricardo Sanfelice (<https://hybrid.soe.ucsc.edu>), Associate Professor in the Department of Computer Engineering at the University of California Santa Cruz.

Course site: <https://www.coursera.org/learn/cyber-physical-systems-1>

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4. Books

4.1. Model Predictive Control: Theory, Computation, and Design, 2nd Edition

Contributed by: James Rawlings, james.rawlings@wisc.edu

Model Predictive Control: Theory, Computation, and Design, 2nd Edition

The second edition is now available from Amazon.

www.amazon.com/dp/0975937731

What's new?

A new coauthor, Professor Moritz M. Diehl, and chapter, Chapter 8, "Numerical Optimal Control," which provides a comprehensive treatment of methods for the numerical solution of the MPC optimization problem.

A software release. The software enables the solution of all of the examples and exercises in the text requiring numerical calculation. The software is based on the freely available CasADi language, and a high-level set of Octave/Matlab functions, MPCTools, to serve as an interface to CasADi. The software can be downloaded from

www.che.wisc.edu/~jbrow/mpc

New topics. Stochastic MPC, discrete actuators, economic MPC, distributed MPC of nonlinear systems, software for computing explicit MPC, new state estimation results for bounded disturbances.

Nob Hill Publishing

www.nobhillpublishing.com

ISBN 978-0-9759377-3-0

770 pages

hardcover

US\$110 list

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4.2. Intelligent Building Control Systems: A Survey of Modern Building Control and Sensing Strategies

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

Intelligent Building Control Systems: A Survey of Modern Building Control and Sensing Strategies
by John T. Wen and Sandipan Mishra (Eds.)

ISBN: 978-3-319-68461-1

December 2017, Springer

Hardcover, 313 pages, \$189.00/EURO 149,99

<http://www.springer.com/gb/book/9783319684611>

Readers of this book will be shown how, with the adoption of ubiquitous sensing, extensive data-gathering and forecasting, and building-embedded advanced actuation, intelligent building systems with the ability to respond to occupant preferences in a safe and energy-efficient manner are becoming a reality. The articles collected present a holistic perspective on the state of the art and current research directions in building automation, advanced sensing and control, including:

- model-based and model-free control design for temperature control;
- smart lighting systems;
- smart sensors and actuators (such as smart thermostats, lighting fixtures and HVAC equipment with embedded intelligence); and
- energy management, including consideration of grid connectivity and distributed intelligence.

These articles are both educational for practitioners and graduate students interested in design and implementation, and foundational for researchers interested in understanding the state of the art and the challenges that must be overcome in realizing the potential benefits of smart building systems. This edited volume also includes case studies from implementation of these algorithms/sensing strategies in to-scale building systems. These demonstrate the benefits and pitfalls of using smart sensing and control for enhanced occupant comfort and energy efficiency.

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Introduction and Overview

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4.3. A First Course in Control System Design

Contributed by: Kamran Iqbal, kxiqbal@ualr.edu

A First Course in Control System Design

Author: Kamran Iqbal, University of Arkansas at Little Rock, USA

ISBN: 9788793609051

e-ISBN: 9788793609044

Website: http://www.riverpublishers.com/book_details.php?book_id=449

Control systems are pervasive in our lives. Our homes have environmental controls. The appliances we use at home, such as the washing machine, microwave, etc. have embedded controllers. We fly in airplanes and drive automobiles, which make extensive use of control systems. The increasing automation in the past few decades has increased our reliance on control systems.

A First Course in Control System Design discusses control systems design from a model-based perspective as applicable to single-input single-output systems. The emphasis in this book is on understanding and applying the techniques that enable the design of effective control systems. The book covers the time-domain and the frequency-domain design methods, as well as the design of continuous-time and discrete-time systems. It is

suitable for self-study or as text for a one-semester introductory course in Control Systems Design at junior or senior level.

Technical topics discussed in the book include:

Modeling of physical systems

Analysis of transfer function and state variable models

Control system design via root locus

Control system design in the state-space

Control design of sampled-data systems

Compensator design via frequency response modification

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4.4. Call for Book Chapters: Control of Photovoltaic and Wind Energy Systems

Contributed by: Radu-Emil Precup, radu.precup@aut.upt.ro

Currently, we are in the process of editing two forthcoming books tentatively entitled

1) Solar Photovoltaic Power Plants: Advanced Control and Optimization Techniques, and

2) Advanced Control and Optimization Paradigms for Wind Energy Systems,

both to be published by Springer Nature, <http://www.springer.com/gp>.

We would like to take this opportunity to cordially invite you to submit your work for consideration in these publications. Furthermore, the quality is very important since these books will be distributed worldwide. All the submitted book chapters will undergo through a peer preview process where 4 experts will individually go through the work to uphold the quality and validity of the book.

The deadline for submitting chapter proposals is January 20, 2018; the deadline for submitting full chapters is April 30, 2018. These publications are anticipated to be released in 2018. There are NO submission or acceptance fees for manuscripts submitted to these book publications. Authors of accepted chapters will get a free e-book after publication.

For more information and proposals submission, please check the call page:

<https://sites.google.com/view/cfb-renewable>

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5. Journals

5.1. Contents: Automatica

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

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

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5.3. Contents: Evolution Equations and Control Theory

Contributed by: Irena Lasiecka, lasiecka@memphis.edu

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Volume 6, Number 4, December 2017

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5.4. Contents: Nonlinear Studies

Contributed by: Seenith Sivasundaram, seenithi@gmail.com

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5.5. Contents: Mathematics in Engineering, Science and Aerospace

Contributed by: Seenith Sivasundaram, seenithi@gmail.com

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Contributed by: Charis Edworthy, charis.edworthy@oup.com

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5.7. Contents: IET Control Theory & Applications

Contributed by: Alexandria Lipka, alipka@theiet.org

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5.8. Contents: International Journal of Applied Mathematics and Computer Science

Contributed by: AMCS, amcs@uz.zgora.pl

International Journal of Applied Mathematics and Computer Science (AMCS)

2017, Volume 27, Number 4 (December)

Special section on "Exploring Complex and Big Data" (Jerzy Stefanowski, Krzysztof Krawiec and Robert Wrembel, Eds.)

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- Weijian Ren, Shibo Sun, Nan Hou, Chaohai Kang, Event-triggered non-fragile \hat{H}_∞ fault detection for discrete time-delayed nonlinear systems with channel fadings, Pages 436-457

- Ning Zhao, Xian Zhang, Yu Xue, Peng Shi, Necessary conditions for exponential stability of linear neutral type systems with multiple time delays, Pages 458-473

- Xinghong Zhang, Hongbin Ma, Decentralized adaptive synchronization with bounded identification errors for discrete-time nonlinear multi-agent systems with unknown parameters and unknown high-frequency gains, Pages 474-500

- Jie Li, Yuanqing Xia, Xiaohui Qi, Hui Wan, On convergence of the discrete-time nonlinear extended state observer, Pages 501-519

- M.J. Park, O.M. Kwon, J.H. Ryu, Advanced stability criteria for linear systems with time-varying delays, Pages 520-543

- Paulo Canas Rodrigues, Rahim Mahmoudvand, The benefits of multivariate singular spectrum analysis over the univariate version, Pages 544-564

- Amer M. Magableh, Neameh Jafreh, Exact expressions for the bit error rate and channel capacity of a dual-hop cooperative communication systems over Nakagami-m fading channels, Pages 565-573

- Jin-Jin Mei, Ting-Zhu Huang, Si Wang, Xi-Le Zhao, Second order total generalized variation for speckle reduction in ultrasound images, Pages 574-595

- Flvio R. Pavan, Magno T.M. Silva, Maria D. Miranda, A numerically robust blind equalization scheme applied to MIMO communication systems, Pages 596-624

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5.14. Contents: Proceedings of the Institute of Applied Mathematics

Contributed by: IAM, proceedings.iam@gmail.com

Proceedings of the Institute of Applied Mathematics, V.6, N.2 2017

- F.A. Aliev, V.B. Larin, Algorithm for factorization of second degree discrete matrix polynomials

- M.A. Noor, Kh.I. Noor, S. Iftikhar, Integral inequalities via strongly beta-convex functions

- N.A. Aliev, G.S. Alieva, R.M. Tagiyev, Determination of the coefficient of hydraulic resistance in gas lift process described by partial derivatives hyperbolic equations

- A. Aghili, M.R. Masomi, Solving systems of fractional partial differential equations via two dimensional Laplace transforms

- A.B. Ramazanov, Application of a gradient algorithm in some problems for recognition of images

- E. Guner, S. Balci, The solution of the fuzzy lifting problem on fuzzy covering spaces

- M.A. Sadygov, J.J. Mamedova, H.S. Akhundov, Extremal problem for the Goursat-Darboux type inclusion in infinite domain

- N.S. Hajiyeva, I.A. Maharramov, Identification problem for defining the coefficient of hydraulic resistance on different areas of pump-compressor pipes in gas lift process

- S.M. Madian, Some results of differential subordination and superordination for p-valent functions associated with new operator

- Z. Velioğlu, N. Ekici, Parafree lie algebras with certain properties

- Fikret A. Aliev, N.A. Aliev, N.A. Safarova, K.G. Gasimova, Y.V. Mamedova, Analytical construction of regulators for a fractional derivative

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5.15. CFP: European Journal of Control Special Issue on Advanced Control Theory and Applications for Next-Generation Engineered Systems

Contributed by: Heng Zhang, ezhangheng@gmail.com

CFP: European Journal of Control Special Issue on Advanced Control Theory and Applications for Next-Generation Engineered Systems

<https://www.journals.elsevier.com/european-journal-of-control/call-for-papers/special-issue-on-advanced-control-theory-and-applications-fo>

Recent years has witnessed great advances and in-depth integration of modern control, communication, and computing technologies. They have prompted the birth of next-generation engineered systems, including networked cyber-physical systems, Internet of Things, smart power grids, artificial intelligence robots, intelligent transportation systems, and smart buildings, etc. The multi-device composition, heterogeneous architecture, complex connection and interaction mechanisms, and limited resources, indeed pose substantial design and operation challenges. It is obvious that traditional control technologies have remarkably improved the system performances. However, due to the integration and interaction of cyberspace and physical world in the next-generation engineered systems, it is required to explore new control methods to integrally operate the systems to achieve the higher requirements.

