

E-LETTER on Systems, Control, and Signal Processing
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Editor:

[Maria Prandini](#)

Dipartimento di Elettronica, Informazione e Bioingegneria

Politecnico di Milano

Piazza Leonardo da Vinci, 32

20133 Milano, Italy

Tel: +39 02 2399 3441

Fax: +39 02 2399 3412

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

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1. IEEE CSS Headlines

1.1. IEEE CSS Video Clip Contest 2015

Contributed by: Frank Allgöwer, allgower@ist.uni-stuttgart.de

Because of the success of the first CSS Video Clip Contest in 2014, the Control systems Society decided to sponsor a second CSS Video Clip Contest for the year 2015 with submission deadline July 1, 2015.

All details are announced at the CSS Video Clip Contest Website at <http://www.ieeecss.org/video-contest>

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1.2. IEEE Control Systems Society Publications Content Digest

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

CSS Publications Content Digest

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

The CSS Publications Content Digest, available at <http://ieeecss.org/publications-content-digest> provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society. Each issue offers readers a rapid means to survey and access the latest peer-reviewed papers of the IEEE Control Systems Society.

The index in the Digest contains the Table of Contents for our 3 journals (Transactions on Automatic Control (TAC), Transactions on Control Systems Technology (TCST), and Control Systems Magazine (CSM)) with hyperlinks to the abstracts as well as the full articles in Xplore. Since TCST and CSM are published bimonthly, and TAC is published monthly, we will post the corresponding two TOCs in each (monthly) Digest. We also include links to the Society's sponsored Conferences to give readers a preview of upcoming meetings.

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1.3. IEEE Transactions on Control Systems Technology

Contributed by: Thomas Parisini, eic-ieeeetctst@units.it

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1.4. IEEE Transactions on Automatic Control

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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2. Books

2.1. Stability, Control, and Computation for Time-Delay Systems

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

New book

Stability, Control, and Computation for Time-Delay Systems: An Eigenvalue-Based Approach, 2nd edition

Wim Michiels and Silviu-Iulian Niculescu

SIAM Publications, 2014, xxiv + 435 pages

<http://bookstore.siam.org/dc27/>

Time delays are important components of many systems in, for instance, engineering, physics, economics, and the life sciences, because the transfer of material, energy, and information is usually not instantaneous. Time delays may appear as computation and communication lags, they model transport phenomena and heredity, and they arise as feedback delays in control loops. This monograph addresses the problem of stability analysis, stabilization, and robust fixed-order control of dynamical systems subject to delays. Within the eigenvalue-based framework, an overall solution is given to the stability analysis, stabilization, and robust control design problem, using both analytical methods and numerical algorithms and applicable to a broad class of linear time-delay systems.

In this revised edition, the authors

- make the leap from stabilization to the design of robust and optimal controllers;
- make the leap from retarded-type to neutral-type delay systems and DDAEs, thus enlarging the scope of the book within control;
- include new, state-of-the-art material on numerical methods and algorithms to broaden the book's focus and to reach additional research communities, in particular numerical linear algebra and numerical optimization; and

- increase the number and range of applications to better illustrate the effectiveness and generality of their approach.

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3. Journals

3.1. Contents: Journal Nonlinear Studies

Contributed by: Seenith Sivasundaram, seenithi@gmail.com

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3.2. Contents: Journal Mathematics in Engineering, Science, and Aerospace

Contributed by: Seenith Sivasundaram seenithi@gmail.com

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Vol 5, No 4 (2014)

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3.3. Contents: Journal of Mathematical Control and Information

Contributed by: Suzie Eves suzie.eves@oup.com

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Volume 31 Issue 4 December 2013

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

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

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E-mail: amcs@uz.zgora.pl

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3.5. Contents: Control Engineering Practice

Contributed by: Tobias Glück, cep@acin.tuwien.ac.at

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3.6. CFP: Computers in Industry

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

CFP: Computers in Industry

Special Issue on Synergy of computers, cognition, communication and control with industrial applications

In nowadays industrial systems, the necessity of computers, cognition, communication, and control (CCCC) becomes more and more essential, for example, when performance specifications, unexpected upcoming system states, changing operating conditions, or environmental influences have to be integrated into the system design. Computers, automation and information technology (IT) are quickly developing, simultaneously the technologies specific to CCCC are increasingly exploited to enhance the efficiency of operating processes.

Several modern industry-related applications such as industrial electronics, business management systems, and public sectors, deal with complex dynamical systems and with signals that are based on large amounts of data. It is expected that this will further increase. The current century is characterized by big data collections, making it more and more important to use and interpret the embedded information in the respective architectures. The synergy of CCCC supports the increasingly demanding performance specifications of these applications and helps to face special situations like unexpected condition adaptations, human interaction challenges, and goal conflicts.

Practical industrial applications of the synergy of CCCC are networked control systems, online quality control of production items, supervision and failure analysis of dynamically changing machine states, decision support systems, prediction and control in dynamic production processes, welding processes, user profiling, process monitoring, web based control of information management flows, and resilient control architectures. The debate on these important issues will support the further progress of this area.

The objective of this Special Issue is to provide papers about the recent advances of CCCC techniques in modern industrial applications. These papers should contain both practical or experimental results and theoretical ones pointing out the role of IT and of the architecture. The use of the combination of at least two of the four C's (computers, cognition, communication, and control) should be demonstrated by validation and efficiency measured in production.

The combination of more than two C's is strongly encouraged. Furthermore, it should be illustrated by implementation and not by strong theoretical details and simulations. A paper that is concerned with a single technique and does not invoke other CCCC techniques is not suitable.

Only papers with practical proofs (industry application and validation) should be submitted. Pure theoretical papers are not published in this journal. Papers that do not match the topics of the special issue are considered as out of scope, and they are not accepted.

Regular papers to this special issue will include the following topics:

- Knowledge-based, fuzzy, neuro-fuzzy, neural systems and nature-inspired evolutionary-based algorithms relevant to application driven control and communication.
- Evolving soft computing techniques for online fault detection and decision support systems, smart systems and robotics.
- Computer-based control systems for real-time computing, communications and discrete-event systems.
- Embedded control systems in manufacturing.
- Cyber-physical systems, mechatronics systems and networked control systems.
- Plant-wide optimization, prognosis and process monitoring.
- Solutions for supply chain and risk management systems.

- Comparisons, limitations and validations of CCCC in transportation and automotive systems.

Important dates:

Paper submission deadline: January 30, 2015.

The first review notification: April 15, 2015.

Deadline for submission of revised manuscripts: May 30, 2015.

The final review notification: July 15, 2015.

Planned publication date: January 15, 2016.

Guest editors:

- Prof. Radu-Emil Precup, Politehnica University of Timisoara, Romania, radu.precup@aut.upt.ro.
- Prof. Hans Hellendoorn, Delft University of Technology, The Netherlands, J.Hellendoorn@tudelft.nl.
- Prof. Plamen Angelov, Lancaster University, UK, p.angelov@lancaster.ac.uk.

The authors should select “SI: Synergy of C4 with appl.” when they reach the “Article Type” step in the submission process.

Please find details about the CFP at the following link:

<http://www.journals.elsevier.com/computers-in-industry/call-for-papers/special-issue-on-synergy-of-computers-cognition/> [www.journals.elsevier.com]

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3.7. CFP: Intelligent Industrial Systems

Contributed by: Gerasimos Rigatos, grigat@ieee.org

Invitation to submit a paper to the new Springer’s Journal on “Intelligent Industrial Systems”

e-link: <http://www.springer.com/engineering/robotics/journal/40903>

From January 2015, Springer’s Journal on “Intelligent Industrial Systems” is published. Prospective authors are invited to submit their articles online, through the Editorial Manager Link:

<https://www.editorialmanager.com/inis/>

Aims and Scope:

The focus of this journal is on the design of intelligent industrial systems through the synergism of several research areas, such as control, estimation and sensor fusion, fault diagnosis, optimization and machine intelligence. The journal is concerned with the intelligent modeling and control of complex industrial systems, and topics such as:

Industrial robots, Mobile robots and autonomous vehicles, Mechatronics and electromechanical systems, Intelligent transportation systems, networked control systems, Intelligent electric power transmission and distribution (smart grids, microgrids and active networks), Intelligent energy systems and smart devices for energy management, Electric motors, actuators and combustion engines, Electric power generation systems, Power electronics and power conversion systems, distributed parameter systems for industrial applications, industrial technology for micro and nano systems, Industrial technology for biosystems, Manufacturing and production management, Production planning and control, Supply chain management.

Editors-in-Chief:

Dr. Gerasimos Rigatos, Unit of Industrial Automation, Industrial Systems Institute, Greece email: grigat@ieee.org

Dr. Pierluigi Siano, Department of Industrial Engineering, University of Salerno, Italy, email: psiano@unisa.it

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3.8. CFP: IEEE Transactions on Smart Grid

Contributed by: Javad Lavaei, lavaei@ee.columbia.edu

Special Issue on “Theory of Complex Systems with Applications to Smart Grid Operations”:

The present electric grids, being recognized as one of the major engineering accomplishments, work exceptionally well for the purposes they have been designed to achieve. Enabled by the advances in sensing, communication, computation, and actuation, smart grids are rapidly growing in scale, interconnectivity, and complexity. Major paradigm shifts in power grids include departing producer-controlled structures and transforming to more decentralized and consumer-interactive ones, being more distributed in power generation, enhancing the coupling between the physical and cyber layers, and design and operation in more variable and stochastic conditions. Driven by these emerging needs, power grids are anticipated to be complex and smart networked platforms in which large volume of high-dimensional and complex data is being routinely generated, exchanged, and processed for the purposes of monitoring and controlling the grid.

