

E-LETTER on Systems, Control, and Signal Processing

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Welcome to the 348 issue of the Eletter, available electronically [here](#).

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1. IEEE CSS Headlines

1.1. CFP for Organizing the Conference on Control Technology and Applications 2021

Contributed by: Maria Prandini, maria.prandini@polimi.it

CALL FOR PROPOSALS FOR ORGANIZING THE IEEE CONFERENCE ON CONTROL TECHNOLOGY AND APPLICATIONS (CCTA) 2021

This call invites IEEE CSS members to submit a proposal to organize the Conference on Control Technology and Applications 2021 (CCTA 2021).

If you are an IEEE CSS member with past experience in conference organization and you are interested in organizing CCTA 2021, you are invited to submit a proposal to the CSS Vice President for Conference Activities, Maria Prandini (maria.prandini@polimi.it).

The proposal should contain the following information:

* Conference: Please include information on:

- Where (city/country) the conference is being proposed, and the accessibility of the conference site from within the country and from abroad. Please comment on additional issues such as cost and safety, if appropriate.
- Possible venues (hotels, conference centers etc.) where the conference will be held. For planning purposes, you may assume approximately 350 attendees and about 8 parallel tracks as in CCTA 2017, <http://ccta2017.ieeecss.org/>.
- Expected member/nonmember registration fees (rough estimate), including both advanced and on-site rates.
- Range of available hotel options, including cost.
- When the conference is proposed to be held (the month would suffice), and the typical weather during this time.
- A sample of student-centric activities planned for the conference.
- A sample of industry involvement in the conference.

* General Chair (GC): Please provide a brief CV (at most 2 pages) of the IEEE CSS member who is proposed as GC, highlighting her/his past experience in conference organization and, in particular, in organizing CSS conferences (ACC, MSC, CDC) or those that have been co-sponsored by CSS (see <http://www.ieeecss.org/conferences/technically-cosponsored> for a list).

Please include any other information that you think would be relevant.

The entire proposal should not exceed four pages.

Submission deadline: September 30, 2017, midnight CET.

Proposals received by the deadline will be evaluated by the CSS Executive Committee. The outcome of the selection will be communicated to the proponents by the end of 2017.

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1.2. IEEE Control Systems Society Technically Cosponsored Conferences

Contributed by: Luca Zaccarian, CSS AE Conferences, zaccarian@laas.fr

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

- 2018 International Conference on Unmanned Aircraft Systems (ICUAS 2018). Dallas (TX), United States. Jun 12 - Jun 15, 2018. <http://www.uasconferences.com/>

- 2018 SICE International Symposium on Control Systems. Tokyo, Japan. Mar 9 - Mar 11, 2018.
<http://iscs2018.sice-ctrl.jp/>
- XXVI International Conference on Information, Communication and Automation Technologies (ICAT 2017). Sarajevo, Bosnia and Herzegovina. Oct 26 - Oct 28, 2017. <http://icat.etf.unsa.ba/>
- 21st International Conference on System Theory, Control and Computing (ICSTCC 2017). Sinaia, Romania. Oct 19 - 21, 2017. <http://www.icstcc2017.ac.tuiasi.ro/>

For a full listing of CSS technically cosponsored conferences, please visit
<http://ieeecss.org/conferences/technically-cosponsored>,
and for a list of the upcoming and past CSS main conferences please visit
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1.3. IEEE Transactions on Automatic Control

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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Contributed by: Denise Joseph, dejoseph@bu.edu

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1.5. IEEE Control Systems Letters

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

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1.6. 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 and Summer School

2.1. European Control Award

Contributed by: Paul Goulart, paul.goulart@eng.ox.ac.uk

The "European Control Award (ECA)" is to recognize outstanding contributions by a young researcher in the area of systems and control. The award is sponsored by the European Control Association (EUCA), and will be presented during the annual European Control Conference. The recipient will give a plenary lecture during the final day of the ECC. Details of this award and the nomination procedure can be found at <http://www.euca-control.org/eca.html>.

We encourage you to identify and to promote potential candidates for the European Control Award 2018, before November 15th 2017.

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2.2. Summer School on "Approximation of Large-Scale Dynamic Models"

Contributed by: Antoneta Iuliana BRATCU, antoneta.bratcu@gipsa-lab.fr

Summer School on "APPROXIMATION OF LARGE-SCALE DYNAMIC MODELS"

Location and Date: GRENOBLE (France) - SEPTEMBER 11 TO 15, 2017

Scientific Chair: CHARLES POUSSOT-VASSAL (ONERA, Toulouse)

Website: <http://www.gipsa-lab.fr/summerschool/auto2017/>

EXTENDED REGISTRATION DEAD-LINE : JULY 18th 2017

Pre-registration link:

<https://www.azur-colloque.fr/DR11/inscription/preinscription/132>

FOR FRENCH PARTICIPANTS:

<https://www.azur-colloque.fr/DR11/inscription/preinscription/132/fr>

This Summer School aims at presenting the main mathematical tools and model approximation algorithms, in order to bridge the gap between complexity and representativeness required in control design, analysis, simulation and optimisation. To this end, domain experts will be present to share their expertise and cutting-edge research results. The Summer School is mainly intended to PhD students, researchers and scholars interested in applying approximation of large-scale dynamic models, being meanwhile open to industrial participants. Basic knowledge in automatic control and mathematics will be useful.

Speakers:

Thanos ANTOULAS (Rice University, Houston, Texas, USA)

Sara GRUNDEL (Max Planck Institute, Magdeburg, Germany)

Serkan GUGERCIN (Virginia Tech, Blacksburg, USA)

Christian HIMPE (Münster University, Münster, Germany)

Martine OLIVI (INRIA Sophia Antipolis, France)
Charles POUSSOT-VASSAL (ONERA, Toulouse, France)
Pierre VUILLEMIN (ONERA, Toulouse, France)

For further information, please contact Antoneta Iuliana BRATCU
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3. Books

3.1. An Introduction to Compressed Sensing

Contributed by: Mathukumalli Vidyasagar, m.vidyasagar@utdallas.edu

Book: An Introduction to Compressed Sensing (Draft, about 70

Available to anyone upon request. Please email m.vidyasagar@utdallas.edu or m.vidyasagar@iith.ac.in

The book will be about 250 to 300 pages long when finished. Existing books on compressed sensing focus almost exclusively on probabilistic methods based on using Gaussian random variables to generate the measurement matrices. During past five years or so, deterministic methods have evolved that are far more efficient computationally for realistic-sized problems. Another emerging area is the interplay between algebraic coding and compressed sensing, specifically, the use of vertex and spectral expander graphs to address the problems of vector recovery and matrix recovery respectively. The controls community is beginning to appreciate the potential of applying sparsity-inducing solution methods to control problems.

The book will be mostly self-contained, with pointers to the original sources for theorems that are not proved in the text. One novel feature of the book is the inclusion of several numerical examples, illustrating the relative efficiency of deterministic methods compared to the relative inefficiency of probabilistic methods. This issue is studiously ignored in most existing books.

Chapters 9 and 10 represent the research of my students and collaborators.

