

## **E-LETTER on Systems, Control, and Signal Processing**

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Welcome to the 339 issue of the Eletter, available electronically [here](#).

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- 5.40 Faculty: University of Houston, USA
- 5.41 Faculty: University of Minnesota, USA
- 5.42 Faculty: Washington University in St. Louis, USA
- 5.43 Systems Designer: Kulicke and Soffa Corporation, USA

## 1. IEEE CSS Headlines

### 1.1. IEEE Control Systems Society Publications Content Digest

Contributed by: Elizabeth Kovacs, [ekovacs2@nd.edu](mailto:ekovacs2@nd.edu)

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

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

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### 1.2. IEEE Transactions on Automatic Control

Contributed by: Elizabeth Kovacs, [ekovacs2@nd.edu](mailto:ekovacs2@nd.edu)

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### 1.3. IEEE Transactions on Control Systems Technology

Contributed by: Thomas Parisini, [eic-ieeeetst@units.it](mailto:eic-ieeeetst@units.it)

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#### 1.4. IEEE Control Systems Society Technically Cosponsored Conferences

Contributed by: Luca Zaccarian, CSS AE Conferences, [zaccarian@laas.fr](mailto:zaccarian@laas.fr)

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

- 2017 International Conference on Unmanned Aircraft Systems (ICUAS'17). Miami (FL), United States. Jun 13 - Jun 16, 2017. <http://www.uasconferences.com/>
- 21st International Conference on Methods and Models in Automation and Robotics (MMAR 2016). Miedzyzdroje, Poland. Aug 29 - Sep 1, 2016. <http://mmar.edu.pl/>
- 6th International Symposium on Advanced Control of Industrial Processes (AdCONIP 2017). Taipei, Taiwan. May 28 - May 31, 2017. <http://www.adconip2017.org/>
- 16th International Conference on Control, Automation and Systems (ICCAS 2016). Gyeongju, South Korea. Oct 16 - Oct 19, 2016. <http://2016.iccas.org/>

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

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### 1.5. CFP: IEEE-CSS Outreach Fund

Contributed by: Daniel E. Rivera, [daniel.rivera@asu.edu](mailto:daniel.rivera@asu.edu)

The IEEE CSS Outreach Task Force is pleased to announce the submission window for proposals to the IEEE-CSS Outreach Fund for its 2016 fall solicitation. Proposals will be received starting Monday, October 31 through midnight on Friday, November 18, 2016. Information regarding the program can be found in:

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

Inquiries, notices of intent, and requests for application forms should be made directly to Daniel E. Rivera, Outreach Task Force Chair, at [daniel.rivera@asu.edu](mailto:daniel.rivera@asu.edu).

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## 2. MISC

### 2.1. International Graduate School on Control

Contributed by: Francoise Lamnabhi-Lagarrigue, [lamnabhi@l2s.centralesupelec.fr](mailto:lamnabhi@l2s.centralesupelec.fr)

EECI-IGSC-2017: The pre-programme of the 2017 International Graduate School on Control is listed below. Summaries of the courses and pre-registration: <http://www.eeci-igsc.eu>

M01 - PARIS-SACLAY

23/01/2017-27/01/2017

Computational issues in nonlinear control

Arthur Krener, Naval Postgrad. School, Monterey, USA

M02 - PARIS-SACLAY

30/01/2017-03/02/2017

Decentralized and distributed control

Giancarlo Ferrari-Trecate, EPFL, Switzerland & Marcello Farina, Politecnico di Milano, Italy

M03 - PARIS-SACLAY

06/02/2017-10/02/2017

Model Predictive Control

Eduardo F. Camacho, University of Sevilla, Spain

M04 - PARIS-SACLAY

13/02/2017-17/02/2017

Nonlinear control design via Lyapunov functions and positivity-based techniques

Frédéric Mazenc, INRIA, Paris-Saclay, France

M05 - PARIS-SACLAY

20/02/2017-24/02/2017

Modeling and control of distributed parameter systems: the Port Hamiltonian Approach

Yann Le Gorrec, ENS2M, Besançon, France & Hans Zwart, University of Twente, The Netherlands



M06 - PARIS-SACLAY

27/02/2017-03/03/2017

Energy-based modeling and control of physical systems

Arjan van der Schaft, University of Groningen & Dimitri Jeltsema, TU Delft, The Netherlands

M07 - PARIS-SACLAY

06/03/2017-10/03/2017

Modern mathematical methods for nonlinear systems with constraints, discontinuities, impacts...