The objective of this special issue is to identify, address, and disseminate state-of-the-art research in theory of complex systems with applications to smart grid. We seek original papers with novel research contributions in all aspects of complex and large-scale systems of relevance and significance in smart grid. Topics of interest include, but are not limited to:

- Monitoring and inference in large-scale systems with smart grid applications
- Cascading failures in complex smart networks
- Interplay between communication and control in smart systems
- Large-scale optimization with smart grid applications
- Data security and privacy in smart systems
- Distributed monitoring and control in smart grids
- Network economics and game-theoretic studies in smart grids

Submission Guidelines:

Two page extended abstracts are solicited for the first round of reviews. For information purposes, please submit a PDF version of the abstracts including a cover letter with authors’ contact information via e-mail to tajer@ecse.rpi.edu with the subject line “Special Issue on TSG” by the submission date. Authors of selected abstracts will be invited to submit the full papers in the second round. Authors must refer to the IEEE Transactions on Smart Grid author guidelines at <http://www.ieee-pes.org/publications/information-for-authors> for information on content and formatting of submissions.

Important Dates:

- March 1, 2015: Deadline for extended abstract
- April 15, 2015: First round of reviews
- September 1, 2015: Deadline for full paper submission
- March 1, 2016: Final decision notification
- April 1, 2016: Publication material due

Guest Editorial Board:

- Ali Tajer, Rensselaer Polytechnic Institute (Guest Editor in Chief)
- Ian Dobson, Iowa State University
- Soumya Kar, Carnegie Mellon University

- Javad Lavaei, Columbia University
- Le Xie, Texas A&M University

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4. Conferences and Workshops

4.1. Dynamic Systems and Control Conference

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

2015 Dynamic Systems and Control Conference

October 28-30, 2015 — Hilton Downtown, Columbus, Ohio

<http://www.asmeconferences.org/DSCC2015/>

Manuscript Submission Deadline: April 29, 2015

General Chair: Giorgio Rizzoni, The Ohio State University

Program Chair: Rama Yedavalli, The Ohio State University

Synopsis: The DSC Conference is the showcase technical forum of the ASME Dynamic Systems and Control Division. It provides a focused and intimate setting for dissemination and discussion of the state of the art in dynamic systems and control research, with a mechanical engineering focus. The 2015 DSC Conference Technical Program will consist of sessions in all of the usual areas of interest to the Division. In addition, the conference will feature specific technical tracks that uniquely identify this particular DSCC. The location of the conference, in the heart of the “Manufacturing” and “Automotive” industries, makes these two areas especially appropriate for special tracks. Other special tracks will include Interplay between Biology/Ecology/Life Sciences and Engineering, and Information Technology in Mechanical and Aerospace Engineering. The program will include contributed sessions, invited sessions, tutorial sessions, special sessions, workshops and exhibits.

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

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

Call for papers

20th International Conference on Methods and Models in Automation and Robotics

24 - 27 August 2015

Amber Baltic Hotel, Międzyzdroje, Poland

It is our great pleasure to invite You to participate in the 20th International Conference on Methods and Models in Automation and Robotics, MMAR 2015 to be held in Międzyzdroje, Poland, from August 24th to August 27th, 2015.

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 20th 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 20th International MMAR Conference in Międzyzdroje, Poland.

Important dates

2 March 2015 23:59 (GMT -0700) Full paper submission

15 May 2015 Notification of acceptance

29 June 2015 Submission of camera-ready papers

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

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

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4.3. Mediterranean Conference on Control and Automation

Contributed by: Joseba Quevedo, joseba.quevedo@upc.edu

First Announcement/Call for Papers - Paper Submission is open

The 23th Mediterranean Conference on Control and Automation (MED'2015)

June 16-19, 2015, Torremolinos (Málaga), Spain

<http://www.med2015.uma.es/>

Introduction:

The organizing committee of MED'2015 extends a cordial invitation to you to the 23th Mediterranean Conference on Control and Automation which will be held on the beautiful city of Torremolinos in Malaga, Spain.

General Information:

The Mediterranean Conference on Control and Automation is a series of meetings that has been running since 1993, coordinated and supervised by the Mediterranean Control Association, with MED'2015 being the 23th conference of the series. The conference, through its technical program, will provide a unique opportunity for the academic and industrial community to address new challenges, share solutions and discuss future research directions. A broad range of topics is proposed, following current trends of combining control/systems theory with software/ communication technologies. For up-to-date information on MED'2015, please visit the Conference site: <http://www.med2015.uma.es/>

General Chair: Joseba Quevedo/Victor Fernando Muñoz

Program Chair: Sebastián Dormido/Didier Maquin

Tutorial/Workshop Chair: Alfonso García Cerezo/Argyrios Zolotas

Invited Session Chair: Alfonso García Cerezo/Abdel Aitouche

Topics of interest include, but are not limited to:

Adaptive control; Aerospace control; Agents & agent-based systems; Biologically inspired systems, control; Bond Graph; Computational intelligence; Computer controlled systems; Computing & communications; Decentralized control; Discrete event systems; Distributed systems; Education & training; Embedded control systems; Fault diagnosis; Fault tolerant Control; Fuzzy systems; Genetic & evolutionary computation; Hybrid systems; Image processing; Industrial automation, manufacturing; Intelligent control systems; Intelligent transportation systems; Linear systems; Micro and nano systems; Modeling & simulation; Neural networks; Networked control; systems; Non-linear systems; Optimization; Petri nets; Power systems; Predictive control;

Process control; Real-time control; Renewable energy and sustainability; Robotics; Robust control; Spectral estimation; Swarms Robotics; Unmanned Systems; Virtual reality; Wireless sensor networks; Human-robot collaboration

Paper Submission - New open

Prospective participants are invited to electronically submit the full version of their work by the indicated deadlines, following the guidelines available on the Conference web site <http://www.med2015.uma.es> and following in the “submission” menu the link to Papercept site:

(<http://controls.papercept.net/conferences/scripts/start.pl>).

Submitted papers will undergo a peer review process, coordinated by the International Program Committee, and accepted papers will be published in a proceedings volume that will be available at the time of the conference.

Important dates

Invited session proposals, due February 2, 2015

Contributed papers, Invited session papers, Workshop/Tutorial proposals, due February 2, 2015

Notification of acceptance/rejection April 17, 2015

Final papers, due May 4, 2015

Sponsors: Mediterranean Control Association (MCA), Comité Español de Automática (CEA), University of Málaga (UMA)

Technical co-sponsors: IEEE CSS, IEEE RAS

Accepted and presented papers will be published in the respective conference proceedings, and included in the IEEE Xplore® online digital library, Web Science database and EI Compendex database.

For more information about the Conference, please contact the Conference secretariat: med2015@uma.es

Best regards,

Professors Joseba Quevedo and Victor Fernando Muñoz

General Chairs of MED2015

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4.4. International Conference on Control, Engineering & Information Technology

Contributed by: Mohamed Djemai, mohamed.djemai@univ-valenciennes.fr

2015 3rd International Conference on Control, Engineering & Information Technology (CEIT'2015)

May, 25-27, 2015

Tlemcen, Algeria

https://www.ieee.org/conferences_events/conferences/conferencedetails/index.html?Conf_ID=34963

<http://lat.univ-tlemcen.dz/ceit2015/index.php>

Email contact : ceit.tlemcen@gmail.com

CEIT'2015 will be held at Tlemcen, Algeria on May 25-27, 2015.

CEIT'2015 will provide an excellent international forum for sharing knowledge and results in theory, methodology and applications of Control, Engineering and Information Technology.

CEIT'2015, topics include (but are not limited to): 1. Control System : Algorithms and stability; Artificial Intelligence; Biomedical control systems; Chaos; control applications; Discrete-time control systems; Linear & nonlinear control systems; Multivariable Control; Neuro-fuzzy control; Process control; Robust control; Optimal control; Stochastic control and filtering; System identification. 2. Signal Processing and Telecommunication : Theory and application of filtering, coding, transmitting, estimating, detecting, analyzing, recognizing, synthesizing, recording, and reproducing signals by digital or analog devices or techniques,

image, communication, geophysical, sonar, radar, medical, 3. Information Technology: Biometry & medical imaging; Cryptography; Image & video compressing algorithms; Image processing; Machine-to-Machine Communications; Wireless Technologies (HSPA,LTE,WiFi.); Signal Processing; Software Engineering. 4. Power Systems & Electrical Engineering : AC-DC/DC-DC/DC-AC converters; Automated guided vehicles; Electromagnetic compatibility; Electronic devices, Sensors; Electric machines design; High voltage DC transmission; Intelligent computing & systems; Monitoring and diagnostics; Industrial electronics; Power electronic Systems. 5. Robotics and Applications : Robotics, Mobile robot, walking robot, Biomedical & Medical application, industrial robots, control of assistive robots, robot manipulator, humanoid, Human Robot Interaction, motion planning. 6. Renewable Energy : Biomass, Geothermal, Hydraulic; Energy transfer; Energy storage & management; Fuel cell; Hybrid renewable energy; Materials, semiconductors; Photovoltaic energy; Solar Energy; Thermal Energy; Wind Energy.

Important Dates

Proposal for Special session 15 January 2015

Full paper submission deadline 15 February 2015

Notification of acceptance 30 March 2015

Camera-ready version submission deadline 30 April 2015

Author registration deadline 1 May 2015

General Chair: Mohamed Djemai (University of Valenciennes, France)

Organizing Chair: Brahim Cherki (Tlemcen University, Algeria)

Program Chair: Stefano Di Gennaro (Università di L'Aquila, Italy), Ahmed Rhif (Al Qayrawan University, Tunisia)

The CEIT'15 will be held at auditorium of the faculty of medicine, University of Tlemcen. Tlemcen is a town in northwestern Algeria, and the capital of the province of the same name. It is located inland in the center of a region known for its olive plantations and vineyards.

Its centuries of rich history and culture have made the city a center of a unique blend of music and art. Its textiles and handcrafts, its elegant blend of Arabic, Islamic, Berber, and Andalucian cultures, and its cool climate in the mountains have made it an important center of tourism in Algeria. It is home to a beautiful tomb - that of Sidi Boumédiène, whose tomb adjoins to a mosque. The Great Mosque at Tlemcen was completed in 1136 and is said to be the most remarkable remaining example of Almoravid architecture.