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Contributed by: Elisa Capello, automatica@polito.it

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4.2. Contents: Systems & Control Letters

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

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Contributed by: Yan Ou, yan.ou@ia.ac.cn

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

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

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4.13. Contents: Engineering Applications of Artificial Intelligence

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4.15. Contents: International Journal of Control, Automation, and Systems

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4.16. CFP: International Journal of Intelligent Robotics and Applications

Contributed by: Chien Chern Cheah, ecccheah@ntu.edu.sg

International Journal of Intelligent Robotics and Applications

Call for Papers, Focused Section on Human-Centered Robotics

Guest Editors:

Santosh Devasia, University of Washington, U.S.A., devasia@uw.edu Chien Chern Cheah, Nanyang Technological Univ., Singapore, ecccheah@ntu.edu.sg Marcello Pellicciari, Università degli Studi di Modena e Reggio Emilia (UniMORE), Italy, marcello.pellicciari@unimore.it Margherita Peruzzini, Università degli Studi di Modena e Reggio Emilia (UniMORE), Italy, margherita.peruzzini@unimore.it

Human-centered robotics requires a fundamental shift from the traditional robot-in-a-cage model to robots interacting with people in an open environment with applications that include wearable robotics, social robots for home and entertainment, and collaborative manufacturing. Many efforts are underway to guarantee safety and improve performance when such robots operate in human environments, such as improved sensors and actuators and data-based methods for enhanced cognition. This generates numerous opportunities for innovation. At the same time there are substantial challenges before such robots become ubiquitous. In an effort to disseminate current advances of various robotics technologies for human-centered applications, this focused session seeks submissions in relevant areas. Papers should contain both theoretical and practical/experimental results. Potential topics include but are not limited to:

- Design of robots (soft and deformable structures) for human interaction
- Human-robot co-learning
- Modeling and control for human-robot interactions
- Safety of human-robot interactions
- Smart actuators and sensors for effective human-robot interfaces
- Wearable robotics including active robotic prostheses and orthoses

Manuscript preparation:

Papers must contain original contributions and be prepared in accordance with the journal standards. Instructions for authors are available online at: <http://www.springer.com/41315>.

Manuscript submission:

Manuscripts should be submitted online at: <https://www.editorialmanager.com/jira/default.aspx>. The cover letter should report the following statement: “This paper is submitted for possible publication in the focused section on Human-Centered Robotics.” All manuscripts will be subjected to the peer review process. If you have any questions relating to this focused section, please email one of the Guest Editors.

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4.17. CFP: IEEE Transactions on Control Systems Technology

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

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

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

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

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

Time line:

Manuscripts Due: November 1, 2017

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

Notification of final decision: June 1, 2018

Publication Date: January 2019

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

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

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

Guest Editors:

Guillaume Mercere, Universitede Poitiers, France (LEAD)

Bayu Jayawardhana, University of Groningen, The Netherlands

Alexander Medvedev, Uppsala University, Sweden

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

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

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5. Conferences

5.1. 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/>

* Papers and Invited Session Proposals due: December 2017

* Author notification: February 2018

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

ADHS 2018 takes place as a workshop of the Conference on Computer Aided Verification (CAV 2018), and within FLOC 2018. The conference happens under the auspices of IFAC and is sponsored by the IFAC Technical Committee on Discrete Event and Hybrid Systems.

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

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

Author Guidelines

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

* Invited session proposals: Invited sessions consist of 4 to 6 papers related to a common theme that fits

within the scope of ADHS. An invited session proposal should contain a short description of the common theme as well as the list of papers in the session and their abstracts.

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

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

Submission Instructions

* All papers submitted to ADHS 18 must be written in English and formatted in the standard IFAC 2-column format provided on the IFAC Conference Management System website (see the item "Support for Authors" above).

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

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

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

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

Important Dates

Papers and Invited Session Proposals due: December 2017

Author notification: February 2018

Final papers due: TBA

Early registration: TBA

Conference: Jul. 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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5.2. ACM/IEEE International Conference on Cyber-Physical Systems

Contributed by: Necmiye Ozay, necmiye@umich.edu

ACM/IEEE ICCPS 2018 CALL FOR PAPERS

The 9th ACM/IEEE International Conference on Cyber-Physical Systems

April 11-13, 2018 in Porto, Portugal, part of CPSWeek 2018

<http://iccps.acm.org/2018>

Overview:

As digital computing and communication become faster, cheaper, and available in packages that are smaller and use less power, these capabilities are increasingly embedded in many objects and structures in the physical environment. Cyber-physical systems (CPS) are physical and engineered systems whose operations are monitored, coordinated, controlled, and integrated by computing and communication. Broad CPS deployment is transforming how we interact with the physical world as profoundly as the world wide web transformed how we interact with one another, and further harnessing their capabilities holds the possibility of enormous societal and economic impact. ACM/IEEE ICCPS is the premier single-track conference for reporting advances in all CPS aspects, including theory, tools, applications, systems, test-beds and field deployments.

ICCPS 2018 will, for the first time, have two tracks: Theory and Applications. Authors will be required to select a track (see description below) when submitting papers. Please note that the program co-chairs may move a paper to a more appropriate track based on their judgment and suggestions from the program committee. Each track will have its own program committee. The theory track focuses on the core science to develop fundamental principles that underpin the integration of cyber and physical elements. The applications track focuses on the development of technologies, tools, and architectures for building CPS systems, and on the design, implementation, and investigation of CPS applications. Application domains for both tracks include (but are not limited to): transportation, energy, water, agriculture, ecology, supply-chains, medical and assistive technology, sensor and social networks, and robotics. Among the relevant research areas are security, control, optimization, machine learning, game theory, mechanism design, mobile and cloud computing, model-based design, verification, data mining / analytics, signal processing, and human-in-the-loop shared or supervisory control. Papers on secure and resilient CPS infrastructure (the focus of the former HiCoNS conference) can either be submitted to the theory or to the applications track depending on the emphasis of the paper.

Submissions:

Manuscripts should have a main body with no more than 10 pages in either ACM or IEEE two-column conference style, including figures and references. Up to 2 additional pages of appendices may follow the main body of the paper, within the same submitted .pdf file.

Important Dates:

Full paper submission deadline: October 6, 2017;

Author notification: December 18, 2017;

Camera ready papers due: February, 2018.

General Co-Chairs:

Chris Gill, Washington University in St. Louis, USA;

Bruno Sinopoli, Carnegie Mellon University, USA.

Program Co-Chairs:

Xue Liu, McGill University, Canada;

Paulo Tabuada, UCLA, USA.

Steering Committee:

Insup Lee, University of Pennsylvania, USA; Jack Stankovic, University of Virginia, USA; Eric M. Feron, Georgia Institute of Technology, USA; Karl H. Johansson, Royal Institute of Technology (KTH), Sweden; Sonia Martinez (Ex Officio), UC San Diego, USA; Eduardo Tovar (Ex Officio), CISTER/INESC-TEC, Polytechnic Institute of Porto, Portugal.

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

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

HSCC 2018 CALL FOR PAPERS

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)

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 and posters:

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
- 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
- Modelling 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 conference website.