This special issue will seek latest significant contributions on advanced control theory and applications for next-generation engineered systems. Topics of interest include, but are not limited to, the following:

- Modeling of next-generation engineered systems
- System stability and performance analysis
- Decentralized/distributed control for next-generation engineered systems
- Resilient/secure feedback controller design
- Data-driven/event-driven control for next-generation engineered systems
- Robust control for next-generation engineered systems
- Fault tolerant control for next-generation engineered systems
- Switching control strategy for next-generation engineered systems
- Resource allocations/optimization for next-generation engineered systems
- Intelligent autonomous control for next-generation engineered systems
- Experiments, platforms, and applications for next-generation engineered systems

Submission of manuscripts:

All papers will undergo the same rigorous review process as that for a regular paper submitted to this journal. Prospective authors should submit high quality and original manuscripts. Authors should prepare their manuscript according to the Guide for Authors available from the online submission page of European Journal of Control at:

<https://www.journals.elsevier.com/european-journal-of-control>

All manuscripts and any supplementary material should be submitted through Elsevier Editorial System (EES). The authors must select as “Control Theory For NGENs” when they reach the “Article Type” step in the submission process. The EES website is located at:

<https://www.evise.com/profile/#/EJCON/login>

Schedule:

- Full paper submission deadline: June 30, 2018
- First notification: August 31, 2018
- Final notification: October 31, 2018

- Final paper due: November 30, 2018
- Publication date (tentative): March, 2019

Guest Editors:

Dr. Heng Zhang (Managing Guest Editor), University of Western Sydney, Australia;
Dr. Yanzheng Zhu, Shandong University of Science and Technology, China;
Prof. Michael V. Basin, Autonomous University of Nuevo Leon, Mexico;
Dr. Dawei Shi, Harvard University, United States;
Prof. Zhengtao Ding, University of Manchester, UK.

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6. Conferences

6.1. IEEE Conference on Control Technology and Applications

Contributed by: Alessandro Beghi, beghi@dei.unipd.it

2nd IEEE Conference on Control Technology and Applications, IEEE CCTA 2018

August 21-24, 2018

The Scandic Hotel Copenhagen

Copenhagen, Denmark

<http://ccta2018.ieeecss.org>

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

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

Call for Contributed Papers: Papers are invited in the form of regular manuscripts. Papers must conform to the submission policy, described below, requiring that all manuscripts be in 2-column IEEE Proceedings format, written in English and meet strict page limits.

Call for Invited Sessions: Invited sessions consist of 6 papers presenting a unifying theme from a diversity of viewpoints. Proposals must clearly describe the motivation and relevance of the session. Proposals must be accompanied by full versions of each paper, which will be individually reviewed together with the proposal itself. Individual papers may be removed from a proposed session and replaced by appropriate contributed papers. In case an entire proposed session is rejected, selected papers may be accepted as contributed ones.

Call for Tutorial Sessions: Tutorial sessions addressing state-of-the-art control theory and advanced industrial applications are solicited. Call for Workshops: Workshops to be held prior to the conference are solicited on

all related topics. Proposals for workshops addressing novel control methodologies and nonstandard control applications are strongly encouraged.

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

Important Dates:

Paper submissions site css.paperplaza.net opens: November 1, 2017

Deadline for submission of Invited Session proposals: January 15, 2018

Deadline for submission of contributed and invited papers: January 15, 2018

Notification of acceptance/rejection: April 23, 2018

Final submission and registration sites open: April 27, 2018

Deadline for final submission of all papers: May 21, 2018

Jakob Stoustrup (General Chair)

Thomas Parisini (General Co-Chair)

Kristin Y. Pettersen (Program Chair)

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

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

23rd International Conference on Methods and Models in Automation and Robotics

27-30 August 2018

Amber Baltic Hotel, Miedzyzdroje, Poland

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

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

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

The participants of the 23rd International MMAR Conference will have the opportunity to take part in the wide spectrum of categories for technical presentations, including plenary lectures, regular papers of both lecture and poster session types, and panel discussion. We look forward to seeing our old and new friends in Poland. You are kindly invited to participate in the 23rd International MMAR Conference in Miedzyzdroje, Poland.

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

Key Dates

March 5, 2018 - Paper submission

May 21, 2018 - Notification of acceptance

June 25, 2018 - Registration

July 2, 2018 - Camera-ready paper submission

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

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6.3. International Conference on Unmanned Aircraft Systems

Contributed by: Youmin Zhang, Youmin.Zhang@concordia.ca

Call-for-Papers: 2018 International Conference on Unmanned Aircraft Systems (ICUAS'18)
(<http://www.uasconferences.com>)

First of all, we wish you wholeheartedly a HAPPY NEW YEAR of 2018 and HAPPY HOLIDAYS with health, happiness and prosperity.

On behalf of the Organizing Committee and the ICUAS Association, it is our pleasure to invite you to participate in the 2018 International Conference on Unmanned Aircraft Systems, ICUAS'18, which will be on June 12-15, 2018 in Dallas, TX, at the Dallas Marriott City Center. This annual conference has grown tremendously; it has earned the respect of the professional community and it is constantly co-sponsored technically by the IEEE CSS and RAS and the Mediterranean Control Association. The conference is fully sponsored by the ICUAS Association. Following the usual tradition, the conference will be preceded by one day of tutorials and workshops, followed by three full-days of technical sessions. In 2018, we introduce 'poster papers', which will go under the same thorough review process, but will report on new ideas with only preliminary results. Keynote lectures, panel discussions and a social agenda will complement and complete the four-day event.

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

Unmanned system autonomy, collaboration and coordination, formation control, validation and verification and unmanned system design for assured autonomy, are topics of great interest to ICUAS'18.

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

IMPORTANT DATES (Please check the latest information at <http://www.uasconferences.com>)

February 12, 2018: Full Papers/ Invited Papers/Tutorial Proposals Due

April 15, 2018: Acceptance/Rejection Notification

May 7, 2018: Upload Final, Camera Ready Papers

April 15 - May 7, 2018: Early Registration

PAPER SUBMISSION

All papers must be submitted and uploaded electronically. Go to <https://controls.papercept.net>. Click on the link "Submit a Contribution to ICUAS'18" and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 10 point fonts, Times New Roman. The maximum number of pages per submitted paper is 10. For accepted papers, up to two additional pages will be permitted for a charge of \$100 per additional page. Illustrations and references are included in the page count. Invited

and Special Sessions: Proposals for invited/special sessions must be submitted/uploaded electronically. A Summary Statement describing the motivation and relevance of the proposed session, invited paper titles and author names must be uploaded electronically by February 12, 2018. In addition, authors must submit FULL versions of invited papers electronically, through <https://controls.papercept.net>. Each paper must be marked as 'Invited Session Paper'. Workshops/Tutorials: Proposals for workshops/tutorials should contain title, the list of speakers, and extended summaries (2000 words) of their presentations. Proposals must be sent by e-mail to the Tutorial/ Workshop Chair by February 12, 2018. Paper Review Process: All submitted papers will undergo a peer review process coordinated by the Program Chairs, Advisory Committee Members, IPC members and qualified reviewers. Authors will be notified of results at the latest by April 15, 2018. Accepted papers must be uploaded electronically no later than May 7, 2018. Authors are encouraged to accompany their presentations with multimedia material, which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.

Welcome and look forward to receiving your contributions and attendance to the ICUAS'18! For detailed information please see <http://www.uasconferences.com>.

ICUAS ASSOCIATION LIAISON

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Didier Theilliol, U of Lorraine, Didier.theilliol@univ-lorraine.fr

Tor Arne Johansen, NTNU, tor.arne.johansen@ntnu.no

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6.4. International Workshop on Variable Structure Systems

Contributed by: Martin Steinberger, martin.steinberger@tugraz.at

15th International Workshop on Variable Structure Systems (VSS 2018)

Graz University of Technology, Austria

July 9-11, 2018

The 15th International Workshop on Variable Structure Systems will be held Monday July 9 through Wednesday July 11, 2018 at the Institute of Automation and Control, Graz University of Technology, Austria. It is the premier conference in variable structure and sliding mode control bringing together people from academia and industry. It will feature three plenary talks as well as regular and poster sessions.

SCOPE:

Theory of sliding mode control and observation

* First order sliding mode

* Higher order sliding mode

* Chattering analysis

* Discrete time sliding mode

- * Adaptive sliding mode
- * Sliding mode based fault detection
- * Networked control systems

Applications

- * Automotive systems
- * Hydraulic/pneumatic systems
- * Electric drives and actuators
- * Power electronics
- * Multi-agent systems
- * Mobile robots
- * Process industry

IMPORTANT DATES

- * Paper submission site open: November, 2017
- * Deadline for paper submission: January 12, 2018
- * Notification of acceptance: March 31, 2018
- * Final submission and registration open: April 1, 2018
- * Deadline for final submission and online registration: May 1, 2018

PAPER SUBMISSION

You are invited to electronically submit the full version of your work following the IEEE standards via the web page:

www.vss-graz.com

See you in Graz, Austria!