Thank you for your contributions and we look forward to seeing you at CEIT'2015 during May 25-27, 2015. CEIT'2015 CFP: <http://lat.univ-tlemcen.dz/ceit2015/dl/CallForPapersCEIT2015.pdf>

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4.5. International Conference on Unmanned Aircraft Systems

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

3rd Call-for-Papers: 2015 International Conference on Unmanned Aircraft Systems

On behalf of the ICUAS'15 Organizing Committee, this is to invite you to submit your contributions to the 2015 International Conference on Unmanned Aircraft Systems, ICUAS'15, <http://www.uasconferences.com>, to be held in Denver CO, USA, on June 9-12, 2015. The conference is co-sponsored by the IEEE CSS and RAS.

Denver is a metropolitan city with major attractions, and Colorado is the second in Aerospace Industry companies in the U.S. June 9 will be a Workshop/Tutorial day, followed by a three-day technical Conference.

Judging from the interest ICUAS has drawn over the past seven years and its growth, ICUAS'15 is expected to continue on this path and attract the highest number of participants from academia, industry, federal/state agencies, government, the private sector, users, practitioners and engineers who wish to be affiliated with and contribute technically to this highly demanding and rapidly evolving and expanding field. Details may be found at <http://www.uasconferences.com> and related links. ICUAS'15 will be fully sponsored by the ICUAS Association, a non-profit organization; Information about the organization may be found at www.icuas.com. The theme of ICUAS'15 will focus on the very challenging and timely topic of 'integrating UAS into the national airspace'.

ICUAS'15 aims at bringing together different groups of qualified military and civilian representatives world-wide, organization representatives, funding agencies, industry and academia, to discuss the current state of UAS advances, and the roadmap to their full utilization in civilian and public domains. Special emphasis will be given to current and future research opportunities, and to 'what comes next' in terms of the essential technologies that need to be utilized to advance further UAS.

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

Important dates:

February 6, 2015: Full Papers/Tutorial Proposals Due

April 24, 2015: Acceptance/Rejection Notification

May 11, 2015: Upload Final, Camera Ready Papers

April 24 - May 11, 2015: Early Registration

June 9-12, 2015: Conference Period

Paper submission: Papers must be submitted electronically through controls.papercept.net.

Go to <http://controls.papercept.net/>. Click on the link "Submit a Contribution to ICUAS'15" and follow the steps. 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 paper is 10. Illustrations and references are included in the page count. Submitted papers will undergo a peer review process coordinated by the Program Chairs, the ICUAS Advisory Committee Members, the IPC and qualified reviewers. Authors will be notified of acceptance at the latest by April 24, 2015. Accepted papers must be uploaded electronically no later than May 11, 2015. Authors are encouraged to accompany their presentations with multimedia material (i.e., videos), which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.

General chairs:

Fulvia Quagliotti, Politecnico di Torino, fulvia.quagliotti@polito.it

Youmin Zhang, Concordia University, yumin.zhang@concordia.ca

Kimon Valavanis, University of Denver, kimon.valavanis@du.edu

Program chairs:

Didier Theilliol, Univ. of Lorraine, Didier.Theilliol@univ-lorraine.fr

Roberto Sabatini, RMIT Univ. AU, roberto.sabatini@rmit.edu.au

Srikanth Saripalli, Arizona State U., Srikanth.Saripalli@asu.edu

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4.6. International Conference on Event-based Control, Communication, and Signal Processing

Contributed by: Sebastian Trimpe, strimpe@tuebingen.mpg.de

1st IEEE International Conference on Event-based Control, Communication, and Signal Processing (EBCCSP)
2015

June 17-19, 2015

Krakow, Poland

www.ebccsp2015.org

Call for papers

The last decade has witnessed an upsurge in the scientific interest to harness the benefits of the event-based paradigm applied to a wide spectrum of engineering disciplines including control, communication, signal processing, and electronic instrumentation. The aim of the conference is to bring together researchers and practitioners from the industry and academia, and provide them with a platform to report on recent advances and developments in event-based systems and architectures applied in a wide spectrum of engineering disciplines. Topics within the scope of the conference include:

- Event-based control & systems
- Event-based communication, computing & systems
- Event-based signal processing & systems

Solicited Papers: Research papers reporting on new developments in technological sciences. Industry and development papers reporting on actual developments of technology, products, systems and solutions. Tutorial and survey papers. Work-in-progress papers. In addition, EBCCSP 2015 solicits special session proposals to stimulate in-depth discussions in special areas relevant to the conference theme.

Keynote and plenary presentations:

- Panos Antsaklis, University of Notre Dame, USA
- Tobi Delbrück, ETH Zurich, Switzerland
- Maurice Heemels, Eindhoven University of Technology, Netherlands
- Karl Henrik Johansson, KTH Royal Institute of Technology, Sweden
- Jan Lunze, Ruhr-University Bochum, Germany
- Yannis Tsividis, Columbia University, USA

Please consult the conference web page for more details: www.ebccsp2015.org

Important dates for authors:

Deadline for submission of regular and special session papers (extended): February 15, 2015

Notification of acceptance of regular and special session papers: March 15, 2015

Deadline for submission of work-in-progress papers: March 20, 2015

Notification of acceptance of work-in-progress papers: April 10, 2015

Final manuscripts due: May 1, 2015

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4.7. International Conference on Computational Logistics

Contributed by: Rudy Negenborn, r.r.negenborn@tudelft.nl

We hereby cordially invite you to prepare a contribution for the 6th International Conference on Computational Logistics

September 23-25, 2015 - Delft, The Netherlands

Theme: Coordination for real-time logistics

<http://realtimelogistics.info/iccl>

The 6th International Conference on Computational Logistics (ICCL'15) will be held in Delft (The Netherlands), hosted by Delft University of Technology. This conference provides a remarkable opportunity for academia, industry, and governmental agencies to share solutions, address new challenges, and discuss future research directions on the application of information, communication, optimization and control technologies to logistic activities. The conference will feature keynote lectures, technical sessions, tutorials, on-site computational logistics experience, an optional one-day pre-conference workshop, and a social program, in an informal and inspiring setting.

High quality papers in the field of logistics management, operations, control, and information systems are welcomed. Of particular interest are papers on heuristic and formal approaches as well as on innovative ICT tools for decision support and control for improving coordination in logistic systems at the operational level.

Full papers presented at the conference will be published in the conference proceedings, published in Springer's Lecture Notes in Computer Science (LNCS), indexed by ISI Web of Science, Scopus, ACM Digital Library, DBLP, MathSciNet, a.o. Authors of selected high-quality papers will be invited to submit extended versions of their papers for possible publication in a special issue of a journal.

Technical topics of the conference include but are not limited to:

- * Innovative concepts for transport over water, rail, road, and air
- * Integrated planning and control of logistic nodes, their interconnections and their processes
- * Formal methods for decision support in operational (port, terminal, hinterland) logistics
- * Planning tools and tool-based environments for design of logistics supra- and infrastructure
- * Industrial applications of optimization and control for logistics
- * Multi-agent systems and distributed control for logistics
- * Automatic control and autonomous (water, road, air) transport systems for efficient logistics
- * Heuristics and meta-heuristics implementations in logistics related models
- * Computational analysis and evaluation of logistics induced environmental impact
- * Theoretical and empirical analysis of logistics operations
- * Modeling, simulation and evaluation of the involved actors and organizations
- * Optimal strategies and operations of logistics service providers
- * Consolidation and distribution for agents or shippers within the logistics business
- * Cooperation and negotiation in maritime supply chains
- * Integration of ports in intermodal hinterland systems
- * Concurrent and parallel computing for large-scale logistics planning
- * Information systems supporting big data/cloud technology for logistical decision support

Paper submission

Manuscripts and session proposals should follow the style guidelines provided on the conference's website (<http://realtimelogistics.info/iccl>) (with max 15 pages for full papers and 2 for abstracts) and submitted via Easychair.

Important dates

February 15, 2014 - Submission deadline special session / tutorial proposals

March 1, 2015 - Notification of acceptance/rejection proposals

April 1, 2015 - Submission deadline full papers for proceedings
May 1, 2015 - Submission deadline abstracts for presentation only
May 15, 2015 - Notification of acceptance/rejection
July 1, 2015 - Submission of camera-ready papers
September 22, 2015 - ICCL'15 pre-conference workshop
September 23-25, 2015 - ICCL'15 conference

More information or questions? Contact us via <http://realtimelogistics.info/iccl/> or iccl-2015@tudelft.nl.
We look forward welcoming you at ICCL'15,
Rudy Negenborn (General Chair)
Delft University of Technology, The Netherlands

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4.8. International Conference on System Theory, Control and Computing

Contributed by: Sergiu Caraman, Sergiu.Caraman@ugal.ro

19th International Conference on System Theory, Control and Computing - ICSTCC 2015
October 14-16, 2015, Cheile Gradistei - Fundata Resort, Romania
Website: <http://www.aie.ugal.ro/icstcc2015>

ICSTCC 2015 aims at bringing together under a unique forum, scientists from Academia and Industry, to discuss the state of the art and the new trends in System Theory, Control and Computer Engineering, promoting professional interactions and fellowship.

ICSTCC 2015 is technically co-sponsored by IEEE Control Systems Society.

The Proceedings will be published in IEEE Xplore Digital Library and will be submitted for indexing in Thomson Reuters Conference Proceedings Citation Index (formerly ISI Proceedings).