Rafal K. Goebel, Loyola University Chicago, IL, USA

M08 - MADRAS(India)

13/03/2017-16/03/2017

Nonlinear Model Predictive Control

Frank Allgöwer & Matthias A. Müller, University of Stuttgart, Germany

M09 - PARIS-SACLAY

13/03/2017-17/03/2017

Stability, control, and computation for time-delay systems

Wim Michiels, KU Leuven, Belgium & Silviu-Iulian Niculescu, CNRS, Paris-Saclay, France

M10 - PARIS-SACLAY

20/03/2017-24/03/2017

Hybrid feedback control systems : analysis and design

Ricardo G. Sanfelice, University of California at Santa Cruz, California, USA

M11 - PADOVA(Italy)

27/03/2017-31/03/2017 Local methods for nonlinear systems and control

Rodolphe Sepulchre & Fulvio Forni, University of Cambridge, UK

M12 - BERLIN(Germany)

03/04/2017-07/04/2017

Distributed coordination of multi-agent Systems

Wei Ren, University of California, Riverside, USA

M13 - PARIS-SACLAY

10/04/2017-14/04/2017

Introduction to the control of Partial Differential Equations

Enrique Zuazua, DeustoTech-Bilbao and Universidad Autónoma de Madrid, Spain

M14 - L'AQUILA(Italy) 18/04/2017-21/04/2017 Modeling, analysis and design of wireless sensor and actuator networks Alessandro D'Innocenzo, University of L'Aquila & Carlo Fischione, KTH Royal Inst. Tech., Sweden

M15 - LONDON(UK)

17/04/2017-21/04/2017

Markov chain models in economics, management and finance

Alexander Poznyak, CINVESTAV-IPN, Mexico

M16 - GRENOBLE(France)

24/04/2017-28/04/2017

Adaptive control with applications to active noise and vibration control Ioan D. Landau, CNRS GIPSA-LAB, Grenoble, France & Tudor-Bogdan Airimitoiaie, Univ. Bordeaux, France

M17 - PARIS-SACLAY

02/05/2017-05/05/2017

LMIs for optimization and control

Didier Henrion CNRS LAAS, University of Toulouse, France

M18 - BERLIN(Germany)

08/05/2017-12/05/2017

Distributed computation and control

A. Stephen Morse, Yale University, USA

M19 - PARIS-SACLAY

15/05/2017-19/05/2017

Deterministic networked control: new entropy and information concepts

Girish Nair, University of Melbourne, Australia & Christoph Kawan, University of Passau, Germany

M20 - ISTANBUL(Turkey)

15/05/2017-19/05/2017

Practical adaptive control

Anurhanda Annaswamy, MIT, USA

M21 - PARIS-SACLAY

29/05/2017-02/06/2017

Switched systems and control

Daniel M. Liberzon, University of Illinois, USA

M22-ST PETERSBURG(Russia)

29/05/2017-02/06/2017

Nonlinear observers: applications to aerial robotic systems

Robert Mahony, Jochen Trumpf, Australian Nat. Univ & Tarek Hamel, CNRS, Sophia-Antipolis, France

M23 - PARIS-SACLAY

06/06/2017-09/06/2017

Modern Sliding Mode Control

Leonid Fridman & Jaime A. Moreno Pérez

Leaflet: <<https://idata.lss.supelec.fr/index.php/s/ILT0dU8Vw3ippmO>>

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## **2.2. Guidance, Navigation, and Control (GNC) Listserv**

Contributed by: Tansel Yucelen, [yucelen@lakis.team](mailto:yucelen@lakis.team)

Guidance, Navigation, and Control (GNC) Listserv

We are launching the Guidance, Navigation, and Control (GNC) Listserv - <http://mylakis.com/listserv/gnc.html>

- a free communication tool created for researchers and educators in the GNC field. Its purpose is simple: Distribute GNC news and announcements to subscribers on its server. Specifically, after subscribing to the GNC Listserv, a subscriber can email to [gnc@listserv.usf.edu](mailto:gnc@listserv.usf.edu) for distributing intended message, where all other subscribed people will receive the message via email.