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

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5.4. International Workshop on Robust Modeling, Design & Analysis: Tools, Methods & AeroSpace Applications

Contributed by: Andres Marcos, andres.marcos@bristol.ac.uk

International Workshop on Robust Modeling, Design & Analysis: Tools, Methods & AeroSpace Applications
18th & 19th September 2017, at the University of Bristol, Bristol (UK)

Organized by Andres Marcos (UoB) and Jean-Marc Biannic (ONERA)

A two-day workshop dedicated to present recent robust modeling, design and analysis toolboxes (ONERA's SMAC and UMN's LPVTools) and their application to AeroSpace systems ranging from aircraft flutter (EU H2020 FLEXOP and US PAAWS projects), to Mars Moon's exploration (UK Space Agency NTSP2 project) and Launchers (ESA VEGAdapt project). It includes presentation and release of a full aircraft landing, nonlinear benchmark by SMAC.

CONFIRMED SPEAKERS

S. Bennani (ESA), P. Seiler (UMN), D. Alazard (ISAE), V. Banek & T. Peni (SZTAKI),

J.M. Biannic & C. Roos & C. Cumer (ONERA), T.Kier (DLR), H. Pfifer (UNottingham). R. Cavallaro (UC3M), A. Marcos & J. Cooper & A. Iannelli & D. Navarro-Tapia & P. Simplicio (UoB), S. Maraniello (Imperial)

The event is supported by the School of Civil, Aerospace and Mechanical Engineering (CAME) of the University of Bristol.

The first 20 Post-Graduate students to register are free (standard registration)

Deadline for registration: 1st September 2017

Please visit for more information and registration instructions:

<http://www.bristol.ac.uk/engineering/events/2017/international-aerospace-workshop.html>

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5.5. International Conference on Control, Automation and Systems

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

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

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

Ramada Plaza, Jeju Island, Korea

<http://2017.iccas.org>

CALL FOR PAPERS:

<http://icross.org/data/download/ICCAS2017/ICCAS2017.CFP.pdf>

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

IMPORTANT DATES

Proposal for Invited/Organized Session (Mini-symposium)

- July 15, 2017: Submission Deadline (Extended!!)

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

- July 15, 2017: Submission Deadline (Extended!!)

- August 1, 2017: Notification of Acceptance

- August 31, 2017: Submission of Final Camera-ready Papers

Research Poster Papers (1 - 2 pages)

- August 22, 2017: Submission Deadline

- August 31, 2017: Notification of Acceptance

- September 7, 2017: Submission of Final Camera-ready Papers

PAPER SUBMISSION: The conference invites three types of submission: "Regular Paper", "Research Poster Paper", and "Invited(Organized) Session/Mini-symposium Paper". To submit papers, go "Online Paper Submission" on the website: <http://online.2017.iccas.org>

PAPER SUBMISSION GUIDELINE: http://2017.iccas.org/?page_id=21

Indexed in: IEEE Xplore, EI compendex, and SCOPUS

PLENARY SPEAKERS

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

"New Directions in the Control in Advanced Manufacturing Systems"

- Reza Moheimani (Univ. of Texas at Dallas, USA)

"On-Chip Atomic Force Microscope: Why and How?"

- Antonella Ferrara (Univ. of Pavia, Italy)

"Modern Sliding Mode Control with Application to Automotive Systems"

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

"Network-Based Control and Estimation"

- Atsuo Takanishi (Waseda Univ., Japan)

"Humanoid Robotics Research and Its Applications"

VENUE: The Jeju is the largest island off the coast of the Korean Peninsula. The Jeju contains the natural World Heritage Site Jeju Volcanic Island and Lava Tubes, and has a temperate climate.

- Selected as the New 7 Wonders of Nature
- Only place in the world that has been certified by UNESCO Triple Crown in Natural Science: Biosphere Reserves, World Natural Heritage, World Geological Park
- Designated by WHO (World Health Organization) as an International Safe City
- No visa entry and 30-day stay for 187 countries including China

ACCOMMODATION: ICCAS 2017 participants can reserve rooms at the appointed hotels at a special (discounted) rate. View details: http://2017.iccas.org/?page_id=63

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

Technically Co-Sponsored by IEEE IES, IEEE CSS, IEEE RAS, SICE, ACA, CAA, CACS, ECTI, CAAL, and ISA

General Chair: Dong-il “Dan” Cho (Seoul Nat’l Univ., Korea / ICROS President)

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

Program Chair: Hyosung Ahn (GIST, Korea)

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6. Positions

6.1. PhD: McGill University, Canada

Contributed by: Ahmad Haidar, ahmad.haidar@mcgill.ca

Position Title: PhD Researcher– System Identification and Parameter Estimation of Gluco-regulatory Systems using Bayesian Methods

The Department of Biomedical Engineering in the Faculty of Medicine at McGill University is seeking outstanding candidates for a PhD position. The successful candidate will develop a mathematical model for the gluco-regulatory system that incorporates pramlintide, SGLT2i, physical activity, and day-to-day variability, using our unique clinical data. The candidate will propose several candidate models from physiology literature featuring a number of characteristics, and contrast them based on the deviance information criterion.

The candidate will build and validate a set of virtual patients by estimating model’s parameters by fitting our clinical data using a Bayesian approach (a process termed “e-cloning” in the literature). The candidate will integrate the virtual patients in a simulation environment to help our team develop artificial pancreas systems (closed-loop delivery systems to regulate glucose levels in type 1 diabetes).

Our lab is highly multi-disciplinary and includes researchers with backgrounds of endocrinology, control engineering, nutrition, nursing, and computer science. This is a great opportunity for a highly motivated applicant who wants to utilize their expertise in system identification to tackle medical problems. Our department offers unique courses on intellectual property, regulatory affairs, and clinical trials tailored specifically for biomedical engineers who wish to pursue careers in industry.

McGill University ranks 1st in Canada among medical-doctoral universities (Maclean’s) and is Canada’s most international university. McGill is located in the vibrant multicultural Montreal in the francophone province of Quebec. Montreal is a city steeped in culture and is named the best student city in the world (QS Ranking).

Desired Skills:

- Expertise in system identification and parameter estimation.
- Expertise in Bayesian methods and Markov chain Monte Carlo algorithms.
- programming skills.

Starting Date:

- January, May, or September 2018.

Apply with your curriculum vitae to Prof. Ahmad Haidar (ahmad.haidar@mcgill.ca).

Please refer to www.mcgill.ca/haidar for more information on our research program. For information on registration instructions, rights and responsibilities, and how to get a work permit if you're joining us from abroad, please refer to <http://www.mcgill.ca/gps/postdocs>.

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6.2. PhD: University of Exeter, UK

Contributed by: C Edwards, c.edwards@exeter.ac.uk

A fully funded PhD position is available in the area of Control of Launch and Recovery in Enhanced Sea-States.

College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter UK.

Project Description: Currently many marine operations, such as Launch and Recovery (L&R) from a mother ship of small craft, manned and unmanned air vehicles and submersibles, can only be attempted safely in sufficiently calm sea-states. As an example, the L&R of a small craft from a mother ship typically involves the two vessels moving together in proximity (often linked by a bow-line) before the main physical connection of the two via a crane/hoist mechanism. Current practice is entirely operator experience dependent: the operator uses their judgment of the sea conditions to decide unilaterally whether and when to initiate a recovery. The objective of the project is to extend the range of sea-states in which existing wave limited maritime operations such as L&R can be safely carried out.