Important dates:

- May 1, 2015: Invited Session proposal submission
- May 10, 2015: Initial paper submission
- July 1, 2015: Notification of acceptance
- August 1, 2015: Final submission and registration payment

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

All papers should be submitted via the online submission system at
<http://controls.papercept.net/conferences/scripts/start.pl#STCC15>

For further information please contact the organizing committee at: icstcc2015@ugal.ro

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4.9. International Conference on Control, Automation and Systems

Contributed by: Jae Weon Choi, conference@icross.org

2015 15th International Conference on Control, Automation and Systems (ICCAS 2015)
October 13(TUE)-16(FRI), 2015
Bexco, Busan, Korea
conference@icross.org

ICCAS 2015 will be held at Bexco, Busan Korea on October 13-16, 2015.

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.

It is our pleasure to announce that a number of high-profile plenary speakers have confirmed their participation and will give their lectures at the conference:

- Karl Johansson, KTH Royal Institute of Technology, Sweden
- Pheng Shi, University of Adelaide, Australia
- Jay Farrell, University of California, Riverside, USA
- Yoshihiko Nakamura, University of Tokyo, Japan
- Sangbae Kim, Massachusetts Institute of Technology, USA
- David Boas, Harvard Medical School, USA
- Taek Lyul Song, Hanyang University, Korea

Important Dates

April 10, 2015: Submission of organized session proposals

April 17, 2015: Submission of full papers

June 19, 2015: Notification of paper acceptance

July 17, 2015: Submission of final camera-ready papers

Organizing Chair: Myo Taeg Lim (Korea Univ., Korea)

Program Chair: Jae Weon Choi (Pusan Natl. Univ., Korea)

Busan, the venue, is famed as Northeast Asia's perfect mix of natural beauty and modern infrastructure. With 3.6 million residents, Busan is Korea's second largest city, and the world's 5th busiest port, making it the center of Korean global trade.

The charm of Busan goes beyond beautiful beaches, a stunning skyline, incredible food, natural scenery, world-class infrastructure, and endless shopping. Feel the Ocean Beat!

Thank you for your contributions and we look forward to seeing you at ICCAS 2015 during October 13-16, 2015.

ICCAS 2015 CFP: http://icross.org/data/download/ICCAS2015/ICCAS2015_1st_CFP.pdf

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4.10. Aerospace Applications Conference

Contributed by: Kamran Turkoglu, kamran.turkoglu@sjsu.edu

Aerospace Applications Conference - AAC 2015

03-05 August, 2015, San Jose, CA, USA

<http://www.aac-conf.org/>

Call for papers

Aerospace Applications Conference (AAC), AAC - 2015 is organized by San Jose State University in participation with NASA Ames Research Center and DLR - German Aerospace Center experts. The conference will take place in San Jose State University campus in San Jose, CA, USA on August 03-05, 2015.

AAC aims to bring high quality papers, sessions and presentations with specific applications on aerospace and emerging technologies to the heart of the Silicon Valley, San Jose, CA. The conference is organized at San Jose State University, at the center of Silicon Valley, where technology finds its way to our daily lives. The conference will be held in participation with NASA Ames Research Center and DLR - German

Aerospace Center. The venue is located on the historic site of San Jose State University, which is established in 1857.

The technical program of AAC - 2015 will consist of plenary talks, technical sessions and oral presentations. Submitted papers should describe original, unpublished work of the authors from all areas of aerospace related technologies, including (but not limited to):

- Structures and Material science with specific applications in Aerospace
- Aerodynamics, Fluid Mechanics, Computational Fluid Dynamics with specific applications in Aerospace
- Guidance, Navigation and Control of Aerospace Systems
- Space exploration
- Satellite and Spacecraft technologies
- Rocket science and Interplanetary missions
- Air Traffic Management
- Emerging technologies in commercial use of Aerospace technologies
- Unmanned Aerial Systems and technologies

Important dates:

Dec 10, 2014: Submission site is open

Mar 15, 2015: Contributed papers/invited sessions submission deadline

May 15, 2015: Notification of acceptance

Jun 24, 2015: Final paper submission deadline

Aug 3-5, 2015: AAC'15 Conference

Paper submission:

Original technical contributions are solicited for presentation at AAC 2015.

Accepted papers will be published online and will be freely available by the Aerospace community. Submissions should be 6-8 pages following the classical IEEE double column format.

For more information: <http://www.aac-conf.org/>

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4.11. IFAC Workshop on Linear Parameter Varying systems

Contributed by: Mirko Fiacchini, mirko.fiacchini@gipsa-lab.fr

1st IFAC Workshop on Linear Parameter Varying systems

Grenoble, France, October 7-9, 2015

<http://www.gipsa-lab.fr/LPVS2015/>

This workshop aims at presenting some results in the field of Linear Parameter Varying systems and applications. LPV systems have state-space representations that depend on time-varying parameters. This class of systems allows representing several types of systems such as non-linear systems, switching systems, multi-models, etc.

The aim is to bring together experts working in LPV systems to discuss new trends, exchange new ideas, establish fruitful contacts and promote interactions among the various fields of interest. Applications and industry papers are encouraged.

The conference topics will cover the control area for LPV systems: modelling, analysis, observation and control. Some of the important keywords include:

- Modelling and Identification of LPV systems: How to obtain LPV systems from: nonlinear systems, switching systems, time-delay systems, sampled-data systems, systems with saturation, uncertain systems, polynomial systems, etc.
- Analysis of LPV systems: stability and stabilization, robustness issues, geometric approaches, structural analysis.
- Observation, Diagnosis and Control of LPV systems: Observer design, Hinf control, optimal control, predictive control, fault detection, fault tolerant control, virtual reference feedback tuning.
- Applications: Automotive, aerospace, robotics, chemical processes, biological systems, energy and nuclear, network controlled-systems, etc.

Important dates:

Invited Session Submission Deadline: January 15th, 2015

Regular Paper Submission Deadline: February 1st, 2015

Notification of acceptance: May 15th, 2015

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5. Online Courses

5.1. Online Seminar Series on Control Systems

Contributed by: Tansel Yucelen, yucelen@mst.edu

Started in April 2014, we have initiated a novel online forum, Control Systems Forum (<http://consys.forum.mst.edu/>), which is dedicated to the dissemination of cutting-edge research results and education perspectives of control systems. This nonprofit forum enables individuals from academia, government, and industry to follow the state of the art approaches being developed by experts. The audience of these seminars have a chance not only to watch speakers' talks but also to ask "live" questions to them.

The upcoming online seminars include:

- * Dr. John Baillieul (Boston University): Perceptual Cues and Motion Control in Feature Networks (January 29)
- * Dr. Roger Brockett (Harvard University): Synchronization of Oscillators as a Feedback Stabilization Problem (March 2)
- * Dr. Angelia Nedich (University of Illinois at Urbana-Champaign): Lyapunov Approach to Consensus Problems (March 10)
- * Dr. Rafael Fierro (University of New Mexico): Efficient Load Transportation Using Aerial Robots (March 26)
- * Dr. Panos Antsaklis (University of Notre Dame): TBA (April 9)
- * Dr. Mehran Mesbahi (University of Washington): Dynamic Network Formation: A System-Theoretic Perspective (April 30)

To register for free (and learn more about these talks), please visit the Control Systems Forum:

<http://consys.forum.mst.edu/upcomingwebinars/>

Dr. Tansel Yucelen

Program Director of the Control Systems Forum

Director of the Advanced Systems Research Laboratory

Assistant Professor of the Mechanical and Aerospace Engineering Department

Missouri University of Science and Technology
email: yucelen@mst.edu
<http://www.asrl.us/> (Research Webpage)
<http://consys.forum.mst.edu/> (Control Systems Forum Webpage)

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5.2. Control Systems Forum Online Seminar

Contributed by: Tansel Yucelen, yucelen@mst.edu

Control Systems Forum Online Seminar

Dr. John Baillieul, Boston University, Thursday, January 29, 1:00 PM CST

“Perceptual Cues and Motion Control in Feature Networks”

Free WebEx Registration: <http://consys.forum.mst.edu/baillieulbio/>

Abstract: Recent research has focused on understanding how “perception” should be formally incorporated into feedback control in such a way that control signals are determined by a single unified awareness derived from a combination of sensory processes together with past experience. This talk will be focused on two aspects of perception-enabled control. First, I will discuss the analysis of large data sets of bat trajectories and our work to interpret and design feedback control laws that synthetically replicate the motions of Myotis velifer bats around trees and other natural obstacles in rural Texas. Bats are not blind, and in fact, vision may be an essential tool for their navigation. Other agile flyers almost certainly are guided by optical flow, and both laboratory experiments and field observations indicate that they are attracted to locations where the the visual environment is rich with features. The talk will discuss optical feature salience and propose control paradigms for using fleeting glimpses of salient features to guide high-speed motions.

Biography: John Baillieul’s research deals with robotics, the control of mechanical systems, and mathematical system theory. His PhD dissertation, completed at Harvard University under the direction of R.W. Brockett in 1975, was an early work dealing with connections between optimal control theory and what came to be called “sub-Riemannian geometry”. After publishing a number of papers developing geometric methods for nonlinear optimal control problems, he turned his attention to problems in the control of nonlinear systems modeled by homogeneous polynomial differential equations. Such systems describe, for example, the controlled dynamics of a rigid body. His main controllability theorem applied the concept of finiteness embodied in the Hilbert basis theorem to develop a controllability condition that could be verified by checking the rank of an explicit finite dimensional operator. Baillieul’s current research is aimed at understanding decision making and novel ways to communicate in mixed teams of humans and intelligent automata. John Baillieul is a Fellow of IFAC, a Fellow of the IEEE and a Fellow of SIAM.

Dr. Tansel Yucelen, Control Systems Forum Director
Assistant Professor of Mechanical and Aerospace Engineering
Director of Advanced Systems Research Laboratory (ASRL)
Missouri University of Science and Technology
Webpage: <http://www.ASRL.us/>

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6. Positions

6.1. PhD: Katholieke Universiteit Leuven, Belgium

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

One fully funded open PhD position at KU Leuven Department of Mechanical Engineering
Adaptive and Learning optimal Control of Mechatronic Systems

The KU Leuven, Department of Mechanical Engineering is searching for a young, motivated and skilled PhD researcher with a strong background in systems, control, numerical optimization and mechatronics.