Martin Horn (General Co-Chair)

Leonid Fridman (General Co-Chair)

Martin Steinberger (Program Chair)

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

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

21st ACM International Conference on Hybrid Systems: Computation and Control (HSCC)

April 11-13, 2018,

Porto, Portugal

URL: www.hsc2018.deib.polimi.it

Important dates:

Paper submission deadline: October 6, 2017 (11:59pm UTC-12) [Papers currently under review]

Notification: December 2017

Camera-ready: February 2018

Conference dates: April 11-13, 2018

* Please refer to the conference website for up-to-date information. *

Paper submission information:

Regular papers (maximum 10 pages, 10pt font, two-column ACM format)

Tool and Case Study Papers (maximum 6 pages, 10pt font, two-column ACM format)

Demos (maximum 2 pages, 10pt font, two-column ACM format, title should begin with “Demo”)

Posters (maximum 2 pages, 10pt font, two-column ACM format, title should begin with “Poster”)

Awards:

- Best Repeatability Evaluation Award; Papers would be eligible upon passing the repeatability evaluation process will receive the “artifact evaluated” badge.
- Best Demo/Poster Award
- Best Paper Award *New*
- Test-of-Time Award *New*

Conference scope:

HSCC 2018 is the 21st in a series of conferences focusing on original research on concepts, tools, and techniques from computer science, control theory, and applied mathematics for the analysis and control of hybrid 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 (ranging from small robots to global infrastructure networks) and natural systems (ranging from biochemical networks to physiological models). Papers are expected to cover a wide spectrum of topics from theoretical results to practical considerations, from academic research to industrial adoption, including but not limited to:

- Mathematical foundations, computability and complexity
- Analysis, verification, validation, and testing
- Modeling paradigms and techniques
- Design, synthesis, planning, and control
- Programming and specification languages
- Network science and network-based control
- Security, privacy, and resiliency in cyber-physical systems with a focus on computation and control
- Artificial intelligence and machine learning in control algorithms
- Software tools
- Applications and industrial case studies in: automotive, transportation, autonomous systems, avionics, energy and power, robotics, medical devices, manufacturing, systems and synthetic biology, models for the life sciences, and other related areas

Program Committee Chairs:

Maria Prandini, Politecnico di Milano

Jyotirmoy V.Deshmukh, University of Southern California

Repeatability Evaluation Chair:

Sergiy Bogomolov, Australian National University

Publicity Chair:

Kostas Margellos, University of Oxford

Demo and Poster Session Chair:

Jens Oehlerking, Robert Bosch GmbH

Awards Chair

Akshay Rajhans, The MathWorks

Program Committee:

See www.hsc2018.deib.polimi.it

Steering Committee:

Rajeev Alur, University of Pennsylvania

Werner Damm, OFFIS
John Lygeros, ETH Zurich
Oded Maler, Verimag
Paulo Tabuada, University of California at Los Angeles
Claire Tomlin, University of California at Berkeley

Submission website:

See www.hsc2018.deib.polimi.it

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

Contributed by: Seenith Sivasundaram, seenithi@gmail.com

World Congress: Mathematical Problems in Engineering, Aerospace and Sciences

WHEN: July 3, 2018 – July 6, 2018

WHERE: American University of Armenia, Yerevan

Website: <http://www.icnpaa.com>

<http://www.internationalmathematics.com/icnpaa/>

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)

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6.7. IFAC Conference on Analysis and Design of Hybrid Systems

Contributed by: Daniele Magazzeni, daniele.magazzeni@kcl.ac.uk

ADHS 2018 Call for Papers

The 6th IFAC Conference on Analysis and Design of Hybrid Systems

Oxford University, UK, July 11-13, 2018.

Website: <http://www.cs.ox.ac.uk/conferences/ADHS18/>

* Invited Session Proposals due: December 19, 2017

* Paper Submissions due: December 22, 2017

* Author notification: February 2018

The Organising Committee has the pleasure of inviting you to participate in the 6th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS 18) to be held at Oxford University, UK, July 11-13, 2018.

ADHS 2018 will be held at the Department of Computer Science, University of Oxford.

ADHS will be hosted within FLOC 2018 (<http://www.floc2018.org>) and will precede CAV 2018 (<http://cavconference.org/2018>)

The conference happens under the auspices of IFAC and is sponsored by the IFAC Technical Committee on Discrete Event and Hybrid Systems.

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

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

Author Guidelines

* Regular papers: Regular papers can have a length of up to 8 pages at submission. Accepted papers are limited to 6 pages in the conference preprints and on-line proceedings.

* Invited session proposals: Invited sessions consist of 4 to 6 papers related to a common theme that fits within the scope of ADHS. An invited session proposal should contain a short description of the common theme as well as the list of papers in the session and their abstracts.

The invited session organiser first has to submit the pdf file of the session proposal (without participating papers). The IFAC Conference Manuscript Management System then returns an acknowledgment that contains an alpha-numeric code for the proposed session. Subsequently, the organiser has to notify the contributing authors of their invited session code. The corresponding author of each paper then submits the paper on-line as an invited paper.

* Invited session papers: Invited session papers can have a length of up to 8 pages at submission. Invited session papers go through the same review process as regular papers. Accepted papers are limited to 6 pages in the conference preprints and on-line proceedings. Submission as an invited session paper requires the invited session code, which can be obtained from the session organiser.

Submission Instructions

* The website for submission is: <https://ifac.papercept.net/conferences/scripts/start.pl>

* All papers submitted to ADHS 18 must be written in English and formatted in the standard IFAC 2-column

format provided on the IFAC Conference Management System website (see the item "Support for Authors" above).

* For initial submissions, all regular and invited session papers are limited to eight (8) pages. The submission website will not permit longer papers to be uploaded.

* For the final upload all accepted and invited papers are limited to six (6) pages.

* For each accepted paper at least one of the authors should have a full registration in order to have the paper included in the preprints and the post-conference on-line proceedings at IFAC-PapersOnLine.

* Author's kits with style (.cls) files for LaTeX are available from the submission website. Go to <http://ifac.papercept.net> and select "Support" for these files and example files, or directly go to the support page. Please do not change the formatting in any way.

Important Dates

Invited Session Proposals due: December 19, 2017

Paper submission due: December 22, 2017

Author notification: February 2018

Final papers due: April 2018

Early registration: TBA

Conference: July 11-13, 2018

The reference timezone for all deadlines is UTC-12.

Committees

General Chair

* Alessandro Abate (U. Oxford, UK)

Program Chairs

* Maurice Heemels (TU Eindhoven, NL)

* Antoine Girard (CNRS, FR)

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6.8. IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles

Contributed by: Vahid Hassani, vahid.hassani@ntnu.no

IFAC CAMS 2018,

11th IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles

Opatija, Croatia, September 9-12, 2018

CAMS 2018 website: <http://www.ifac-cams2018.com>

Paper submission is open from papercept <http://ifac.papercept.net/conferences/scripts/start.pl#CAMS18>

We would like to invite you to participate in the 11th IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles (CAMS2018) that will take place in Opatija, Croatia, 9-12 September 2018. CAMS returns to Croatia after 11 years and will be organized by University of Zagreb in cooperation with the KoREMA, the national member organization for Croatia in the IFAC.

CAMS 2018 will provide an excellent opportunity for the presentation and discussion of research results and development in the areas of control applications for surface & underwater vessels, floating & sub-sea structures, and other marine systems. The conference opens possibilities for industry, universities and research facilities to explore the future trends in application of control theory to marine systems, and to establish new and innovative activities for applying advanced solutions to marine systems.

Areas and Topics (including but not limited to)

- Marine cyber-physical systems
- Ship automation
- Surface and underwater vehicles
- Communication in marine domain
- Systems for integrated operation
- Internet of things (IoT) in maritime domain
- Subsea construction and operation
- Propulsion and energy savings
- Decision support and safe operation
- Control applications in offshore wind and wave marine renewables
- Maritime robotics (underwater, surface, aerial)
- Biomimetics in marine robotics
- Marine cyber-physical systems for aquaculture
- Applications of maritime robotics (monitoring, mapping, search & rescue, habitat and environment, mine counter measure, ...)
- Hybrid power generations for marine systems
- Navigation, guidance and control of marine vehicles
- Adaptive, nonlinear and re-configurable systems
- Marine swarms of heterogeneous agents
- Cooperative and intelligent marine cyber-physical systems
- Robust and resilient marine systems
- Modelling, identification and estimation
- Monitoring, diagnosis and fault handling
- Autonomous marine vehicles
- Safety and security for ports and ships
- Ship roll stabilization techniques
- Maritime security
- Sensors and sensor fusion in marine systems
- Supervision and surveillance in marine applications
- Human-machine interface in marine systems
- Risk and life cycle assessment in marine systems

Important dates:

- Paper submission deadline: March 20, 2018

- Paper Acceptance/Rejection: May 7, 2018

Submission Procedure:

To submit a paper, please follow the link "Submission" located on the top line of the conference website or directly under the papercept link:

<http://ifac.papercept.net/conferences/scripts/start.pl#CAMS18>

Proposals for Invited Sessions are welcome and should be submitted in Papercept by February 15th 2018.

The proceedings of the Symposium will be published on-line on the <http://www.ifac-papersonline.net> website.