The proposed work is closely coupled to two projects funded under the EPSRC Launch and Recovery Co-Creation Initiative. This project represents a collaboration between Exeter University, Queen Mary University of London and the industrial partners BAE Systems, SEA Ltd, James Fisher Marine and the MOD.

The overall project deliverables are:

- the development of a predictive decision support system for the vessel operator to aid in the decision to initiate L&R;
- the creation of a robust control system for the hoist mechanism to ensure the transient trajectories of the smaller craft during the recovery process do not collide with the hull of the mothership or exhibit excessive pitch/roll which would endanger the crew on board.
- The establishment of a co-design tool to maximise (financial) cost versus performance of future sea going L&R technology.

The PhD studentship will mainly focus on the creation of a control scheme for the hoist mechanism and the development of a 'disturbance observer' to provide robustness to the closed-loop system.

The applicant should have or expect to achieve at least a 2:1 Honours degree, or equivalent, in Engineering/Mathematics. Experience in control systems is desirable.

For further information please see:

<http://www.exeter.ac.uk/studying/funding/award/?id=2678>

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6.3. PhD: Imperial College London, UK

Contributed by: Giordano Scarciotti, g.scarciotti@imperial.ac.uk

PhD studentship in Control of Uncertain Nonlinear Systems, Imperial College London, United Kingdom

Applications are invited for a PhD studentship in "Control of Uncertain Nonlinear Systems: a stochastic and set-valued approach". The work will be based within the Control and Power group in the Department of Electrical and Electronic Engineering. The student will be supervised by Dr Giordano Scarciotti. The studentship will start as soon as possible from October 2017

Every model of a real system has some degree of uncertainty. A parameter of the model may be unknown, some dynamics may be unmodeled, or the model may be completely unknown. Uncertainty arises in, for example, power production (unpredictable renewable sources), power distribution (energy price/demand), control of aircrafts, and biological and chemical reactions.

The project will tackle the problem of modelling, analysis and control of uncertain systems with two complementary approaches: stochastic differential equations allow to model randomness; set-valued mappings allow simultaneous modelling of multiple behaviours. Note that instead of considering a robust control approach, the objective of the project is to describe and deal with uncertainty within these two frameworks in a comprehensive manner.

The ideal candidate should have a strong background in Control Engineering, Automation Engineering or Applied Mathematics. Strong knowledge of linear system theory, a basic understanding of nonlinear systems and some experience in using MATLAB is required. Any knowledge of advanced topics such as stochastic systems and hybrid systems would be beneficial, but are not required skills as these will be acquired during the PhD.

Applications are invited from candidates with (or who expect to gain) a first-class honours degree or an equivalent degree in Engineering, Mathematics or a related discipline (for more details, see <https://www.imperial.ac.uk/study/pg/apply/requirements/pgacademic/>). The studentship provides a (tax-free) bursary of £16,553 (Standard RCUK Bursary rate) per annum for up to 3.5 years to cover living expenses, together with the College tuition fees at the UK/EU rate for 3 years. Applications from Overseas will also be considered, but the difference in the Overseas and UK/EU rate will have to be met by the successful applicant.

For a description of the Control and Power Research Group please visit our website at <http://www3.imperial.ac.uk/controlandpower>.

Informal enquiries and requests for additional information for this post can be made to Dr Giordano Scarciotti by email at g.scarciotti@imperial.ac.uk.

Applications will be assessed as received and all applicants should follow the standard College application procedure (indicating Dr Giordano Scarciotti as supervisor) (<http://www3.imperial.ac.uk/pgprospectus/howtoapply>).

Closing date for applications: Open until filled

Start Date: As soon as possible from October 2017.

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6.4. PhD: University of Sannio in Benevento, Italy

Contributed by: Davide Liuzza, davide.liuzza@unisannio.it

PhD Position available at the Department of Engineering of the University of Sannio in Benevento, Italy

Contacts: Prof. Luigi Glielmo (email glielmo@unisannio.it), Dr. Davide Liuzza (email davide.liuzza@unisannio.it)

The GRACE (Group for Research on Automatic Control Engineering) at the University of Sannio offers a PhD position in control theory and applications to be started in October 2017. The successful candidate will collaborate to our group's research on control and optimization theory, including their implementation in different areas.

Such areas comprise control of energy flows in smart grid, control of cyber-physical system, machine learning application to industrial processes, with special emphasis on the energy application.

Our ideal candidate has a sound knowledge in control and optimization methods from his/her Bachelor and Master degree, an excellent academic track record, well developed analytical and problem solving skills and a strongly motivated personality. Interests in both theoretical research and applications to practical control problems as well as the ability of working independently complete the candidate profile.

The candidate will be selected according to applicant fulfilment of the above qualifications.

Interested candidates must send detailed CV and two contacts to whom we can ask references to the email address

davide.liuzza@unisannio.it .

Answers will be given at the beginning of September, 2017.

The selected candidate will join the control system group at the University of Sannio, Benevento, Italy.

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6.5. PhD: University of Melbourne, Australia

Contributed by: Iman Shames, ishames@unimelb.edu.au

Applications are invited for two PhD scholarships in the areas of (1) real-time decision making for autonomous systems in uncertain environments, (2) secure networked control systems.

The work will be based within the Control and Signal Processing (CSP) Lab, MIDAS Lab, the Department of Electrical and Electronic Engineering. The student will be supervised by Dr Iman Shames (see <https://imanshames.blog> for more information) and co-supervised by another MIDAS Lab faculty member.

The ideal candidate should have a degree in electrical and electronic engineering, computer science, applied mathematics, or mechanical engineering with solid background in applied mathematics and particularly in numerical methods, control theory, and/or optimisation.

The PhD scholarship provides 30K AUD a year tax-free stipend for up-to four years (subject to passing the PhD candidature confirmation after 12 months) as well as tuition fees for the duration of studies. Additionally, up to 15K AUD will be made available for travel funding to visit other research institutes and attending international conferences.

MIDAS is a large and complementary group of academic researchers and postgraduates collaborating across multiple departments within the Melbourne School of Engineering in areas including automation, control, analytics, machine learning, and optimisation.

Expressions of interest are invited from candidates with (or who expect to gain) a first-class honours degree or an equivalent degree in engineering, computer science, physics, mathematics, or a related discipline. Interested candidates should contact Dr. Shames (ishames@unimelb.edu.au) directly and include (1) a brief statement of interest in this position with clear indication of preference for the 2 areas mentioned above (maximum 2 pages), (2) their detailed CV, (3) bachelors and masters/honours transcripts, and (4) names and contact details of at least two referees.

Application Closing Date: 1 December 2017.
Start Date: As soon as possible from March 2018.

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6.6. PhD: Delft University of Technology, The Netherlands

Contributed by: Javier Alonso-Mora, j.alonsomora@tudelft.nl

Safe and socially intuitive navigation for teams of mobile robots in urban environments

We offer a PhD position at the Autonomous Multi-Robots Lab of the Delft University of Technology. Our main research interest is in navigation, motion planning and control of autonomous mobile robots, with a special emphasis in multi-robot systems and robots that interact with other robots and humans. We contribute novel methods and solutions in the areas of collision avoidance, motion planning, formation control, vehicle routing, task assignment, aerial videography and human-swarm interaction. Building towards the smart cities of the future, we apply these techniques in various fields, including autonomous cars, automated factories, aerial vehicles and intelligent transportation systems.