Research Project: In many mechatronic applications optimal control, i.e.: optimizing the system input directly subject to input, state and output constraints, is preferred over feedforward control in enhancing the tracking or positioning performance. Computing the fastest point-to-point motion trajectory given actuator bounds for instance amounts to an optimal control problem, as well as computing the most energy efficient way to execute a give task within a prefixed time. Unfortunately, in many industrial applications the value of optimal control is severely compromised by uncertainty in the system model or its environment, as this causes the computed input to be far from optimal and generally not even acceptable or feasible. Two classes of approaches exist to deal with this uncertainty: (i) model-based approaches that adapt the model parameters based on past input-output measurements; and (ii) signal-based approaches that directly estimate the disturbance signals. In previous research [1-2] we developed an optimization-based learning strategy that allows combining both approaches. In this research project you will apply and validate this learning strategy on industrial mechatronic test cases. In addition you will further extend the strategy to meet the learning speed and robustness requirements of these applications. The research will be carried out in the MECO research group at the division PMA of the department of Mechanical Engineering, KU Leuven, Leuven, Belgium (<https://www.mech.kuleuven.be/en/pma/research/meco>) in cooperation with Flanders Make (<http://www.flandersmake.be/>).

1. Volckaert, M., Diehl, M., Swevers, J. (2013). Generalization of norm optimal ILC for nonlinear systems with constraints. *Mechanical Systems and Signal Processing*, 39 (1-2), 280-296.
<http://www.sciencedirect.com/science/article/pii/S088832701300109X>
2. Volckaert, M. (2012). Nonlinear Iterative Learning Control Through Dynamic Optimization, PhD Thesis KU Leuven, Department Mechanical Engineering. <https://lirias.kuleuven.be/handle/123456789/359680>

Candidate profile: An ideal candidate has a degree in engineering and a strong background in control, numerical optimization, mechatronics, programming (Matlab, C/C++), a strong interest and experience for work on industrial mechatronic test cases and enthusiasm for scientific research. Proficiency in English is a requirement and applicants whose mother tongue is neither Dutch nor English must present an official language test report. Acceptable tests are TOEFL and Academic IELTS. Required minimum scores are:

- TOEFL: 610 (paper-based test), 102 (internet-based test)
- IELTS: 7.5 (only Academic IELTS test accepted)

Apply now! A start date in course of 2015 is to be agreed upon.

To apply, send email to jan.swevers@mech.kuleuven.be. Subject of your email should be: "A&LOC PhD application". Include:

- an academic CV
- a Pdf of your diplomas and transcript of course work and grades
- statement of research interests and career goals
- sample of technical writing
- list of at least two referees: names and email addresses
- proof of English language proficiency test results.

6.2. PhD: Katholieke Universiteit Leuven, Belgium

Contributed by: Goele Pipeleers, goele.pipeleers@mech.kuleuven.be

One fully funded open PhD position at KU Leuven, Department of Mechanical Engineering:

B-Spline based relaxations for Robust Optimization 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 theory and control.

Research Project: While many engineering problems are nowadays translated into a numerical optimization problem, the associated numerical data are often inaccurate or uncertain. As this uncertainty of data may turn the numerical optimum into a poor or even unacceptable solution for the true problem, there is a great push for robust optimization techniques suited for engineering applications. Robust optimization seeks a solution that is feasible and most optimal for all possible values of the numerical data. As the data is generally considered to vary in infinite sets (e.g. a real interval), robust optimization problems are numerically intractable in general. Therefore most problems are currently relaxed to a tractable problem by relying on either Pólya's theorem or sum-of-squares certificates of positivity. As these approaches suffer from limited applicability or high computational load, we recently initiated novel relaxation schemes based on B-splines, i.e. particular piecewise polynomial basis functions, and their properties. Within this research project you will develop the initial results into a general methodology for constructing B-spline based relaxations of robust optimization problems. In addition to the theoretical research this involves, you will develop a software toolbox for efficient spline manipulations and optimization, and validate the methodology on robust optimization applications such as robust control and motion planning in obstructed environments. The research will be carried out in the MECO research group at the division PMA of the department of Mechanical Engineering, KU Leuven, Leuven, Belgium. (www.mech.kuleuven.be/en/pma/research/meco)

Candidate profile: An ideal candidate holds a degree in engineering or applied mathematics. He or she has a solid background in numerical optimization, systems theory and control, a strong interest and experience in mathematical programming (Matlab, Python, C/C++), and enthusiasm for scientific research. Proficiency in English is a requirement and applicants whose mother tongue is neither Dutch nor English must present an official language test report. Acceptable tests are TOEFL and Academic IELTS, and the required minimum scores are:

- TOEFL: 610 (paper-based test), 102 (internet-based test)
- IELTS: 7.5 (only Academic IELTS test accepted)

Apply now! A start date in course of 2015 is to be agreed upon. To apply, send an email to pipeleers@kuleuven.be. with subject "Bspline PhD application". Include:

- an academic CV
- a pdf of your diplomas and transcript of course work and grades
- statement of research interests and career goals
- sample of technical writing
- list of at least two referees: names and email addresses
- proof of English language proficiency test results.

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6.3. PhD: Curtin University, Australia

Contributed by: Lorenzo Ntogramatzidis, L.Ntogramatzidis@curtin.edu.au

One PhD position is available in the area of control theory at the Department of Mathematics and Statistics, Curtin University located in Perth, Australia. This position covers full tuition and fees plus a stipend. Requirements include a strong background in control theory and linear algebra; a Master's degree in applied mathematics or engineering; and excellent skills in the use of Matlab or Mathematica. It is expected that the candidate will have strong oral and written communication skills as well as proficiency in written and spoken English.

The prospective PhD student is expected to start working in 2015, and perform high-quality and innovative research on the area of tracking control.

If you are interested, please send an email to Dr. Lorenzo Ntogramatzidis at L.Ntogramatzidis@curtin.edu.au including:

1. Your curriculum vitae and your top publications (if you have any).
2. A paragraph that explains the undergraduate and MS courses you took related to control theory and linear algebra.
3. Two contact information (including name, e-mail, and phone number of the person) for letter of recommendation requests (one of these three contact information must include your current advisor).

Contact:

Dr. Lorenzo Ntogramatzidis, Department of Mathematics and Statistics

Curtin University, Perth (WA), Australia.

E-mail: L.Ntogramatzidis@curtin.edu.au

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6.4. PhD: KTH Royal Institute of Technology, Sweden

Contributed by: Dimos Dimarogonas, dimos@kth.se

The Automatic Control Dept. at the School of Electrical Engineering of KTH has an opening for up to three PhD positions in the field of Distributed Hybrid Control. More details on the positions and the application procedure can be found in the link below <https://www.kth.se/en/om/work-at-kth/lediga-jobb/what:job/jobID:49218/where:4/>

Please contact Assoc. Professor Dimos Dimarogonas, email: dimos@kth.se, web: <http://people.kth.se/dimos/> for potential inquiries about the position. Deadline for applications set to January 16, 2015.

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6.5. PhD: Nanyang Technological University, Singapore

Contributed by: Erdal Kayacan, erdal@ntu.edu.sg

Fully funded PhD positions in the Unmanned Aerial Vehicles Laboratory in the School of Mechanical and Aerospace Engineering at NTU (Singapore) are available. A detailed information is available in the following link: https://www.dropbox.com/s/x32azckbe8gr728/NTU_phd.pdf?dl=0

The application should consist of:

- A motivation letter (explaining the reason that you are interested in the project, background and motivations),
- A CV with a full publication list,

- The contact details of three referees.

These documents must be compiled as a single pdf file, and named as “<Name>.<Surname>.pdf”.

Then, the single file should be sent to “erdal@ntu.edu.sg” with a subject line of “PhD application of <Name><Surname>”.

The positions will be available from August, 2015.

The deadline for the applications is 23th of Jan 2015. We regret that only shortlisted candidates will be notified.

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6.6. PhD: Missouri University of Science and Engineering, USA

Contributed by: Tansel Yucelen, yucelen@mst.edu

We are searching for exceptional PhD students with a strong background in systems, controls, and robotics. These students are expected to perform research on (1) safety-critical autonomous systems, (2) multiagent systems and robotics, and (3) modular large-scale systems. Our intention is to give our strong guidance in order to maximize the chances of our students of building a rewarding research career. If you are interested, please send an email to Prof. Tansel Yucelen at yucelen@mst.edu including your background, your interests and strengths (theoretical and experimental), your resume, and a publication of yours. You can visit <http://www.asrl.us/> for our webpage.

The work performed by our laboratory is focused on the creation of new information, control, and decision algorithms that reveal advanced systems such as highly capable autonomous vehicles and networked multi-vehicle systems. These systems are envisioned to elevate human society as well as to perform safety-critical operations with more robots and less humans. We place a strong emphasis both on theoretic research and experimentation for addressing fundamental and open real-world technological problems. Our aim is to be recognized as one of the top research laboratories in the nation by significantly advancing the knowledge and training science-based engineers and professionals to shape the future of our society.

Dr. Tansel Yucelen

Assistant Professor of the Mechanical and Aerospace Engineering Department

Director of the Advanced Systems Research Lab. (<http://www.asrl.us>)

Missouri University of Science and Engineering

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6.7. PhD/Post-Doc: Verimag - University of Grenoble, France

Contributed by: Goran Frehse, goran.frehse@imag.fr

The timed and hybrid systems group at VERIMAG (<http://www-verimag.imag.fr>) specializes in the verification, simulation and performance evaluation of continuous and hybrid systems.

PhD and Post-Doc positions are available with Dr. Oded Maler and Dr. Goran Frehse.

The starting date is any time after January 1st, 2015. For further information, please contact goran.frehse@imag.fr.