For further information on CAMS 2018 please contact the Technical Program Chair cams2018@fer.hr or visit CAMS 2018 website: <http://www.ifac-cams2018.com>

International Program Committee (IPC) chair

Vahid Hassani, NTNU, Norway, E-mail: vahid.hassani@ntnu.no

National Organizing Committee (NOC) chair

Zoran Vukic, University of Zagreb, Croatia, E-mail: Zoran.Vukic@fer.hr

Editor of the conference proceeding

Nikola Miskovic, University of Zagreb, Croatia, E-mail: Nikola.Miskovic@fer.hr

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6.9. IFAC Conference on Modelling Identification and Control of Nonlinear Systems

Contributed by: Alma Y. Alanis, almayalanis@gmail.com

CALL FOR PAPERS

2nd IFAC Conference on Modelling Identification and Control of Nonlinear Systems

(IFAC MICNON 2018)

June 20-22, 2018

Guadalajara, Mexico

<https://www.micnon2018.org/>

On behalf of the Program Committee, it is our pleasure to welcome you to the Second IFAC Conference on Modelling Identification and Control of Nonlinear Systems (IFAC MICNON 2018). MICNON 2018 will be held in Guadalajara, Mexico during June 20-22, 2018, as a sequence to MICNON 2015 (Saint-Petersburg, Russia). This conference series that is organized by the IFAC Technical Committee on Nonlinear Systems (that is also in charge of the NOLCOS series).

The MICNON 2018 will cover all areas of nonlinear systems theory and applications, including control and analysis of nonlinear systems, modelling and identification of nonlinear systems and all types of applications in connection to nonlinear systems. The organization of MICNON 2018 in Guadalajara-Mexico will be a catalyzer to increase the research interest in nonlinear systems as well as a great opportunity to explore the research advances in the Automatic Control community.

The MICNON 2018 program will consist of plenary lectures, parallel and panel sessions, invited talks, industrial exhibitions and more. MICNON 2018 will be accompanied by a pre-conference day of workshops and tutorials. Besides, the MICNON 2018 is complemented with a social and cultural program to enjoy Guadalajara and Mexico.

We invite you to participate in different ways with: Contributed papers, Invited Sessions, Tutorial Sessions, Panel Sessions, Special Sessions, Workshops, Exhibits and more. Papers, session and workshop proposals must be submitted through the submission website. Submissions must conform to policies given on the conference website <https://www.micnon2018.org/>, for the rest of proposals, please contact us at: contact@micnon2018.org, and looking forward to welcoming you in Guadalajara!

Important Dates

Deadline for special sessions/workshops proposals: November 30, 2017

Deadline for submission: January 22, 2018 (Firm Deadline)

Notification of acceptance: March 16, 2018

Final paper submission: April 30, 2018

Conference dates: June 20-22, 2018

Confirmed Plenary Speakers

Frank Allgower, University of Stuttgart

David Angeli, Imperial College London

Patrizio Colaneri, Politecnico di Milano
Zhong-Ping Jiang, NYU Tandon School of Engineering
Thomas Schön, Uppsala University
Mark Spong, University of Texas at Dallas
Kumar Venayagamoorthy, Clemson University

Sincerely,

Lorenzo Marconi and Jaime A. Moreno, IPC Chairs
Alma Y. Alanis and Marco A. Perez-Cisneros, NPC Chairs
Edgar N. Sanchez and Esteban A. Hernandez-Vargas, Editors

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6.10. IFAC Symposium on Robust Control Design & IFAC Workshop on Linear Parameter Varying Systems

Contributed by: Eugenio B. Castelan, eugenio.castelan@ufsc.br

ROCOND'18 & LPVS'18

9th IFAC Symposium on Robust Control Design (ROCOND'18) and
2nd IFAC Workshop on Linear Parameter Varying Systems (LPVS'18)
Florianopolis, SC, Brazil,
September 03-05, 2018

<http://rocond18.ufsc.br>, <http://lpvs18.ufsc.br>

Updated Important Dates:

Submission site open - <https://ifac.papercept.net> 31/11/2017

Open track session submission deadline 15/02/2018

Draft paper submission deadline 15/02/2018

Acceptance/rejection notification 15/05/2018

The Organizing Committees have the pleasure of inviting you to participate in the joint 9th IFAC Symposium on Robust Control Design (ROCOND'18) and 2nd IFAC Workshop on Linear Parameter Varying Systems (LPVS'18) to be held in Florianopolis, Brazil, September 3-5, 2018. The joint ROCOND'18 and LPVS'18 will be held at the conference center of Majestic Palace Hotel near downtown Florianopolis. Majestic Palace Hotel is a 5-star hotel offering luxury accommodation, stunning views of the North Bay, and located just minutes from Shopping Malls, several beaches on the north, south and east of Santa Catarina Island.

Author Guidelines

The joint ROCOND'18 & LPVS'18 invite four types of submission: ROCOND Regular or Open Invited Track papers, and LPVS Regular or Open Invited Track papers. For the purpose of review only, all submitted manuscripts may be up to eight (8) pages long. However, normal length for the final manuscript is limited to six (6) pages. Papers exceeding the normal length may be submitted upon payment of over length page charges of EUR 100.00 for each page in excess of six. A maximum of two extra pages above normal six are permitted.

Scope and Topics:

ROCOND 2018 - Over the last three decades, robust control has been a topic of active research and development of new theoretical principles, numerical methods and effective control algorithms to design and implement complex engineering control systems that provide adequate performance and stability when implemented in real plants. Emphasis will be put on current challenges and new directions in development

of theoretical and computational tools for versatile practical applications implemented on advanced control systems (networked, embedded, distributed control systems) and are not purely devoted to robust control design.

LPVS 2018 - The class of Linear Parameter Varying (LPV) systems can be used to represent several types of dynamical systems such as time varying uncertain, non-linear, switching or multi-models ones. The LPV modeling allows also the design of the so-called LPV controllers, where the control law parameters are updated according to the measurable plant varying parameters. In the last two decades, LPV systems and control have been an active topic of research in the control systems community. This Workshop aims at presenting new results in the field of LPV systems and their applications in real life and industry (automotive, aerospace, robotics, chemical processes, biological systems, energy and nuclear, network controlled-systems), including aspects on modeling, identification, stability, control design, observation and diagnosis.

IFAC Young Author Prize

It will be awarded a prize for the best paper in the joint ROCOND'18 and LPV'18 for an author younger than 30 years by September 1st 2018. The author should be the first (corresponding) and presenting author of the paper. The prize and a certificate will be awarded at the closing ceremony of the joint ROCOND'18 and LPV'18.

Copyright Conditions

All publication material submitted for presentation at an IFAC-sponsored meeting (Congress, Symposium, Conference, Workshop) must be original and hence cannot be already published, nor can it be under review elsewhere. The authors take responsibility for the submitted material and must confer the copyright to IFAC when they submit the final version of the paper. See further details at the Conference webpage.

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6.11. Mediterranean Conference on Control and Automation

Contributed by: Maja Matijasevic, maja.matijasevic@fer.hr

MED'18

26th Mediterranean Conference on Control and Automation

June 20-22, 2018

Hotel "Kolovare", Zadar, Croatia

<http://www.med-control.org/med2018>

The 26th Mediterranean Conference on Control and Automation, MED'18, is returning to Croatia! The hosting city of Zadar is situated in the heart of the Adriatic sea. It has exceptional history and rich cultural heritage, spanning over 2,000 years. The Old Town, located on a natural peninsula, is surrounded by historical ramparts, within which one can find a mix of archaeological and monumental treasures from ancient and medieval times to Renaissance and contemporary architectural achievements such as the first Sea Organ in the world. In the year 2016, Zadar received the prestigious "Best European Destination 2016" award.

The theme of MED'18 centers on societal and economic challenges related to increase in the system autonomy. Roundtables dedicated to this theme will be organized during the conference. An innovative aspect of the conference program is related to industrial challenges planned for MS and PhD students. There will be 3 challenges with topics in i) process automation, ii) automotive control design, and iii) autonomous systems control design.

MED'18 spans four full days: June 19th is devoted to Challenges, Tutorials and Workshops, followed by the three day technical conference on June 20-22, 2018.

Areas of interest traditionally include a wide range of topics in control systems, technology, and applications. This year, we would like to address emerging research areas in control, such as systems of systems, robotics, intelligent autonomous systems and computational intelligence, architectures for intelligent control, control inspired by systems biology, vision in control, and control theory in psychology and sociology, as well as application of control theory in economics, next generation healthcare and healthcare delivery. Given the growing energy problems and demands, we would like to invite papers on control applications in new energy resources, and in energy grid control. In an increasingly networked world, communications, computing and control systems merge – thus networked control systems, IoT and cloud computing in control applications are also of special importance.

Important dates:

February 12, 2018: Regular Papers / Invited Sessions / Tutorial Proposals Due

April 16, 2018: Acceptance / Rejection Notification

May, 7 2018: Final Manuscripts Due

May, 7 2018: Early Registration Deadline

Contributed papers: All papers must be submitted and uploaded electronically through <https://controls.papercept.net>. The paper format must follow IEEE paper submission rules, two-column format using 12 point fonts, Times New Roman. The maximum number of pages per submitted paper is 6. Up to two additional pages will be permitted for a charge of 100 EUR per additional page. Illustrations and references are included in the page count.

Invited and Special Sessions: Proposals for invited and special sessions by topic of interest must be submitted and uploaded electronically. A Summary Statement describing the motivation and relevance of the proposed session, invited paper titles and author names must be uploaded electronically by mid-February, 2018. In addition, authors must submit FULL versions of invited papers electronically. Each such paper must be marked as "Invited Session Paper".