For autonomous robots, safe and socially intuitive navigation is critical when moving among other robots and humans. Think of the challenges that a bicyclist faces when navigating through busy streets. Yet, current methods for navigation and autonomous driving are typically limited to relatively low speeds or clutter-free environments with very few moving obstacles and little interaction. The goal of this project is to develop novel methods for motion planning and multi-robot coordination that grant high performance and demonstrate safe motion through changing, dynamic and crowded urban environments. Tools from constrained optimization, distributed consensus and machine learning will be employed, and a tight integration with perception is expected. Tests will be performed with autonomous boats and/or automated cars navigating in urban environments.

The main external collaborators in this project are the Massachusetts Institute of Technology (Roboat project), the Amsterdam Institute for Advanced Metropolitan Solutions and Waternet.

– Requirements:

- A MSc degree in Computer Science, Mechanical Engineering, Electrical Engineering, Applied Mathematics or a related field to Robotics.
- Strong interest in performing cutting-edge research in autonomous navigation and multi-robot coordination.
- Excellent academic record.
- Strong analytical, mathematical and programming (C/C++) skills
- Very good command of spoken and written English.
- Experience with robotic hardware, autonomous navigation, motion planning, constrained optimization or machine learning is a plus.

– Conditions of employment

We offer a four-year PhD research contract at the Cognitive Robotics department of the Delft University of Technology, which includes a contribution towards pension and social security. Salary and benefits are in accordance with the Collective Labor Agreement for Dutch Universities.

– Information and application:

The Delft University of Technology is constantly ranked among the best universities in Engineering (World top 20 in THE and QS rankings). Information about our research can be found at <http://www.dcsc.tudelft.nl/jalonsomora/>

To apply send your application to Dr. Javier Alonso-Mora (Assist. Prof.) j.alonsomora@tudelft.nl. Include

your CV with publication list, the transcript of records from your BSc/MSc, a motivation letter stating your interest in the project and relevant experience, and two or three references / recommendation letters.

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6.7. PhD/PostDoc: New York University Abu Dhabi, UAE

Contributed by: Nikolaos M. Freris, nf47@nyu.edu

RESEARCH OPPORTUNITIES IN CYBERPHYSICAL SYSTEMS

The Cyberphysical Systems Lab at New York University Abu Dhabi is hiring PhD Students and a Postdoctoral Fellow

About: The focus of the Cyberphysical Systems Lab (CPSLab) is to conduct interdisciplinary research across a broad range of topics and applications pertinent to cyberphysical systems, such as: a) distributed algorithms for estimation, optimization and control, b) big data: data mining/machine learning, c) wireless sensor networks, d) system theory: control & optimization, e) signal processing: sparse sampling and online algorithms, as well as applications in transportation, robotics, cyber security, networking, and biomedical modeling.

Requirements: PhD applicants and research assistant applicants must hold (or be close to completing) an MS degree, and postdoctoral fellow applicants a PhD degree, in Electrical Engineering, Computer Science, Applied Mathematics, with significant research experience in at least one of the aforementioned areas. PhD applicants need to also apply directly to NYU (<http://engineering.nyu.edu/admissions/graduate>) for admission, by Dec. 15. A proven publication record, solid mathematical background, excellent communication skills, and the ability to work in multi disciplinary teams are essential. Applicants must submit a CV, research statement, cover letter with a brief research plan, along with the names and contact information for three recommenders in a single PDF file to Prof. Nick Freris (nf47@nyu.edu).

Start date & Salary: The start date is flexible. A very competitive salary and benefits package (including relocation, housing, insurance, transportation and conference travel support) are provided – note: UAE do not levy any income tax.

For more information, please visit: <https://wp.nyu.edu/cpslab>

About NYUAD: New York University has established itself as a Global Network University, a multi-site, organically connected network encompassing key global cities and idea capitals. The network has three foundational degree-granting campuses: New York, Abu Dhabi, and Shanghai, complemented by a network of 12 research and study-away sites across five continents. Faculty and students circulate within the network in pursuit of common research interests and the promotion of cross-cultural and interdisciplinary endeavors, both local and global.

Entering its seventh year, NYU Abu Dhabi has recruited a cohort of faculty who are at once distinguished in both research and teaching. Our students are drawn from around the world and surpass all traditional recruitment benchmarks, both US and global. NYU Abu Dhabi's highly selective liberal arts enterprise is enhanced by an institute for advanced research, sponsoring cutting-edge projects across the Arts, Humanities, Social Sciences, Sciences, and Engineering. NYUAD is housed at a newly built campus in the vibrant city of Abu Dhabi, the capital of UAE.

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6.8. PhD/PostDoc: University of Kansas, USA

Contributed by: Huazhen Fang, fang@ku.edu

PhD/Postdoc: University of Kansas, USA

Applications are invited for a postdoctoral and a Ph.D. student position in Dr. Huazhen Fang's group at the Department of Mechanical Engineering, University of Kansas. Both positions are anticipated to start as early as January 2018. The projects will be concerned with estimation and filtering for linear and nonlinear systems. The candidates will work on fundamental research involving Bayesian estimation, Kalman filtering, particle filtering, machine learning and optimization. A background in the broad areas of estimation, detection, control, signal processing, mathematics, and machine learning will be desirable. A Ph.D. degree is needed for the postdoctoral position, and a master's degree is preferred but not required for the Ph.D. position.

The postdoctoral appointment is for one year, with possible extension contingent on availability of funds and research performance. The salary will be in accordance with the postdoctoral salary scale of the University of Kansas. The successful Ph.D. applicant will be awarded a competitive scholarship covering both tuition and living expenses.

Further information can be obtained from, and a CV detailing academic achievements can be sent to Dr. Huazhen Fang at fang@ku.edu. For more information about Dr. Fang and his research, please visit <http://fang.faculty.ku.edu>.

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6.9. PhD/PostDoc: University of Melbourne, Australia

Contributed by: Girish Nair, gnair@unimelb.edu.au

Post-doctoral and PhD Positions, University of Melbourne, Australia

Topic: Filtering, Control and Causal Estimation using Nonstochastic Information Theory

One Post-doctoral and two PhD positions are available to investigate the use of nonstochastic information theory in filtering, control and causal inference problems with deterministic disturbances or unknown noise distributions. These positions are based in the Department of Electrical and Electronic Engineering, University of Melbourne, Australia.

**Post-doctoral applicants should have a theoretically-focused PhD in a relevant area such as: control, state estimation, coordination, consensus, causal inference, communications, or information theory. Knowledge of probability theory and random sampling methods would be useful.

Salary: from AU\$87,415/year before tax, dependent on experience, plus employer superannuation contribution of 9.25%.

Duration: one year including probation period. Extensions are subject to performance and funding.

Starting date: flexible, but preferably before Feb 2018.

To express interest, please email a research statement and CV, with 3 referees listed, to Prof. Girish Nair, gnair@unimelb.edu.au

**PhD candidates should have a Bachelors and/or Masters degree with a strong background in control or information theory. Knowledge of probability theory would be helpful. Candidates must also meet the PhD admission requirements of the Department of Electrical and Electronic Engineering and the University of Melbourne.