- PhD and Post-Doc positions available in Verification of Hybrid Systems at VERIMAG (Grenoble, France)
Candidates should have one or more of the following qualifications:

1. background in signals and systems, numerical analysis, dynamical systems, hybrid systems; acquaintance with MATLAB/Simulink.
2. good algorithmic and programming skills;

3. basic understanding of formal verification (model-checking).

The positions are associated with the EU project UnCoVerCPS on merging control and verification. The work involves collaborations with international partners from academia and industry, and participation in the development of the SpaceEx verification tool <http://spaceex.imag.fr/>.

- PhD and Post-Doc positions available in Verification of Electronic Circuits at VERIMAG (Grenoble, France)

Candidates should have one or more of the following qualifications:

1. background in signals and systems, numerical analysis, dynamical systems;
2. basic understanding of electronic circuits and electronic design automation; acquaintance with Spice simulations;
3. good algorithmic and programming skills.

The positions are associated with a collaboration between Verimag and ST Microelectronics. The work involves the development and implementation of novel set-based methods to analyze the effect that variations in electronic circuits have on their performance.

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6.8. PhD/Post-Doc: Clemson University, USA

Contributed by: Yongqiang Wang, yongqi@clmson.edu

Applications are invited for doctoral and/or post-doctoral positions in the general area of dynamics and control of network systems. Competitive financial supports will be provided. Students with a strong background in systems and control and a clear interest in the general area of network systems are encouraged to apply. Specific areas of research include: - analysis of dynamical engineered or biochemical networks - hybrid systems - oscillator networks or synchronization Clemson University is ranked 20st among national public universities by U.S. News & World Report (tie with Purdue University-West Lafayette and University of Maryland-College Park). It is described by students and faculty as an inclusive, student-centered community characterized by high academic standards, a culture of collaboration, school spirit, and a competitive drive to excel.

Clemson is located on Lake Hartwell in the foothills of the Blue Ridge Mountains, an area of outstanding natural beauty and temperate climate. It is 30 miles from Greenville, SC, a vibrant and growing city which provides many opportunities for entertainment, culture, and fine dining. Strong mathematical and analytic skills are desired.

Candidates with a demonstrated track record in one or more of the previous area(s) will be preferred. Interested students should send a short resume, along with representative relevant publications, if applicable, to yongqi@clmson.edu

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6.9. Post-Doc: Duke University, USA

Contributed by: Michael Zavlanos, michael.zavlanos@duke.edu

Postdoctoral Position on Distributed Control of Robotic Sensor Networks at Duke University

A postdoctoral position on distributed control of robotic sensor networks is available in the research group of Prof. Michael Zavlanos (<http://people.duke.edu/~mz61/>) at Duke University. Our group conducts research

in the general area of networked systems. We focus on the development of new design methodologies for integrated planning, sensing, and communication for multi-robot wireless systems, using distributed and hybrid solution techniques that build on control theory, distributed optimization, estimation, and networking.

Description of the position:

Current robotic systems have the potential to accomplish a previously intractable scope of tasks. Their ever growing capabilities will soon allow them to operate autonomously outside the lab, in remote, unpredictable, and uncertain environments, where the presence of humans is dangerous or even impossible. For this to become possible, new methods are necessary that will enable seamless integration of sensing, communication, and control in future robotic systems. The goal of this project is to develop those theoretical foundations and methods that will enable future robotic systems to autonomously and reliably explore and operate in unknown and uncertain environments, while at the same time ensuring reliable end-to-end communications.

A key aspect of this work is the development of methods that faithfully represent the physics contained in the models and are free of any non-physical artifacts.

Examples are: (i) novel definitions of network connectivity that differ from existing approaches in that they are not based only on proximity relations and graph theory but also on metrics that are of interest to the performance of the communication between agents, or between agents and a fixed infrastructure; and (ii) explicit sensor models that, unlike existing methods that treat range and bearing measurement uncertainties as independent of range or independent of each other, take into account the correlation between those errors. This research requires the synthesis of new analysis tools that lie on the interface between distributed control, optimization, estimation, and networking.

The successful candidate will hold a PhD in Electrical Engineering, Mechanical Engineering, or Computer Science, and have a demonstrated track record of high-quality research and publications in one or more of the following areas: control theory, robot planning, distributed optimization, estimation, and wireless networking. The postdoc is expected to conduct a vigorous research program in collaboration with Prof. Zavlanos, graduate and undergraduate students, and outside collaborators.

This position is for one year with the option to renew for a second and third year. The position is open from January 2015 until filled. Salary is competitive. For more information or to apply please e-mail a CV to Michael Zavlanos at: michael.zavlanos@duke.edu.

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6.10. Post-Doc: Chalmers University of Technology, Sweden

Contributed by: Paolo Falcone, falcone@chalmers.se

We invite applications for one post-doctoral position in decision-making and control for autonomous driving applications. The main objective of this research is to study and experimentally validate model-based decision-making and control algorithms for autonomous vehicles operating in complex and uncertain environments like, e.g., traffic intersections and highways. Scenarios where the vehicle has to interact with the surrounding, cooperative and non-cooperative traffic will be considered with the objective of maneuvering the vehicle while providing safety guarantees. Research areas relevant for this research project include, but are not limited to,

- Constrained optimal control,
- Stochastic Model Predictive Control,
- Model-based path planning and control,
- Formal verification methods for constrained dynamical systems,

- Networked control systems,
- Modeling, estimation and control of hybrid systems.

The position is announced at the Mechatronics research group of the Department of Signals and Systems at the Chalmers University of Technology.

Major responsibilities:

The successful candidate will join the Mechatronics group at Chalmers within the Department of Signals and Systems (S2), where a team of PhD students, post-docs and senior researchers is active in both fundamental and applied research related to intelligent transportation systems. In particular, this position is announced within a cluster of three post-doc positions at S2 focusing on decision-making and control, sensor fusion and communication problems in self-driving vehicles, with the objective of understanding the interplay between these three disciplines in autonomous driving. The successful candidate will focus on decision-making and vehicle control algorithms with the objective of controlling the vehicle motion in complex environments while guaranteeing safety. The results of the research are expected to be experimentally demonstrated in the testing vehicle available at the department. Co-supervision of doctoral students and contribution to national and international projects within the research area of autonomous driving will be part of the working duties. 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 position is co-funded by the Chalmers Area of Advance in Transportation. The appointment is a full-time employment (not a scholarship) for a period of not more than two years (1+1).

Qualifications:

A PhD (or close to completion) in control theory or a relevant field is required. Experience with automotive control applications and/or background in at least one of the following research areas will be preferred: constrained optimal control, stochastic model predictive control, model-based path planning and control, formal verification methods for constrained dynamical systems, networked control systems. Confidence with programming of real-time rapid-prototyping systems is welcome.

Ability to initiate new research collaborations is essential. Good communication skills in oral and written English are required.

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6.11. Post-Doc: University of California, Riverside, USA

Contributed by: Jay Farrell, farrell@ee.ucr.edu

Post-doctoral Research Scholar needed for Project Automated Sensor Based Mapping of Highways for Connected Vehicles

Advances in sensors, signal processing, and computational methods enable the automated detection and identification of features (e.g., stop bars, lane markings, signs lights, signals) important for roadway maps. New algorithmic methods (e.g., SLAM, iSAM, g2o, GTSAM, MTK) enable automated pose estimation for such features. When combined, the results enable automated, sensor-based highway mapping with unprecedented precision, content, coverage, and updateability. These will, in turn, enable a new generation of applications, dealing with connected vehicles, smart signaling, automated driving, and automated highway inventory management and assessment.

The scope of this project will include working with US state and federal Departments of Transportation to analyze current and recommended future requirements, practices, and map representations/standards. Additional research will develop new approaches that will: enhance robustness and accuracy; achieve and improve map updateability; and, improve automated feature extraction. Sensors that are of interest include:

GNSS, IMU, Camera, and LIDAR.

Requirements: Ph.D. in related area. Strong analytic and programming (Matlab and C++) skills. Knowledge of estimation, optimization, and sensor data processing.

Very useful: Experience working with image and point cloud data processing.

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6.12. Post-Doc: Delft University of Technology, the Netherlands

Contributed by: Robert Babuska, r.babuska@tudelft.nl

The Delft Center for Systems and Control at Delft University of Technology, the Netherlands, announces a vacancy for a one year Postdoc position within the EU-funded project AMBI (Advanced Building Diagnostics and Maintenance): Fault Detection and Diagnosis for Smart Buildings.

Project description:

The successful candidate will carry out research in the field of advanced modeling, virtual sensors, diagnostics and predictive maintenance for heating, ventilation and air-conditioning systems in buildings. More details about the EU-funded project AMBI can be found at <http://www.ambi-project.eu>. Given the complexity, nonlinearity and time-varying nature of heating, ventilation and air-conditioning systems, we aim to develop methods for (semi-)automated construction of virtual sensors by means of evolutionary and neuro-evolutionary techniques. The expected result is a suite of methods with high predictive power and yet acceptable model complexity, which can be controlled by the user. In contrast to most current applications of neuro-evolution (such as computer vision and vision-based reinforcement learning), virtual sensors may not be completely black-box models and must allow for the modeling of uncertainty associated with the predictions. This will allow their integration in predictive-maintenance reasoning schemes. The research will have both theoretic as well as applied components.

What do we ask?

We are looking for a candidate with a PhD degree in systems and control, applied mathematics, artificial intelligence or machine learning, and with a strong interest in inter-disciplinary research. Experience in fault detection and diagnosis and/or virtual sensors is an asset. The candidate must have strong analytical skills and must be able to work at the intersection of several research domains. A very good command of the English language is required, as well as excellent communication skills.

What do we offer?

We offer the opportunity to do scientifically challenging research in a multi-disciplinary research group. The appointment will be for a period of 1 year. As an employee of the university you will receive a competitive salary (between approx. EUR 3000 and EUR 4000 gross per month based on a full-time appointment and depending on the candidate's qualifications), as well as excellent secondary benefits in accordance with the Collective Agreement (CAO) of the Association of Universities in the Netherlands (VSNU). Assistance with accommodation can be arranged.