Workshops – Tutorials: Proposals for workshops and tutorials should contain the title of the session, the list of speakers, and extended summaries (2000 words) of their presentations. Proposals must be uploaded electronically, as well as sent by e-mail to the Tutorial and Workshop Chair by February 12, 2018.

General Chairs:

Stjepan Bogdan, University of Zagreb

Sandra Hirche, Technical University of Munich

Program Chairs:

Nikola Miskovic, University of Zagreb

Roberto Galeazzi, Technical University of Denmark

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7. Positions

7.1. PhD: KU Leuven, Belgium

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

PhD: KU Leuven Department of Mechanical Engineering, Belgium

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

RESEARCH PROJECT: This project focuses on optimal motion control of complex mechatronic motion systems operating in changing environments. Changing environments require real-time motion planning, which is very challenging if system dynamics are complex and collision constraints change continuously.

The overall project goal is to develop and experimentally validate an effective MPC approach for complex mechatronic systems that realizes optimal motion planning and control in real-time. This research will be supported by an MPC toolchain development in order to integrate all software in an open and modular fashion as to create a workflow from problem specification to deployment. All developments will be validated experimentally on academic set-ups (e.g. AGV or robot) in the lab.

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

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

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

APPLICATION PROCEDURE: To apply, send email to jan.swevers@kuleuven.be.

Subject of your email should be: “MECHATRONICS MPC PhD application”.

Deadline: February 28, 2018! Include:

- an academic CV with photo,
- a Pdf of your diplomas and transcript of course work and grades,
- statement of research interests and career goals (max. 2 pages),
- sample of technical writing (publication or thesis),
- contact details of at least two referees,
- proof of English language proficiency test results.

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7.2. PhD: KU Leuven, Belgium

Contributed by: Panos Patrinos, panos.patrinos@esat.kuleuven.be

Fully funded PhD position at the Department of Electrical Engineering (ESAT), KU Leuven:

Theory, algorithms and applications for structured, nonconvex optimization

The STADIUS Center for Dynamical Systems, Signal Processing and Data Analytics, Prof. Panos Patrinos, at the Department of Electrical Engineering (ESAT), KU Leuven is offering a fully funded, 4-year PhD position on the topic of the theory and algorithms for structured nonconvex optimization. KU Leuven is among the top European universities (ranked first in Times Higher Education list of most innovative universities in Europe) and a hub for interdisciplinary research in the field of optimization. The PhD position is in the context of the research project “A unifying algorithmic framework for structured optimization”, funded by the Research Foundation - Flanders (FWO) for advancing fundamental scientific research.

Project summary: The objective of the project is to develop and implement a unifying methodological and algorithmic framework for structured nonsmooth and nonconvex optimization, targeting problems resulting from various application domains, such as control and machine learning. The project will build upon ongoing,

promising research of the group that establishes a connection between nonsmooth and smooth optimization, leading to new interpretations, insights, nonconvex extensions and improved versions of popular algorithms such as ADMM. The candidate will contribute in further exploring this direction by conducting fundamental research in algorithmic optimization and/or developing optimization software (in Julia, Python, C) to solve real-world problems in control and/or machine learning, such as embedded model predictive control for autonomous driving and deep learning.

Candidate requirements: Applicants should have a Master's degree from a good-quality university in mathematics, engineering, computer science or a related field. They should possess a strong background and interest in mathematics and, ideally, numerical optimization. They should have excellent analytical and problem solving skills and, preferably, well-developed programming skills. Depending on their interest, background and skills the focus of the PhD project can be either on fundamental theory and algorithmic development or software development and applications related to either control or machine learning. Applicants should also have good English communication skills.

Application procedure: To apply send email to panos.patrinos@esat.kuleuven.be with subject "PhD application: structured optimization", attaching an academic CV, a pdf of your diplomas and transcript of course work and grades, a statement of research interests and career goals (1 page max.), sample of technical writing (publication or thesis) and contact details of at least two referees.

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7.3. PhD: KU Leuven, Belgium

Contributed by: Panos Patrinos, panos.patrinos@esat.kuleuven.be

Fully funded PhD position at the Department of Electrical Engineering (ESAT), KU Leuven: Risk-Averse Learning and Model Predictive Control for Autonomous Driving

The STADIUS Center for Dynamical Systems, Signal Processing and Data Analytics, Prof. Panos Patrinos, at the Department of Electrical Engineering (ESAT), KU Leuven is offering a fully funded, 4-year PhD position on the topic of real-time risk-averse learning model predictive control for autonomous vehicles. KU Leuven is among the top European universities (ranked first in Times Higher Education list of most innovative universities in Europe) and a hub for interdisciplinary research in the field of optimization. The project will be carried out in collaboration with a leading automotive company.

Project summary: The project concerns the development of theory and methodologies combining data-based learning with Model Predictive Control (MPC) in the context of autonomous vehicle motion control. The new methods will be capable of dealing with high-effect low-probability (HELP) events such as unexpected changes in traffic, traction and road conditions and unforeseen movements of other vehicles and pedestrians. To this end, the candidate will build upon the recently developed risk-averse MPC framework within our group, that accounts for the uncertainty within uncertainty estimates, being more resilient than stochastic MPC and less conservative than robust MPC. The overall goal is to develop MPC strategies that are able to learn from data in real time, to continuously improve performance and safety guarantees in the highly uncertain context of autonomous driving will be developed.

Candidate requirements: Applicants should have a Master's degree from a good-quality university in engineering or a related field. They should possess a strong background and interest in systems & control and, ideally, numerical optimization. They should have well-developed programming and excellent analytical and problem solving skills. Applicants should also have good English communication skills.

Application procedure: To apply send email to panos.patrinos@esat.kuleuven.be with subject "PhD application: risk-averse MPC", attaching an academic CV, a pdf of your diplomas and transcript of course work

and grades, a statement of research interests and career goals (1 page max.), sample of technical writing (publication or thesis) and contact details of at least two referees.

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7.4. PhD: Delft University of Technology, the Netherlands

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

PhD position: Complex Network Games.

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

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

Project description: The candidate will conduct fundamental, multi-disciplinary, research on complex multi-agent systems characterized by the presence of: (i) noncooperative (e.g. selfish) agents; (ii) complex networks that define the inter-dependence between objective functions and constraints, and the information exchange; (iii) uncertain variables and probabilistic constraints. The key challenge is to design structured multi-agent dynamics that converge to an efficient equilibrium solution, despite the presence of uncertainty. With this aim, stochastic or randomized methods, e.g. the scenario approach, shall be developed for game theory. Application areas include smart power grids and automated driving.

The PhD position is in the context of the project “Complex Network Games: The Scenario Approach” (OMEGA), funded by the Netherlands Organization for Scientific Research (NWO) for curiosity-driven research in Mathematics.

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

Applications shall include the following documents:

curriculum vitae;

statement of motivation and research interests (up to one page);

transcripts of all exams taken and obtained degrees (in English);

names and contact information of up to three references (e.g. project/thesis supervisors);

up to two research-oriented documents (e.g. thesis, conference/journal publication).

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

The call for applications will remain open until the ideal candidate is found. The starting date is flexible, but ideally would be February/March 2018.

More information: s.grammatico@tudelft.nl, <https://sites.google.com/site/grammaticosergio>.

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7.5. PhD: Chalmers University of Technology, Sweden

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

PhD student position in safe and efficient control of automated vehicles in urban traffic

Automated transport systems will revolutionize the efficiency of transportation of people and goods, and at the same time dramatically reduce environmental impact. This project concerns optimization of the overall transport performance by taking advantage of new possibilities for efficient communication, accurate position estimation, and smart decision systems.

The goal of this PhD project is to develop control algorithms for automated driving in a predominantly urban traffic, which may consist of conventional, electrified and self-driven vehicles. The main objective is to develop algorithms for efficient driving, e.g. in terms of energy consumption, traffic flow, component wear and emissions, while ensuring safe interaction with surrounding vehicles, pedestrians and stationary objects.

The initial part of the project is in cooperation with, among others, Volvo Buses. Specific traffic scenarios for autonomous buses will be considered, and real driving tests where developed algorithms are verified are planned within the project. The algorithm development will rely on the use of model-based control techniques that incorporate real-time positioning, predictive traffic information and communication between vehicles and/or infrastructure, while addressing the trade-off between computational demands and optimality. Techniques, such as convex relaxations, time-to-space transformations, variable changes, model abstractions, approximations and multi-level optimization will be of main interest.

By the starting date, the applicant should have a Master of Science degree or equivalent, in Electrical Engineering, Engineering Physics, Mechanical Engineering, Applied Math or in a related discipline. A successful applicant should have a strong background in control theory and optimization and be familiar with system modelling tools. Programming skills in Matlab are required and in C/C++ are welcome. A genuine interest and curiosity in the subject, excellent oral and written English communication skills are needed.

Start date: as soon as possible

Application deadline: 15 February 2018

More information and application instructions:

<http://www.chalmers.se/en/about-chalmers/Working-at-Chalmers/Vacancies/Pages/default.aspx?rmpage=job&rmjob=p57>

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7.6. PhD: MINES ParisTech, France

Contributed by: Florent Di Meglio, florent.di_meglio@mines-paristech.fr

The System and Control Center (CAS) at MINES ParisTech, offers a PhD position (Early-Stage Researcher) on

Parameter estimation for distributed parameter models of thermoacoustic oscillations.