Stipend: AU\$30,000/year tax-free for 3.5 years, with up to AU\$15,00 for travel and conferences; subject to passing Departmental confirmation after one year.

Starting date: flexible, but preferably before Feb 2018.

To express your interest, please email a research statement and CV, with 2 referees listed, to Prof. Girish Nair, gnair@unimelb.edu.au

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6.10. PhD/Engineer/Researcher: University of Seville, Spain

Contributed by: José Ángel Acosta, jaar@us.es

The Group of Robotics, Vision and Control (GRVC) at the University of Seville (Spain), has currently several research positions available to work in projects mainly dealing with aerial robotics and unmanned aerial systems.

We are looking for highly motivated candidates with a Msc/PhD degree on Electrical Engineering, Aerospace, Computer Science, or related areas, to join our research teams. The successful candidates should have background and experience in one (or more) of the following topics:

- * Aerial robotic manipulation involving control, perception and planning
- * Real time perception and/or vision, including visual servoing, 3D mapping and/or localization
- * Real time control and planning of autonomous systems
- * Multi-robot systems planning and decision making
- * Autonomous aerial vehicles navigation and integration in the air space

We offer positions with the following profiles:

- Systems/Software Engineers: They will work closely with colleagues, and with supervision from senior researchers to analyze project requirements in order to develop robust systems/software architectures. The work will involve system design, software development, documentation, testing and maintenance, etc.
- PhD students: They will work closely with colleagues, and with supervision from senior researchers, to analyze scientific problems and perform research work related to the above topics in the projects. The work may involve collaborations with other researchers in the project and from other institutions.
- Researchers: the candidates should hold a PhD degree (or be close) and they will be in charge of analyzing project requirements, monitoring and guiding PhD students' work, coordinating development teams, etc.

The generic expected skills are:

- * Excellent coordination, communication and problem-solving skills, team orientation, experienced/comfortable working in a research environment
- * Background on software development. Knowledge on collaborative tools like GIT is a plus.
- * Knowledge of Unix/Linux systems.
- * Strong programming skills and experience with C/C++ and/or script languages Python/Matlab. Previous knowledge on ROS is a plus.
- * Excellent written and spoken English skills

Grant or contract duration and salary will be competitive and dependent on the experience and background of the candidate. The selected candidates will work as members of the GRVC research group, which is led by Prof. Anibal Ollero, and will be involved in European robotics projects, having the opportunity to collaborate with other European partners. The GRVC is a main actor in Europe for aerial and multi-robot systems, having led several European projects and participated in many others. Visit <https://grvc.us.es> for a list of our research topics and projects.

Candidates should send an email to grvc.us.es@gmail.com with the subject ?candidates? until September 30 by including:

* A brief description about research interests, motivation and profile (specifying preferences from the topics above).

* A detailed CV, including a list of publications.

* Recommendation letters or at least the name and contact of 2 references.

Applications will be considered as they arrive.

The University of Seville was created in the early 16th century, and it is one of the most important higher education institutions in Spain, with 70,000 students and 4,400 professors. Moreover, Seville is the largest city in the south of Spain. Situated on the plain of the river Guadalquivir, and with a population of about 1.5 million, Seville enjoys favorable weather conditions and contains three UNESCO World Heritage Sites.

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6.11. PostDoc: McGill University, Canada

Contributed by: Ahmad Haidar, ahmad.haidar@mcgill.ca

Position Title: Post-doc Researcher – Filtering for Continuous Glucose Sensors

The Department of Biomedical Engineering in the Faculty of Medicine at McGill University is seeking outstanding candidates for a Postdoc position. The successful candidate will develop a calibration algorithm (real-time filtering) for a novel, under-development, continuous glucose sensor.

A disposable probe is inserted under the skin, and generates continuous electrical current proportional to the glucose concentrations in the interstitial liquid. The probe is connected to a transmitter, which holds a calibration algorithm that estimates plasma glucose levels using electric current signal and intermittent capillary glucose values. Continuous glucose sensors are currently used in clinical practice and form essential components of artificial pancreas systems.

The successful candidate will design and optimize the calibration algorithm using data collected in clinical experiments, and will consequently work with our industrial partner on the real-time implementation of the algorithm in the transmitter. This is a great opportunity for a highly motivated applicant who wants to utilize their expertise in filtering methods to tackle medical problems.

Our lab is highly multi-disciplinary and includes researchers with backgrounds of endocrinology, control engineering, nutrition, pediatrics, and computer science. Our lab implements a quality management system (ISO13485) and this is an industry-funded project. Our department offers unique courses on intellectual property, regulatory affairs, and clinical trials tailored specifically for biomedical engineers who wish to pursue career in industry.

McGill University ranks 1st in Canada among medical-doctoral universities (Maclean's) and is Canada's most international university. McGill is located in the vibrant multicultural Montreal in the francophone province of Quebec. Montreal is a city steeped in culture and is named the best student city in the world (QS Ranking).

Desired Skills:

- Strong expertise in estimation algorithms, observers, and Kalman filtering.
- Strong programming skills.

Starting Date:

- January 2018 (flexible).

Apply with your curriculum vitae to Prof. Ahmad Haidar (ahmad.haidar@mcgill.ca).

Please refer to www.mcgill.ca/haidar for more information on our research program. For information on registration instructions, rights and responsibilities, and how to get a work permit if you're joining us from abroad, please refer to <http://www.mcgill.ca/gps/postdocs>.

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6.12. PostDoc: McGill University, Canada

Contributed by: Ahmad Haidar, ahmad.haidar@mcgill.ca

Position Title: Post-doc –Parameter Estimation and Observer Design for Continuous Glucose Sensors

The Department of Biomedical Engineering in the Faculty of Medicine at McGill University is seeking outstanding candidates for a Postdoc position. The successful candidate will develop a calibration algorithm (real-time filtering, observer design, and parameter estimation) for a novel, under-development, continuous glucose sensor.

A disposable probe is inserted under the skin, and generates continuous electrical current proportional to the glucose concentrations in the interstitial liquid. The probe is connected to a transmitter, which holds a calibration algorithm that estimates plasma glucose levels using electric current signal and intermittent capillary glucose values. Continuous glucose sensors are currently used in clinical practice and form essential components of artificial pancreas systems.

The successful candidate will design and optimize the calibration algorithm using data collected in clinical experiments, and will consequently work with our industrial partner on the real-time implementation of the algorithm in the transmitter. This is a great opportunity for a highly motivated applicant who wants to utilize their expertise in filtering methods to tackle medical problems.

Our lab is highly multi-disciplinary and includes researchers with backgrounds of endocrinology, control engineering, nutrition, pediatrics, and computer science. Our department offers unique courses on intellectual property, regulatory affairs, and clinical trials tailored specifically for biomedical engineers who wish to pursue career in industry.

McGill University ranks 1st in Canada among medical-doctoral universities (Maclean's) and is Canada's most international university. McGill is located in the vibrant multicultural Montreal in the francophone province of Quebec. Montreal is a city steeped in culture and is named the best student city in the world (QS Ranking).

Desired Skills:

- Strong expertise in estimation algorithms, observers, Kalman filtering, and parameter estimation methods.
- Strong programming skills.