How to apply?

Submit your application to Prof. Robert Babuska (email: r.babuska@tudelft.nl) before February 28, 2015. Include a cover letter along with a detailed curriculum vitae, a separate motivation letter stating why the proposed research topic interests you, electronic copies of your top three publications, the summary of your PhD thesis, names and addresses of three reference persons, and other information that might be relevant to your application.

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6.13. Post Doc: Nanyang Technological University, Singapore

Contributed by: Erdal Kayacan, erdal@ntu.edu.sg

NTU: Postdoc position in guidance, navigation and control of unmanned aerial vehicles at NTU, Singapore

A detailed information is available in the following link:

https://www.dropbox.com/s/23u9ape8kfiyyz/NTU_post_doc.pdf?dl=0

The application should consist of:

- A motivation letter (explaining the reason that you are interested in joining NTU),
- A CV with a full publication list,
- The contact details of three referees.

These documents must be compiled as a single pdf file, and named as “<Name>_<Surname>.pdf”.

Then, the single file should be sent to “erdal@ntu.edu.sg” with a subject line of “Postdoc application of <Name> <Surname>”

Deadline and starting date: The deadline for the applications is 23th of Jan 2015.

We regret that only shortlisted candidates will be notified.

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6.14. Research Fellow: University of Melbourne, Australia

Contributed by: Peter M. Dower, Pdower@unimelb.edu.au

Research Fellow Max-Plus Methods for Optimal Control

Department of Electrical & Electronic Engineering, University of Melbourne, Australia

A post-doctoral research fellow with an outstanding research background in applied mathematics (or equivalent) is sought to conduct mathematical systems theory research with emphasis on the development of new theory, tools and efficient numerical algorithms for the solution of nonlinear optimal control problems, integro-differential differential equations, and two-point boundary value problems via max-plus/idempotent methods. The successful applicant must have a PhD in Applied Mathematics, Electrical Engineering, or equivalent qualification. Candidates with experience in optimal control theory, dissipative systems theory, max-plus/idempotent methods, or infinite dimensional systems theory are strongly encouraged to apply.

For further details, see the position description at <http://www.jobs.unimelb.edu.au> (search for position no. 0028405).

Salary: \$62,973 - \$85,452 p.a. (Level A) or \$89,955 - \$106,817 p.a. (Level B) plus 9.5% superannuation. The level of appointment is subject to the appointee’s research record, qualifications and experience.

Employment type: Full-time fixed term (research) position available for 1 year.

For further details, please contact Associate Professor Peter M. Dower (pdower@unimelb.edu.au)

Position description is available at <http://www.jobs.unimelb.edu.au> (search for position no. 0028405) Applications must be submitted to <http://www.jobs.unimelb.edu.au>

Closing date: 25 January 2015

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6.15. Faculty: Texas A&M University, USA

Contributed by: Jay Porter, jporter@tamu.edu

Mechatronics and Embedded Systems Faculty Positions at Texas A&M University

The Engineering Technology programs at Texas A&M University in College Station, TX are currently advertising for two open-rank faculty positions in embedded systems hardware/software and/or mechatronics.

The programs at A&M offer four-year, ABET accredited degrees in the areas of Electronic Systems and Manufacturing/Mechanical Engineering Technology. Faculty members are expected to not only excel at teaching but to also participate in other activities including curriculum development, applied research, and industry oriented professional development courses. New faculty will have the opportunity to engage in the creation of a new undergraduate program in Mechatronics and a new Masters program as well. To find out more about these positions, please see the official advertisement at: <http://engineering.tamu.edu/etid/employment>

Dr. Jay R. Porter
Professor and Program Coordinator, ESET
Engineering Technology and Industrial Distribution
Texas A&M University
jporter@tamu.edu

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6.16. Faculty: University of Electronic Science and Technology of China (UESTC), China

Contributed by: Guanyu Xing, xingguanyu@uestc.edu.cn

Faculty positions in Center for Robotics

University of Electronic Science and Technology of China (UESTC) Chengdu, China.

The Center for Robotics is one of the first idiomatological research centers of University of Electronic Science and Technology of China (UESTC). The center takes social robot as the core of research and serves for the country needs in medical rehabilitation, family service and intelligent equipment. The team members come from different colleges of UESTC, such as: computer science, automation engineering, mechatronics engineering, aerospace engineering and electronic engineering, totally of 33 full-time faculties, including 11 professors and 13 associate professors. The center's researches are based on the technology of social robot and strive to reach the international advanced level in the areas of intelligent control theory, machine learning and pattern recognition, computer vision, advanced multimedia and ergonomics. For the development of center, we invite applications for 5 faculty positions and 10 research positions at full ranks.

Applicants must have a Ph.D. or equivalent in robotics, control, mechanics, machine learning, pattern recognition, computer vision, multimedia and ergonomics and need to show strong research record and potential. Successful candidates will be received a joint appointment in the Center for Robotics.

We offer:

1. Faculty positions for Full/Associate/Assistant Professor;
2. Research positions for Full/Associate/Assistant Professor;
3. Salary up to 100,000 RMB to 200,000 RMB per year;
4. Research fund up to 200,000 RMB to 500,000 RMB according to different disciplines/levels of the candidate;
5. Enrollment assistance of your children to local schools.

For distinguished application candidates, we also provide the support of applying for the Thousand Talents Program and Thousand Youth Talents Program.

Application Procedure: Qualified candidates are invited to email the application package to the address below. The package should include a letter of application, detailed curriculum vita, a brief statement of teaching and research interests. The position is available immediately. Applications will be accepted until the position is filled.

Human Resources
Center for Robotics
University of Electronic Science and Technology of China
Chengdu 611731, China
E-mail: uestcrobotics@163.com

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6.17. Faculty: University of Oxford, UK

Contributed by: Antonis Papachristodoulou, antonis@eng.ox.ac.uk

Associate Professor of Engineering Science (Control Engineering)

Department of Engineering Science, in association with Harris Manchester College, University of Oxford

The Department of Engineering Science of the University of Oxford intends to appoint an Associate Professor in Engineering Science (Control Engineering) from 1st September 2015 or earlier. The successful candidate will work at the Department of Engineering Science (Central Oxford) and will be offered a Tutorial Fellowship at Harris Manchester College under arrangements described in the further particulars. The combined University and College salary will be on a scale currently from £44,620 per annum plus additional benefits. The appointment will be initially for five years at which point, upon completion of a successful review, the post-holder will be eligible for reappointment to the retiring age.

This appointment will add further strength to the Department's control engineering research. This includes model predictive process control, robust control, optimal control, model approximation, linear and nonlinear systems theory, fault diagnosis and the design of feedback systems for engineering processes. Existing applications areas include the control of aeroelastic phenomena in civil engineering structures, the optimal control of high-performance road vehicles, clean-energy systems, vehicular transport including electric and hybrid cars and motorcycles, manufacturing systems, power systems engineering, control of particle accelerators and battery management systems. Applications from candidates with research interests both within and complementary to the above areas are welcome. Applications areas are expected to be within engineering science, although other areas such as systems biology, physics and mathematical finance will also be considered.

The successful candidate will be expected to engage in original research in the field of control engineering and its applications, to secure research funding and engage in the management of research projects, to supervise research students and to give six hours per week of tutorials during the eight weeks of the undergraduate term. She or he will have a strong background in control engineering research, including a doctorate in the subject or a cognate discipline, a proven research record of high quality at international level, significant research potential in control engineering, and the ability to attract research funding and develop an independent programme of research. She or he will have the ability to teach effectively, both at undergraduate and graduate levels, and excellent interpersonal skills for undertaking tutorial teaching.

Further particulars, containing full details of the application procedure and duties, may be obtained from this link: <http://www.eng.ox.ac.uk/work-here/FinalFurtherParticularsControlMPLSapproved.docx>.

The job ref is: DF14HMC. Please quote this in all correspondence.

The closing date for applications is 12.00 noon on Friday 30th January 2015.

Queries about the post that are not answered in the further particulars should be addressed to Prof. Tarassenko, Head of Department at academic.recruitment@eng.ox.ac.uk or telephone: +44 (0) 1865 273003.

Applications are particularly welcome from women and black and minority ethnic candidates, who are under-represented in academic posts in Oxford. The University is an Equal Opportunities Employer.

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6.18. Faculty: Johns Hopkins University, USA

Contributed by: Louis Whitcomb, llw@jhu.edu

The Johns Hopkins University, Department of Mechanical Engineering, invites applications for a full-time tenure-track faculty member. The successful applicant is expected to conduct fundamental research in the area of Dynamics, Controls, and Robotics. Applications areas of interest include, but are not limited to, the following: robotics; biological, neural and medical systems; energy and power systems; networks and cyber-physical systems; smart materials and MEMS; hybrid systems; quantum control; stochastic control; filtering and estimation; and design for controllability. Preference will be given to applicants at the assistant professor level, but exceptionally qualified candidates at all ranks will be considered.

Opportunities for interactions across the University include Transdisciplinary Centers and Institutes: the Laboratory for Computational Sensing and Robotics, and the Institute for NanoBio Technology; the Environment, Energy, Sustainability and Health Institute; the Systems Institute. Departments: Computer Science, Electrical and Computer Engineering, Biology, Neuroscience; and Divisions across Johns Hopkins: Applied Physics Laboratory, Medical Institutions, Krieger School of Arts and Sciences, and Bloomberg School of Public Health.

The successful candidate must have a doctorate and is expected to establish a strong, independent, internationally recognized research program as well as contribute fully to both undergraduate and graduate instruction.

All applications should be submitted electronically to <https://academicjobsonline.org/ajo/jobs/5057>.