Several research positions are available to early-stage and experienced researchers in the Marie Skłodowska Curie Initial Training Network MAGISTER, funded by the European Commission under Horizon 2020. MAGISTER is a multi-disciplinary project providing research training in computational fluid mechanics, combustion dynamics, acoustics and machine learning. The research objective is to predict and control accurately the combustion dynamics in a gas turbine engine over the full range of Technology Readiness Levels, by means of the application of machine learning on CFD simulations, laboratory experiments and full engine data.

Within the Systems & Control center at MINES ParisTech a vacancy exists for a PhD position.

Job description

The objectives of this study are:

(I) Deriving observability conditions for the parameters of a distributed parameter model of the thermoacoustic oscillations. (II) Derive model-based estimation methods and adaptive observers relying on transient pressure data (III) Validate the proposed approach on experimental data.

The expected results are:

(I) A set of experiments enabling identification of unmeasured parameters (II) Validated Algorithms ensuring the convergence of estimations to the true value of model parameters from experimental measurements.

Our Offer

The successful applicant will be appointed on a 3-year contract.

The salary for PhD research is EUR 2500,00 net per month. This includes benefits such as healthcare, unemployment and retirement

Profile

Candidate must be able to demonstrate competence in systems & control and signal processing under the supervision of F. Di Meglio.

Applicants must satisfy the eligibility rules stipulated by the Horizon 2020 Guidelines of the European Commission. In particular, they must not have performed their main activity in the Netherlands for more than 12 months of the 36 months preceding the position. Early-Stage Researchers must be in the first four years (full-time equivalent) of their research careers, starting at the date of obtaining the degree which would formally entitle them to embark on a doctorate.

Information

For more information about this vacancy you can contact Dr. F. Di Meglio, telephone +33 6 218 13 1 52 (e-mail: florent.di_meglio@mines-paristech.fr).

Application

Your application, provided with a CV, list of three persons for reference, a list of publications (if applicable), and a summary of the M.Sc thesis should be sent before May, 1st, 2017 to florent.di_meglio@mines-paristech.fr.

The organisation

MINES ParisTech. MINES ParisTech is founded in 1783, is one of the oldest French higher education institution in engineering. It provides high-level scientific training through its research centers, with an important focus on industrial partnerships.

The Systems & Control Center (CAS) is one of the school's 18 research centers. It focuses on the control of dynamical systems, estimation and filtering with a large range of industrial applications, such as quantum control, process control and mechatronics.

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7.7. Research Assistant: German Aerospace Center, Germany

Contributed by: Jonathan Brembeck, bewerber-SR-FAZ-AM@dlr.de

The German Aerospace Center (DLR), Institute of System Dynamics and Control - located in Oberpfaffenhofen, Germany - has two open positions as research assistant in areas of network control and fault diagnostics for x-by-wire vehicles.

Position 1: Development of distributed control algorithms for automotive applications The first project focus on the development of innovative robust methods for safety-critical vehicle control tasks, which rely on information provided by distributed vehicular networks. Particular attention will be given to the co-design of control and communication methods capable of minimizing the effect of network disturbances, such as delays, signal degradation and packet loss. The developed methods should be implemented and validated in our experimental prototype vehicles, such as the ROboMObil.

Position 2: Fault diagnosis for X-by-wire vehicles The second project will tackle the fault detection and isolation (FDI) in x-by-wire vehicles. Our goal consists in the development of non-linear FDI methods, combined with plausibility algorithms, in order to improve the reliability of x-by-wire vehicle architectures against actuator and sensor faults. Additionally, we also aim to develop model-based diagnosis methods to support the defense against cyber attacks of cloud-based vehicle control systems

For both position, knowledge of German language is a plus. Candidates with strong knowledge in network control theory, Matlab/Simulink and embedded systems are desirable.

Further details can be found at:

http://www.dlr.de/dlr/jobs/desktopdefault.aspx/tabid-10596/1003_read-25028/

http://www.dlr.de/dlr/jobs/desktopdefault.aspx/tabid-10596/1003_read-24806/

and applications must be sent via the web interface on these pages.

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7.8. PostDoc: Australian National University, Australia

Contributed by: Sergiy Bogomolov, sergiy.bogomolov@anu.edu.au

Postdoctoral position in Hybrid Systems at the Australian National University

Cyber-Physical Systems Laboratory led by Dr Sergiy Bogomolov is seeking applications for a postdoctoral position on the topic “Verification of Hybrid Systems”. The successful candidate will work on algorithms and techniques to support scalable verification of hybrid systems. Candidates working on adjacent topics, which contribute to the broad goal of ensuring safety of hybrid systems such as synthesis of hybrid systems, are encouraged to apply as well. Interest in investigating links between formal methods and areas of artificial intelligence such as AI planning and verification of machine learning algorithms is welcome.

The successful candidate will have a PhD degree (or will be working towards its completion) in Computer Science, Applied Mathematics or a related discipline and be able to demonstrate an excellent research track record in the area of hybrid systems. The position is available immediately and will be open until a suitable candidate has been found. The initial duration of the position is two years and might be extended depending on the candidate’s performance and funding availability. The candidate will be offered an internationally competitive salary (around 100K AUD/year + 17% superannuation).

Please send a complete CV including information about your publications and reference writers as well as your motivation letter to Dr Sergiy Bogomolov (sergiy.bogomolov@anu.edu.au). For more information, please consult <http://www.sergiybogomolov.com/>.

The Australian National University is a top ranked university (#20 world-wide according to QS world university ranking 2017) located in Canberra, the capital city of Australia. Canberra enjoys one of the highest quality of life in the world (most liveable city according to Regional Well-Being Report 2014 by OECD).

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7.9. PostDoc: KTH, Sweden

Contributed by: Dimos Dimarogonas, dimos@kth.se

The Department of Automatic Control at the KTH Royal Institute of Technology in Stockholm, Sweden, is seeking up to two postdoc associates in Hybrid Control of Multi-Robot Systems. The full announcement can be found here:

<https://www.kth.se/en/om/work-at-kth/lediga-jobb/what:job/jobID:182360/where:4/>

Deadline for applications: January 15, 2018. Please contact Prof. Dimos Dimarogonas at dimos@kth.se for further information about the positions.

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7.10. PostDoc: Chalmers University of Technology, Sweden

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

PostDoc position

The position is intended for 2 years PostDoc within a project about automation of (electric) city buses together with Volvo Busses and Mechatronics group at Chalmers. The main research in Vehicle Dynamics will be in Virtual Verification, i.e. dynamic modelling (Vehicle mechanical, Vehicle control algorithms, Vehicle environment) and how to evaluate requirements. Specific requirements for the city bus project are foreseen to be: 1) Avoid interference between the vehicle's body/wheels and the edge of driveable area/obstacles and 2) Drive with good comfort and 3) Drive with high transport efficiency. Comfort in longitudinal and lateral direction is especially a novel research area, since conventional (manually driven) vehicles are not developed for such requirements. City buses are especially sensitive in that aspect since occupants may be standing. Within the project there will be good availability of test vehicles.

Position summary:

The position is a full-time temporary employment with a competitive salary and with social benefits. The position is limited to a maximum of two years (1+1).

Qualifications

Mandatory educational qualifications:

- PhD in Automotive, Mechanical, Mechatronics/Control, or Physics engineering

Mandatory experience and skills:

- Driver license, especially for trucks and buses

- Modelling and simulation of Mechanical and Mechatronic dynamic systems.

- Good knowledge of the English language (both oral and written), writing of scientific papers

- Leadership skills will be valuable in teaching, including supervision of MSc theses

Meritorious experience and skills: Simulink, ROS/GAZEBO

Application deadline: 31 January 2018

More information and application instructions:

<http://www.chalmers.se/en/about-chalmers/vacancies/?rmpage=job&rmjob=5693>

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7.11. PostDoc: UTFSM, Chile

Contributed by: Juan I. Yuz, juan.yuz@usm.cl

POSTDOCTORAL POSITIONS

The Advanced Center for Electrical and Electronic Engineering (AC3E) offers up to FOUR postdoctoral fellowships in the areas of Smart Industry, Energy and Power Systems, and Health Technologies.

AC3E was created on 2014 to group individual research efforts into multi- and inter-disciplinary teams and focus research towards industry related problems to spark innovation. The Center is part of UTFSM, the largest and most prestigious universities in Chile and Latin America in the area of science, technology, and engineering. The lines of research of the Center are: Control and Automation, Renewable Energy and Power Conversion, Robotics, Biomedical Systems, Electrical Systems, and Signal Processing and Communications. These lines of research focus their work around the following areas of impact.

Areas of Impact

1. Smart Industry.
2. Energy and Power Systems.
3. Health Technologies.

Required Documents

1. Cover letter explaining your interest in becoming part of AC3E.
2. Curriculum Vitae, including a list of publications.
3. Evidence of PhD degree.
4. Contact details of at least two referees, that may be contacted for a reference letter.

Important Information

- The postdoctoral fellowships are for two years.
- Required documents should be provided in English in a single PDF file.
- The positions are for working at AC3E, located at UTFSM main campus in Valparaiso, Chile.
- Selected candidates are expected to join AC3E no later than July 2018.
- Application deadline is March 5, 2018.
- Applications should be sent to ac3e@usm.cl with subject POSTDOCTORAL POSITIONS 2018.
- Additional information can be found at www.ac3e.cl and at www.usm.cl
- Further enquiries can be sent to ac3e@usm.cl

Juan I. Yuz E., Ph.D.

Director, Advanced Center for Electrical and Electronic Engineering

Associate Professor, Departamento de Electrónica

Universidad Técnica Federico Santa María, CHILE.