Starting Date:

- January 2018.

Apply with your curriculum vitae to Prof. Ahmad Haidar (ahmad.haidar@mcgill.ca). Please refer to www.mcgill.ca/haidar for more information on our research program. For information on registration instructions, rights and responsibilities, and how to get a work permit if you're joining us from abroad, please refer to <http://www.mcgill.ca/gps/postdocs>.

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6.13. PostDoc: McGill University, Canada

Contributed by: Ahmad Haidar, ahmad.haidar@mcgill.ca

Position Title: Post-doc Researcher –Fuzzy learning for Artificial Pancreas System

The Department of Biomedical Engineering in the Faculty of Medicine at McGill University is seeking outstanding candidates for a Postdoc position. The Department of Biomedical Engineering at McGill University is seeking outstanding candidates for a Postdoc position. The successful candidate will develop a learning algorithm for an electromechanical artificial pancreas in type 1 diabetes. The artificial pancreas is a closed-loop system to regulate glucose levels. A model predictive control is already in place and has been extensively tested in human clinical trials, but it requires further development to handle more efficiently slow changes in insulin needs over time. The successful candidate will develop and implement a learning algorithm based on fuzzy control, conduct extensive simulations, and lead the design and the conduction of a clinical trial to test his algorithm.

Our lab is highly multi-disciplinary and includes researchers with backgrounds of endocrinology, control engineering, nutrition, pediatrics, and computer science. Our department offers unique courses on intellectual property, regulatory affairs, and clinical trials tailored specifically for biomedical engineers who wish to pursue career in industry.

McGill University ranks 1st in Canada among medical-doctoral universities (Maclean's) and is Canada's most international university. McGill is located in the vibrant multicultural Montreal in the francophone province of Quebec. Montreal is a city steeped in culture and is named the best student city in the world (QS Ranking).

Desired Skills:

- Strong expertise in fuzzy methods.
- Strong desire to work in a clinical setting
- Strong programming skills.

Starting Date:

- As soon as possible.

Apply with your curriculum vitae to Prof. Ahmad Haidar (ahmad.haidar@mcgill.ca). Please refer to www.mcgill.ca/haidar for more information on our research program. For information on registration instructions, rights and responsibilities, and how to get a work permit if you're joining us from abroad, please refer to <http://www.mcgill.ca/gps/postdocs>.

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6.14. PostDoc: Chalmers University of Technology, Sweden

Contributed by: Paolo Falcone, falcone@chalmers.se

At the Mechatronics Group of the Electrical Engineering Department, we are engaged in both fundamental and applied research related to intelligent transportation systems. Ongoing research projects focus on the design and the experimental validation of control algorithms for autonomous vehicles operating in complex urban environments. We consider both cooperative and non-cooperative settings, where the challenges are the control over wireless networks and making decisions in a mixed automated-human environment, respectively. Our research is, where possible, validated through experiments on full-scale vehicles and in collaboration with industrial partners.

We invite applications for one post-doctoral position in networked control systems. The candidate will join a team of post-docs and Ph. D. students engaged in neighboring research, with the main objective of developing algorithms to control mobile networked systems, when the information necessary to close the control loop are delivered through wireless network and possibly generated by Cloud applications. Clearly, in such setup, information losses and delays arising from the state of the network may unacceptably degrade the performance of the overall system or even lead to unsafe operation. Our objective is to harness the emerging information

and communication technologies by proactively planning the control actions to the systems and the access to remote information in order to circumvent classical limitation of networked control systems, where the control is designed based on a communication protocol decided beforehand. The successful candidate will be engaged in both fundamental and experimental research. In particular, if relevant to the research, experimental setup in the field of transportation systems might be available to demonstrate the developed algorithms. Strong theoretical background in control and practical problem-solving capabilities are required.

The working time of post-doctoral staff is mainly devoted to research. Undergraduate teaching duties, not exceeding 20% of the working time, may include supervision of MSc students. The appointment is a full-time employment (not a scholarship) for a period of not more than two years (1+1).

A PhD (or close to completion) in control theory, applied math or neighboring relevant field is required. Experience with networked control systems will be preferred. Ability to initiate new research collaborations is essential. Good communication skills in oral and written English are required.

For further info contact:

Paolo Falcone (falcone@chalmers.se), Division of Systems and Control. Tel.: +46 31 772 1803

Jonas Sjöberg, (jonas.sjoberg@chalmers.se), Division of Systems and Control. Tel.: +46 31 772 1855

Submit you application at:

<http://www.chalmers.se/en/about-chalmers/vacancies/?rmpage=job&rmjob=5240&rmlang=UK>

Deadline: August 31st

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6.15. PostDoc: Israel Institute of Technology, Israel

Contributed by: Leonid Mirkin, mirkin@technion.ac.il

Postdoctoral position at the Technion - Israel Institute of Technology

Applications are invited for a post-doctoral research position in the areas of sampled-data / event-triggered / networked control at the Faculty of Mechanical Engineering, Technion, Israel. The position is for a period of 1 year, with the possibility of renewal to another 2 years contingent on performance. Applicants are required to have a recently completed PhD in control or related area of engineering or applied mathematics.

Applications (a motivation letter + CV with a list of publications) and enquiries should be addressed to Leonid Mirkin (mirkin@technion.ac.il).

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6.16. PostDoc: University of Warwick, UK

Contributed by: Declan Bates, d.bates@warwick.ac.uk

A three-year PDRA position in modelling and control of synthetic biological systems is now available in the Warwick Integrative Synthetic Biology Centre. The successful candidate will work with a team of other researchers in my lab to develop new mathematical tools, analytical design/analysis methods and computational software for the control of chemical reaction networks.

For more details, please email Prof. Declan Bates (D.Bates@warwick.ac.uk) attaching a copy of your CV. The anticipated closing date for applications is the end of August 2017 and the project start date is expected to be 1st December 2017. There are no nationality restrictions associated with this position.

More details of our research are available at: <http://www2.warwick.ac.uk/fac/sci/eng/staff/dgb>

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6.17. PostDoc: ONERA, France

Contributed by: Andrey POLYAKOV, andrey.polyakov@inria.fr

Postdoc Position in Control Systems

Location: ONERA, Lille, France

Duration: 12 months

Salary: about 25k EURO / year (net salary, medical insurance included)

Starting date: the end of 2017

ONERA (Office National d'Etudes et Recherches Aéronautiques) is the French national aerospace research center. It is a public research establishment, with eight major facilities in France and about 2,000 employees, including 1,500 scientists, engineers and technicians.

The post:

The research is aimed at improving of modeling technique for flight control system. A simple pre-established model should be enhanced by means of learning techniques in order to increase the precision of the reconstruction of the system behavior around equilibria and especially in the vicinity of the bifurcation points. Taking into account of the experimental data this will lead to obtaining a numerical model allowing a better prediction of aircraft's behavior in off-hover flight.

Requirements:

Applicants must have a relevant PhD and be able to demonstrate sufficient knowledge of research methods and techniques to work within the project, in particular, Learning Technique, Ordinary Differential Equations, Dynamic Systems, Aerodynamics and Flight Mechanics, Programming (Matlab, Python,...). The successful applicant must be able to present information on research progress/outcome and communicate orally, in writing and electronically. The successful applicant must also be able to work collaboratively and supervise the work of others as required.