The application should include a brief cover letter describing the principal expertise and accomplishments of the applicant, a curriculum vita, 1 page teaching statement, 2-3 page statement of research including research directions and future plans, and two representative journal publications. Candidates applying for the position of Assistant Professor should enter names and contact information of at least three (3) references. Candidates applying for associate or full professor positions should not provide any information for references. The application package should be received by January 16, 2015 to ensure full consideration but applications will be accepted until the position is filled. Questions can be addressed to Professor Noah Cowan (ncowan@jhu.edu).

Johns Hopkins University is committed to building a diverse environment; women and minorities are strongly encouraged to apply. The Johns Hopkins University is an EEO/AA employer.

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6.19. Faculty: Purdue University, USA

Contributed by: Martin Corless corless@purdue.edu

The School of Aeronautics and Astronautics at Purdue University invites outstanding individuals to apply for four open faculty positions at all ranks. Though exceptional candidates in all areas of aerospace engineering are welcome to apply, those with interest and expertise in the following areas are especially sought: Astrodynamics and Space Applications: spacecraft platform systems, including attitude determination and controls, autonomous systems, and sensors, as well as modeling, simulation, and visualization (MSV) methods for these areas, with a particular emphasis on innovative research supporting the next generation of mission concepts in planetary science and Earth remote sensing.

Dynamics and Control: dynamics, systems and control with aerospace applications, including autonomous and semi-autonomous aerospace vehicles. Structures and Materials: aeroelasticity, structural dynamic, integrated nondestructive evaluation and prognostics for structural response, structural and material technologies for high Mach number aerospace vehicles, and manufacturing of composite materials and structures.

Applicants should have a Ph.D. or equivalent doctoral level degree in aerospace engineering or a closely related field. The successful candidate will have a distinguished academic record with exceptional potential to develop world-class teaching and research programs. Also, the successful candidate will advise and mentor undergraduate and graduate students in research and other academic activities, will teach undergraduate and graduate courses, will perform service to the school and the university, and will contribute to and thrive in an inclusive climate working with diverse groups of students, faculty, students, and staff.

The School of Aeronautics and Astronautics (AAE) at Purdue University has experienced significant growth in the past decade. AAE faculty members teach and conduct research in aerodynamics, aerospace systems, astrodynamics and space applications, dynamics and control, propulsion, and structures and materials and have significant interdisciplinary efforts across the campus and with other academic institutions and industrial partners. The College of Engineering at Purdue is currently undergoing extensive growth with over one hundred faculty-position openings being projected over the next five years. Details about the School of Aeronautics and Astronautics, its current faculty, and research may be found at <https://engineering.purdue.edu/AAE>. To be considered for one of the four tenured/tenure-track positions at the assistant, associate, or full professor ranks, please submit a curriculum vitae, a statement on teaching and research plans, and the names and addresses of at least three references to the College of Engineering Faculty Hiring website, <https://engineering.purdue.edu/Engr/AboutUs/Employment/>, and indicate an interest in AAE. For information/questions regarding applications, please contact Marion Ragland, Faculty Recruitment Coordinator, College of Engineering, at ragland@purdue.edu ragland@purdue.edu. Review of applications will begin on November 1, 2014 and will continue until all positions are filled. A background check will be required for employment in this position. Purdue's main campus is located in West Lafayette, Indiana - a welcoming and diverse community with a wide variety of cultural activities and events, industries, and excellent schools for K-12. Purdue and the College of Engineering have a Concierge Program to assist new faculty members and their partners on dual career needs and to facilitate their relocation.

Purdue University is an EEO/AA employer fully committed to achieving a diverse workforce. All individuals, including minorities, women, individuals with disabilities, LGBTQ, and veterans are encouraged to apply.

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6.20. Faculty: Harbin Institute of Technology, Shenzhen Graduate School, China

Contributed by: Ms. Zhao, scc.hitsz@gmail.com

Faculty Positions in Systems and Control

Organization/Institution: Harbin Institute of Technology, Shenzhen Graduate School, Shenzhen, China

Department: School of Mechanical Engineering and Automation

The Division of Control and Mechatronics Engineering at Harbin Institute of Technology, Shenzhen Graduate School (HITSZ) invites applications for several faculty positions at all ranks. We are seeking candidates with excellent credentials in the areas of systems and control, wind energy, power systems and smart grids. Applicants must have a Ph.D. or equivalent in electrical, mechanical and power systems engineering and need to show strong research record and potential. Successful candidates will be received a joint appointment in the Center of Systems and Control. The Division currently has 11 full-time faculty members, and is expected to grow to 20 faculties in the next few years.

HITSZ offers a competitive salary and the salary levels at HITSG for these positions are substantially higher than those provided by most universities in China, with full professor in the range of RMB 170K to 230K per year, associate professor in the range of RMB130K to 160K per year, and assistant professor in the range of RMB 90K to 110K per year. Bonus is a plus for all levels, subject to faculty's performance.

Interested candidates can send detailed CV, list of publications, statement of research (no more than 3 pages), teaching interests (no more than 2 pages), and a cover letter including contact information of three references to:

Ms. Zhao

School of Mechanical Engineering and Automation

HIT Campus Shenzhen University Town

Xili, Shenzhen

Guangdong

P. R. China 518055

or email the documents to scc.hitsz@gmail.com

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6.21. Faculty: Hong Kong University of Science and Technology, Hong Kong

Contributed by: Ling Shi, eesling@ust.hk

Faculty position in Electronic and Computer Engineering

The Department of Electronic and Computer Engineering (ECE) at the Hong Kong University of Science and Technology invite application for a position at the rank of Assistant Professor in Networked Systems Control (expertise in complex dynamic networks, energy systems, or social networks will be a plus).

The Hong Kong University of Science and Technology is a world renowned, international research university in Asia's most vibrant city, Hong Kong. Its Engineering School has been consistently ranked among the world's top 25 since 2004. The high quality of our faculty, students and facilities provide for outstanding opportunities for faculty to pursue highly visible research programs. All formal instruction is given in English and all faculty members are expected to conduct research and teach both undergraduate and graduate courses. The Department of ECE has excellent computing resources, and state-of-the-art teaching and research laboratories. Currently the Department has about 40 faculty members, 800 undergraduate students and 350 postgraduate students. The University is committed to increasing the diversity of its faculty and has a range of family-friendly policies in place.

Starting salary will depend on qualifications and experience. Fringe benefits including medical and dental benefits, annual leave and housing will be provided where applicable. Initial appointment will normally be on a three-year contract. A gratuity will be payable upon successful completion of contract. Re-appointment will be subject to mutual agreement.

Applications including full curriculum vitae, list of publications, names of five referees addressed to Prof. Amine Bermak, Chair of the Search Committee, and should be sent by email to eesearch@ust.hk (and cc Prof. Li Qiu eeqiu@ust.hk or Prof. Ling Shi eesling@ust.hk). Applications will be considered until the position is filled. More information about the department is available on the website <http://www.ece.ust.hk>. (Information provided by applicants will be used for recruitment and other employment-related purposes.)

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6.22. Faculty: Ohio State University, USA

Contributed by: Wei Zhang, zhang.491@osu.edu

The Ohio State University invites applications from outstanding candidates for multiple tenure track faculty positions in the Department of Electrical and Computer Engineering. All areas and ranks in electrical and computer engineering will be considered. We are especially interested in the areas of (i) control systems, (ii) biomedical applications including cancer detection and imaging, (iii) cloud computing, machine learning,

and data analytics, and (iv) senior candidates in electromagnetics, microwave theory, RF systems, or remote sensing; all positions may involve joint appointments with other engineering departments. Applicants must have a Ph.D. degree and outstanding academic credentials. Successful candidates will be expected to develop a vigorous externally-funded research program, show excellence and leadership in academic and scholarly activities, and demonstrate outstanding teaching at the undergraduate and graduate levels.

Applicants are requested to send (1) a letter of application, (2) curriculum vitae, (3) statement of research plans in the context of prior research accomplishments, (4) brief statement of teaching philosophy, and (5) names of four references (name, address and e-mail address) to Professor Roberto Rojas at search@ece.osu.edu.

The Ohio State University is an ADVANCE University. To build a diverse workforce Ohio State encourages applications from individuals with disabilities, minorities, veterans, and women. EEO/AA employer.

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6.23. Staff Scientist/Engineer: AreteX Engineering, USA

Contributed by: Behnood Gholami, bgholami@aretexeng.com

AreteX Engineering, a medical device startup company accelerating the use of information technology in healthcare, has an immediate opening for a Staff Scientist/Engineer in its office located in New York City, SoHo district. The position involves theoretical modeling and data-driven computational modeling for the evaluation and development of innovative biomedical technologies. Specifically, computational analysis of neural and psychophysical behavioral data will be required, with an emphasis on cross-sensory and cross-cue integration. We are looking for a self-motivated, highly talented individual with an excellent background in machine learning, biosignal processing, statistical modeling, dynamical systems and control, and neural networks. The successful candidate will work closely with a team of physicians, nurses, engineers, and scientists in collecting and analyzing psychophysiological data from patients. Candidates with experience in the analysis of experimental data derived from-but not limited to-auditory/visual/cross-sensory psychophysical, EEG, ECG, and galvanic-skin conductance, data would be given a higher priority.

Requirements:

- PhD in computer science, computational neuroscience, electrical engineering, biomedical engineering, or a related field.
- Prior experience in signal processing and feature extraction from physiological signals. Extensive experience in EEG analysis is required.
- Expertise and innovation in methods, theory, and application of probabilistic statistical modeling, machine learning, and neural networks with a broad understanding of methodological approaches and proficiency in practice.
- Expert abilities to work with new data sets regardless of prior exposure to current topic.
- Strong interest in research and learning new technologies.
- Proficient at writing technical papers/reports/presentations.
- Highly proficient in MATLAB.
- Experience with Python.
- Experience with speech, audio, or video technologies.
- Prior expertise and exposure using non-invasive human physiological measures such as EEG, ECG, galvanic-skin conductance, or other categorically similar methodologies.
- Experience working with quantitative methods of neural data analysis.

Send your cover letter and CV to info@aretexeng.com or visit www.aretexeng.com for more information.

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