<http://profesores.elo.utfsm.cl/~jyuz>

<http://www.ac3e.usm.cl>

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7.12. PostDoc: Northeastern University, USA

Contributed by: Rifat Sipahi, rifat@coe.neu.edu

A Postdoctoral Research Associate position is available for joining an interdisciplinary research team established by the Laboratory of Neurobiology (PI: Professor Günther K.H. Zupanc; Department of Biology) and the Complex Dynamical Systems & Control Laboratory (PI: Professor Rifat Sipahi; Department of Mechanical and Industrial Engineering) at Northeastern University, Boston, Massachusetts, USA.

Funded by the National Science Foundation, the postdoctoral researcher will work on a project at the intersection of neuroscience, regenerative biology, and system dynamics, primarily involving cellular automata (CA) modeling of cell proliferation dynamics to explain tissue growth and repair mechanisms in a regeneration-competent organism. The successful candidate will have genuine interest in biological systems, and will hold

a Ph.D. in a relevant discipline with strong background in modeling of dynamical systems, especially using CA approaches.

The appointed candidate will have the opportunity to become involved in the writing of manuscripts, preparing grant proposals, supervising graduate and undergraduate students, and participating in outreach activities.

This position is available immediately for one year. A competitive salary and fringe-benefits package will be offered. Interested parties should contact the PI Prof. Zupanc at G.Zupanc@northeastern.edu and CC Prof. Sipahi at rifat@coe.neu.edu along with the following documents:

* Motivation letter (no more than 2 pages) * Curriculum vitae (as detailed as possible; please present journal publications separately from conference publications) * Names of at least three references, including contact details (one of which must be the Ph.D. advisor of the candidate) * PDFs of at least two relevant publications

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7.13. PostDoc: Lund University, Sweden

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

Applications are invited for positions as postdoc at the LCCC Linnaeus center, Lund University, Sweden. See <http://www.lccc.lth.se>.

LCCC - Lund Center for Control of Complex engineering systems has been created with support from a ten year Linnaeus grant by the Swedish Research Council, a special grant allocated to research environments of highest international quality. The positions will enable excellent young individuals to develop their own line of research in synergy with a strong environment. Co-funding is available from projects such as robot navigation and medical intensive care.

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7.14. PostDoc: Libera Università di Bolzano, Italy

Contributed by: Karl von Ellenrieder, kvonellenrieder@unibz.it

PostDoc: Libera Università di Bolzano, Alto-Adige, Italia

We are looking for a highly qualified scholar in control engineering and mechatronics to join our field robotics group. The effort will involve research on the development of field robot platforms and systems.

To apply, please visit the application website at

<https://www.unibz.it/en/home/position-calls/positions-for-academic-staff/3365-automatica-prof-von-ellenrieder?group=18>

A detailed position description is on page (4/17) of the linked file Decree.pdf

The working environment is trilingual and requires knowledge of either (italian + english), (german + english) or all three languages.

Application Deadline: 29 January 2018

Inquiries and Completed Applications should be sent via email to the Academic Staff Personnel office: personnel_academic@unibz.it

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7.15. 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, artificial intelligence, machine learning, pattern recognition, game theory, industrial networked control 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)
- 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: wdzhang@sjtu.edu.cn.

Tel: +86-21-34204019.

Address: Dongchuan Road 800, Shanghai Jiao Tong University, Shanghai 200240, China.

<http://automation.sjtu.edu.cn/ipac>

<http://automation.sjtu.edu.cn/wdzhang>

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7.16. PostDoc: Huazhong University of Science & Technology, China

Contributed by: Ye Yuan, ye.yuan@outlook.com

Prof. Ye Yuan (<http://yy311.github.io>) is looking for a number of postdocs and visiting researchers starting as soon as possible at Huazhong Artificial Intelligence Lab (HAIL), Huazhong University of Science & Technology (HUST), China.

The research project is broadly on the development of deep learning, system identification and control theory and its application to robotics.

1. For Postdoc, we offer

- A competitive salary (USD 35,000 – 50,000 per year);
- Experimental platforms to test ideas (Vicon + Crazyflies, GPU cluster, UR3/5 robot + Kinect)
- Full contract for 2 years with the possibility of renewal up to 5 years contingent on performance;
- Possibilities to stay at HUST as a lecturer or an associate professor afterwards.

2. For visiting professors, we offer

- A highly competitive salary depending on the qualification (up to USD 9,000 per month);
- Travel cost and local housing.

3. Your Profile

- A Ph.D. degree in Control Theory, Robotics, Mathematics or a closely related field;
- An excellent background in one of the following areas: system identification, control theory, machine learning, neuroscience, robotics.
- Tenured professors in leading institutes (for visiting professors).

Interested candidates should send their CV (with names of at least two references) and a cover letter (for postdoc candidates) describing their specific interest and how their background fits the qualifications to Prof. Ye Yuan yue@hust.edu.cn.

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7.17. Valorisation Manager: KU Leuven, Belgium

Contributed by: Wim Michiels, Wim.Michiels@cs.kuleuven.be

Valorisation manager: KU Leuven, Belgium

Position Valorisation Manager Computational Mathematics and High Performance Computing

The NUMA (Numerical Analysis and Applied Mathematics) section of the Department of Computer Science of KU Leuven develops numerical methods, algorithms and software for simulation, control and data analysis, with applications in many fields in science and engineering. Research topics include numerical linear algebra, tensor-based data analysis, model order reduction, control and optimization methods, multi-scale modelling and simulation, high performance computing, and uncertainty propagation. For the valorisation of the research output and the exploration of opportunities for projects, in particular with industry, we have a vacancy for a full-time, permanent position as a valorisation manager.

The candidate must possess a PhD degree, and have at least 3 years of research experience after the PhD, including tech transfer and/or collaborations with companies. Experience in project proposal writing and knowledge of intellectual property rights are desirable.

More information and application instructions can be found at

<https://icts.kuleuven.be/apps/jobsite/#/vacatures/54447285>

The review of the applications will start on January 15, 2018, and continue until the position is filled.

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7.18. Faculty: Zhejiang University of Technology, China

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

<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 Benefit(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

Dec 7, 2017

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7.19. Faculty: University of Tennessee at Knoxville, USA

Contributed by: Seddik Djouadi, djouadi@utk.edu

The Department of Electrical Engineering and Computer Science (EECS) at The University of Tennessee, Knoxville (UTK) is seeking candidates for a tenure track faculty position at the assistant or associate professor level in the area of controls, communications, and signal and image processing. Applicants should have an earned Ph.D. in Electrical Engineering, Computer Engineering, or a related field. Successful candidates will be expected to teach at both undergraduate and graduate levels, to establish a vigorous funded research program, and to have a willingness to collaborate with other faculty in research. The Knoxville campus of the University of Tennessee is seeking candidates who have the ability to contribute in meaningful ways to the diversity and intercultural goals of the University. The University of Tennessee welcomes and honors people of all races, genders, creeds, cultures, and sexual orientations, and values intellectual curiosity, pursuit of knowledge, and academic freedom and integrity. Interested candidates should apply at

<https://academicjobsonline.org/ajo/jobs/9800>

and submit a cover letter, a curriculum vitae, a statement of research and teaching interests, and contact information for three references. Review of applications will begin on December 15, 2017, and continue until the positions are filled.

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7.20. Faculty: Norwegian University of Science and Technology, Norway

Contributed by: Morten Breivik, morten.breivik@ntnu.no

The Norwegian University of Science and Technology (NTNU, <http://www.ntnu.edu/>) hereby invites applications for a professorship/associate professorship in Instrumentation and Sensor Systems, affiliated with the Department of Engineering Cybernetics (Institutt for teknisk kybernetikk - ITK, <http://www.ntnu.edu/itk>) at NTNU's Faculty of Information Technology and Electrical Engineering.

ITK has 21 professors, 15 adjunct professors, about 15 postdocs and researchers as well as 70 PhD candidates. Approximately 160 candidates graduate annually from the three MSc programs in cybernetics, which comprise over 700 students in total. The department is involved in numerous research projects and centers, including the Centre of Excellence for Autonomous Marine Operations and Systems (NTNU AMOS, <http://www.ntnu.edu/amos>). Two of ITK's professors are IEEE Fellows.

The professor/associate professor must have a solid background in instrumentation and sensor systems and their use in industrial control systems. Supplementary research competence in any of the following areas is also relevant: Safety and reliability of industrial real-time systems; cyber security; systems engineering; industrial computer systems and networks; industrial internet of things (IIoT); embedded systems; electronics; signal processing; data analysis; estimation; and statistical modelling.

Relevant application areas include energy and process systems; marine vessels; autonomous vehicles; robotics; ocean science; biology; medicine; health; buildings; infrastructure; transportation systems; and remote sensing, surveillance and monitoring.

The professor/associate professor is expected to play a leading role in research and research-based education in instrumentation and sensor systems in cooperation with the existing staff at ITK. She or he is also expected to establish collaboration with relevant colleagues at other departments at the faculty and within NTNU's strategic research areas.

The department has strong relationships to Norwegian and international academia and industry, with numerous joint research projects. The research activities at the department rely crucially on external funding, and the development of educational programs may also receive external funding. The successful applicant is expected to work actively to obtain research grants and other external funding from the Research Council of Norway, European research and educational agencies, relevant industry and other available sources.

The full announcement can be found at <https://www.jobbnorge.no/ledige-stillinger/stilling/145915/professor-associate-professor-in-instrumentation-and-sensor-systems>, with application deadline on Sunday February 4, 2018.