Contacts:

Olivier Renier – olivier.renier@onera.fr - +33 (0)3 20 49 69 19

Pr. Thomas Gomez - thomas.gomez@univ-lille1.fr

Dr. Andrey Polyakov - andrey.polyakov@inria.fr

(For more information see also https://team.inria.fr/non-a/files/2017/07/Postdoc_onera.2017.pdf)

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6.18. PostDoc: National University of Singapore, Singapore

Contributed by: Chong Jin Ong, mpeongcj@nus.edu.sg

Post-doctoral Position available.

Applicants are invited for Research Fellow/Associate positions to work on approaches to distributed control/optimization of multi-agent system. In particular, effective approaches are sought that solve the consensus problem for a multi-agent, network system under several settings: the presence of global constraint, time-switching network and/or state and control constraints.

Candidate with PhD degree (preferably in Multi-agent Control, distributed optimization or other branches of control) is preferred and will be considered for Research Fellow position. Those with at least a Master's degree with at least 2 years' relevant work experience may be considered under the Research Associate position. The applicants should have very good foundation in mathematics and control theory. Those who have recently obtained a PhD degree in general control theory, computer science and mathematics are also encouraged to apply. Current PhD students who are on the last leg of their candidature (submitting their

thesis within the next one or two months) or waiting for their oral defence may also be considered for the position.

Remuneration will commensurate with experience.

Applications with full CV to be submitted electronically to Assoc Prof Ong Chong Jin at email: mpe-ongcj@nus.edu.sg

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6.19. Research Fellow: Hull University, UK

Contributed by: Ron J Patton, r.j.patton@hull.ac.uk

Senior Research Fellowship

Applications are invited from experts in Robust Detection and Isolation (Fault Diagnosis) and Fault Tolerant Control to apply for a Research Fellow position tenable for up to 5 years at Hull University UK within an Offshore Wind turbine research project with Siemens and Dong Energy and in partnership with Sheffield and Durham Universities. The research interest is to (a) Establish Fault Detection and Isolation methods capable of identifying a variety of faults based on control system performance and integrating these methods with component based Condition Monitoring methods and (b) the development of robust integrated approaches to fault tolerant control, including applications to real wind turbine plant systems. Please contact Professor Ron J Patton.

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6.20. Faculty: Eindhoven University of Technology, The Netherlands

Contributed by: Diana Heijnerman -Douma, secretariaat.CS@tue.nl

The Eindhoven University of Technology (TU/e) has a vacancy for an Assistant/Associate Professor in Control of structured networks with applications in smart energy systems in the Control Systems (CS) group of the Department of Electrical Engineering.

Current day developments in modelling, control and optimization of dynamical systems require the handling of structured and (spatially) distributed systems. Modular built-up of systems, as well as structured connections of subsystems, ask for modelling and control tools that effectively utilize the distributed / structured character in the related modelling, control and optimization problems.

With the current developments in distributed power generation as well as the increase of renewable energy resources (wind, solar), there is an increasing demand on the proper handling of dynamical phenomena in power distribution networks. The introduction of smart energy systems in electricity grids (smart grids), sustainable cities and building automation requires advanced analysis and synthesis tools for design and optimal operation of structured dynamic networks. However also in other domains as industrial process control and in high-tech mechatronic systems the handling of structured and distributed systems is an important challenge for the systems and control domain.

To further strengthen the dynamics and control activities in this domain in the electrical engineering department, a position is created for an assistant/associate professor with a background in systems and control and a strong interest in energy systems technology. The prospective candidate should enjoy operating in a multidisciplinary environment, in particular in relation with energy systems groups.

Control systems group:

The Control Systems group has a long tradition in modeling, system identification and control of dynamical systems.

With an international staff and close cooperation with industrial research partners, the group covers four technology domains:

industrial production processes, high-tech mechatronic systems, power networks and automotive systems.

The basis of systems and control research and competence in the group is in system identification, model approximation, (nonlinear) model predictive control, spatial-temporal systems, networked and event-driven control, and model-based optimization. The group provides education modules in the BSc and MSc programmes of Electrical Engineering, Automotive Systems and the MSc programme Systems and Control. The group also actively participates in the PhD programme of the Dutch Institute of Systems and Control (DISC). Currently the group consists of about 40 people, among which 7 full-time academics. There are extensive links with industrial research partners, and there two awarded ERC projects on dynamic network identification and on identification and control synthesis of LPV systems.

As assistant/associate professor your role will be to:

- Perform fundamental and applied research at the forefront of the systems and control domain;
- Publish in renowned scientific journals and conferences;
- Realize technological projects at the forefront of energy systems technology;
- Set up and teach inspiring courses and lab projects in the BSc, MSc and PhD programs at TU/e;
- Supervise PhD and MSc students as well as BSc student projects;
- Maintain and expand an effective network of cooperation partners in academia, institutes and industry
- Contribute to acquiring funding for research projects from (inter)national research funding agencies.

Job requirements:

We are looking for a candidate who meets the following requirements:

- A research profile in systems and control aspects of distributed and structured systems, and affinity with developments in energy systems and networks.
- Affinity with both the theoretical and the applied aspects of modelling and control of smart energy systems in an electrical engineering context.
- PhD and preferably some years of postdoc experience;
- Ambition for teaching and improving teaching performance by taking part in educational training programmes;
- Excellent English language skills and for international applicants willingness to acquire knowledge of the Dutch language;
- Good communication and didactical skills; team-player-attitude.
- Ability to develop an independent academic and recognized position;

Further information on this vacancy can be found at:

<https://jobs.tue.nl/en/vacancy/assistant-associate-professor-control-of-structured-networks-318947.html>

or contact Prof. Paul Van den Hof: p.m.j.vandenhof@tue.nl

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6.21. Engineer: ENERCON, Germany

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

Engineer (m/f) Modelling and Test for Control Development

ENERCON. Where everything revolves around your future. Represented in 36 countries, ENERCON is one of the world's leading wind turbine manufacturers. If you want to become a member of our team, now is the time to apply!

Your responsibilities:

- Modelling and analysis of electrical, mechanical and aerodynamic systems
- Development of test environments for automated testing of control algorithms
- Modelling and simulation in MATLAB/Simulink
- Contribution to process optimization for control development

Your qualifications:

- Graduate degree in electrical or information engineering with an emphasis on control engineering (or comparable)
- Some work experience desirable
- Experience in automatic code generation for embedded control systems
- Knowledge of test methods and tools for control algorithms in embedded control systems desirable
- Excellent command of German and good command of English required
- Systematic and detail-oriented way of working
- Strong communication and teamwork skills

Reference Code: DE108496

Location: Bremen, Germany

Please apply online by quoting the reference code: <http://www.enercon.de/en/karriere-portal/home/>

For further information, please contact Ms Kathrin Schreiber (+49 4941 927 216).

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6.22. Engineer: Corning Inc., USA

Contributed by: Jeff Ahrens, ahrensjh@corning.com

Corning Inc. is currently hiring PHDs for Advanced Controls Engineering positions at our Sullivan Park R&D center in Corning, NY. Please contact Jeff Ahrens directly (ahrensjh@corning.com) and visit the corning.com career site to apply (position number: 832).

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