About NTNU, Trondheim and Norway:

- About NTNU: <http://www.ntnu.edu/>
- NTNU Facts and Figures: <http://www.ntnu.edu/facts>
- NTNU International Researcher Support: <http://www.ntnu.edu/nirs>
- About Trondheim: <https://trondheim.com/>
- About Norway: <https://www.visitnorway.com/about/>

- Working in Norway: <https://www.nav.no/workinnorway/en/Home>
- Practical info about Norway: <http://www.nyinorge.no/en/Ny-i-Norge-velg-sprak/New-in-Norway/>

NTNU is Norway's largest university, with an annual budget of USD 1 billion. Its 55 departments are spread out over 8 faculties, educating 40.000 students at any one time, of which half study technology and the natural sciences. NTNU graduates almost 7.000 bachelor and master students every year, while about 370 doctoral degrees are awarded annually. The university has more than 100 laboratory facilities distributed among the different faculties and departments. These are central elements in NTNU's education and research work.

Many of the technological and cultural innovations that allow Norway to extract oil and gas from the North Sea, grow healthy salmon in fish farms, or interpret the country's 9.000 years of human history have been developed at NTNU. The university itself, founded in 1910, has contributed a solid century of academic achievements and discoveries that have shaped Norwegian society.

Trondheim was Norway's first capital city, founded more than 1.000 years ago, in 997 - but now instead of Viking raiders and Hanseatic traders, you'll find jazz musicians and an international student body savouring Trondheim city life. With a population of 187.353 (January 1, 2016), it is the third most populous municipality in Norway.

With its snow-capped mountains, deep green valleys and sapphire blue fjords, Norway is recognized the world over for its scenic beauty. Combine that with Norway's cultural heritage, and you'll find that living in Norway has something to offer everyone.

While Norway lies at the very top of Europe – and in fact includes the island archipelago of Svalbard, home to the most northerly communities on the planet – the country's climate is moderated by the Gulf Stream, and features four distinct seasons. Norway's natural beauty and a history of famous polar explorers are two reasons why the outdoors is such an important part of Norwegian culture.

Newcomers to Norway will find the Norwegian work culture to be relaxed, but efficient. The typical work week is 37.5 hours long, with a generous summer holiday time and official holidays sprinkled throughout the year. The work culture reflects the culture at large, which is respectful of individual rights and supports a generous welfare system.

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7.21. Faculty: Georgia Institute of Technology, USA

Contributed by: Wassim M. Haddad, wm.haddad@aerospace.gatech.edu

Georgia Institute of Technology
School of Aerospace Engineering
Faculty Position in Dynamical Systems and Control

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

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

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

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

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

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

Review of applications will begin immediately, and will continue until January 20, 2018.

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7.22. Faculty: Georgia Institute of Technology, USA

Contributed by: Wassim M. Haddad, wm.haddad@aerospace.gatech.edu

Georgia Institute of Technology
School of Aerospace Engineering
Faculty Position in Autonomous Systems

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

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

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

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

students across the College of Engineering, the College of Computing, the College of Science, and the College of Design are affiliated with IRIM. More details about IRIM can be found at robotics.gatech.edu.

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

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7.23. Faculty: Georgia Institute of Technology, USA

Contributed by: Wassim M. Haddad, wm.haddad@aerospace.gatech.edu

Georgia Institute of Technology

Chair, Daniel Guggenheim School of Aerospace Engineering

The College of Engineering at the Georgia Institute of Technology is seeking nominations and applications from qualified individuals for the position of Chair of the Daniel Guggenheim School of Aerospace Engineering (AE). The successful candidate will hold the William R.T. Oakes School Chair. Ranked 2nd for both its undergraduate and graduate programs by U.S. News & World Report, the School is among the top aerospace engineering programs in the world. It has a student body of approximately 940 undergraduates, 520 masters and Ph.D. students, 33 full-time administrative staff, 72 research faculty, and 36 academic faculty. The School's diverse faculty is actively engaged in \$31M annually in externally sponsored research at the national and international level and is currently organized into six broad disciplinary areas: aerodynamics and fluid dynamics, aeroelasticity and structural dynamics, flight mechanics and control, propulsion and combustion, structural mechanics and materials, and systems design and optimization. Additional information may be found at <http://ae.gatech.edu>.

The Chair reports to the Dean of the College of Engineering and has overall responsibility for the academic and research programs in AE, including all administrative, budgetary, and personnel decisions. Candidates for the position must have the strategic vision and management skills needed to advance the School towards greater excellence and visibility within a rapidly evolving multi-disciplinary and high-technology environment. Candidates must have an earned doctoral degree and international recognition in their specific discipline(s) with demonstrated excellence in technical, academic and professional achievements, and a strong record of leadership. Candidates should provide evidence of fiscal responsibility, a record of attracting funds from private and public sources, and fostering a collaborative and diverse environment. The Chair has significant responsibility for external affairs, including fundraising, community engagement and alumni and industry relations. The ability to work successfully with federal, state and private funding agencies as well as with faculty, staff, students, and the Georgia Tech administration is essential. Candidates must demonstrate a strong commitment to forward-thinking approaches for engineering education, interdisciplinary scholarship and entrepreneurship, and address the challenges involved in scaling innovative programs to the size and rigor of the School. Salary and benefits are highly competitive.

Applications should include a letter of interest (of no more than 3 pages) stating prior leadership experience and strategic vision for the future of AE in research and education, curriculum vitae, and the names and addresses of five professional references. Electronic submission of materials should be sent to: ae-search@coe.gatech.edu. Applications will be kept in strict confidence. Review of application materials will begin on February 1, 2018, continuing until the position is filled. The start date is negotiable but the anticipated start is August 2018.

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7.24. Intern: Intuitive Surgical, USA

Contributed by: James Zhang, James.Zhang@IntuSurg.com

Intuitive Surgical, the global leader in surgical robots, has the following internship in its Sunnyvale, CA headquarter - Systems Analyst (Robotics Control Engineer) Intern. Enclosed is the job description. If you are currently enrolled as a graduate student and have the matching qualifications, please send me your resume and links of related projects to James.Zhang at IntuSurg.com. Students who will graduate by 2019 are preferred. Please start your email subject with "Internship".

Company Description:

Joining Intuitive Surgical, Inc. means joining a team dedicated to using technology to benefit patients by improving surgical efficacy and decreasing surgical invasiveness, with patient safety as our highest priority.

Eligibility:

Must be concurrently enrolled in a degree-seeking program with an accredited university or enrolled in an upcoming program in the fall.

Primary Function of Position:

Systems Analysts, with a vital and wide-ranging role, are primarily responsible for generating, debugging and tuning the key algorithms associated with Intuitive Surgical products, and providing analytic assistance to other engineering groups. The Systems Analyst will investigate and resolve issues that impact the production process and system performances in the field. The successful candidate will have the technical depth to troubleshoot advanced problems and initiate improvements.

Roles and Responsibilities:

- * Design, develop, implement, and support product testing, calibration and diagnostics software algorithms
- * Address issues at production and also in the field, perform analysis, evaluate risk, determine root causes, provide solutions, and propose design improvements
- * Analyze complex medical electro-mechanical devices and servo control systems for safety and clinical risk, anticipate potential failure modes, and provide risk mitigation strategies

Skill/Job Requirements:

- * Thorough theoretical knowledge and hands-on experience in robot manipulator kinematics, dynamics, and control including motion and vision sensing
- * Demonstrated sound engineering judgment and technical skills in real problem solving - from improving and optimizing performance levels to identifying issues, and making improvements
- * In-depth knowledge of software principles, practices and techniques including testability, maintainability and scalability. The ability of writing efficient and reliable codes that really, really work on real systems is essential
- * Proficient in Matlab and C/C++ is a must, and experience of other high level programming languages, e.g. Python and JavaScript, is a plus

Learning Outcomes:

- * Obtain real-world knowledge on manipulator robotics, control and safety algorithms, and also hands-on experience on complex mechatronic systems
- * Improve software knowledge and skills
- * Develop analytical thinking and real-world problem solving skills including data analysis, failure and risk analysis
- * Enhance communication and team skills

Commitment: Must be available to work full-time hours, M-F for 10-12 weeks beginning Summer of 2018.

We are an AA/EEO/Veterans/Disabled employer.

James Zhang, PhD

Intuitive Surgical, Inc.

1266 Kifer Road, Sunnyvale, CA 94086

Email: James.Zhang at IntuSurg.com

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7.25. Visiting Faculty Fellows: Georgia Tech, USA

Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Visiting Faculty Fellows at the Institute for Robotics and Intelligent Machines at Georgia Tech

The Institute for Robotics and Intelligent Machines at Georgia Tech invites applications/nominations for the 2017-2018 Visiting Faculty Fellows program.

IRIM's VFF program supports extended visits (one to six months) to the Georgia Tech Atlanta campus for individuals working at other institutions or industry/government laboratories, engaged in research activities focusing on robotics and autonomous systems. IRIM will provide Visiting Fellows with partial salary support, along with support for travel and living expenses.

During their stay, the IRIM Visiting Fellows will have the opportunity to interact with IRIM faculty and students and give a 2-3 day mini-tutorial on their current research.

More information about the IRIM VFF program can be found at: robotics.gatech.edu/faculty/fellows or by e-mail at vff2018@robotics.gatech.edu.

The application deadline is January 31, 2018.

Georgia Tech's Institute for Robotics and Intelligent Machines (IRIM), established in 2013, is one of the twelve 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 around six core areas: Mechanics, Interaction, Systems, AI/Cognition, Perception, and Control. Additional information about IRIM can be found at: robotics.gatech.edu

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