To subscribe to GNC Listserv for using this communication tool and receiving most recent GNC news and announcements, do one of the following:

- 1) Send an email to [listserv@listserv.usf.edu](mailto:listserv@listserv.usf.edu) with no text on the subject line but write "subscribe gnc" without quotation marks to the body of your email (see <http://mylakis.com/resources/subscribe.png> for a sample email).

2) Visit <http://listserv.usf.edu/scripts/wa.exe?SUBED1=GNC&A=1> and click "Subscribe (GNC)" button after entering your email address.

Once subscribed, simply email to [gnc@listserv.usf.edu](mailto:gnc@listserv.usf.edu) for distributing your news and announcements. You will also immediately start to receive most recent GNC news and announcements. We cordially hope that GNC Listserv will be an effective communication tool to our field. Please let the GNC Listserv Director Dr. Tansel Yucelen ([yucelen@lakis.team](mailto:yucelen@lakis.team)) know if you have any questions.

Dr. Tansel Yucelen

Assistant Professor of the Mechanical Engineering Dept.

Dir. of the Lab. for Autonomy, Control, Information,

and Systems (LACIS, <http://www.lakis.team/>)

University of South Florida

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### 3. Journals

#### 3.1. Contents: Automatica

Contributed by: Elisa Capello, [automatica@polito.it](mailto:automatica@polito.it)

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Vol. 73, November 2016

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### 3.2. Contents: Asian Journal of Control

Contributed by: Lichen Fu, [lichen@ntu.edu.tw](mailto:lichen@ntu.edu.tw)

Asian Journal of Control

Vol.18, No.5 September, 2016

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Authors: S. Mohammad Noorbakhsh and Jafar Ghaisari

6. Paper Title: Consensus in second-order Markovian jump multi-agent systems via impulsive control using sampled information with heterogeneous delays (pages 1940-1949)

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### 3.3. Contents: Control Engineering Practice

Contributed by: Martin Böck, [cep@acin.tuwien.ac.at](mailto:cep@acin.tuwien.ac.at)

Control Engineering Practice

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### 3.4. Contents: IEEE/CAA Journal of Automatica Sinica

Contributed by: Yan Ou, [yan.ou@ia.ac.cn](mailto:yan.ou@ia.ac.cn)

IEEE/CAA Journal of Automatica Sinica

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### 3.5. Contents: Applied and Computational Mathematics

Contributed by: Fikret Aliev, [chief.ed@acmij.az](mailto:chief.ed@acmij.az)

Applied and Computational Mathematics an International Journal

Vol.15, No.3, October 2016

[www.acmij.az](http://www.acmij.az)

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## 4. Conferences

### 4.1. American Control Conference

Contributed by: Belinda Batten, [belinda.batten@oregonstate.edu](mailto:belinda.batten@oregonstate.edu)

2017 AMERICAN CONTROL CONFERENCE

Seattle, Washington USA, May 24-26, 2017

<http://acc2017.a2c2.org>

The 2017 AMERICAN CONTROL CONFERENCE will be held Wednesday through Friday, May 24-26, at the Sheraton Seattle Hotel in the heart of Seattle, Washington. The conference venue is near restaurants, shopping, and entertainment, just a walk to the Seattle Waterfront, Pike Place Market, Space Needle, Seattle Aquarium, and the Washington State Ferries.

The ACC is the annual conference of the American Automatic Control Council (AACC, the U.S. national member organization of the International Federation for Automatic Control (IFAC)). National and international society co-sponsors of ACC include American Institute of Aeronautics and Astronautics (AIAA), American Institute of Chemical Engineers (AIChE), Applied Probability Society (APS), American Society of Civil Engineering (ASCE), American Society of Mechanical Engineers (ASME), IEEE Control Systems Society (IEEE-CSS), International Society of Automation (ISA), Society for Modeling & Simulation International (SCS), and Society for Industrial & Applied Mathematics (SIAM).

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

Plenary and semi-plenary lectures will be provided by:

Prof. Vijay Kumar, University of Pennsylvania, USA

Prof. James Rawlings, University of Wisconsin, USA

Prof. Harry Asada, Massachusetts Institute of Technology, USA

Prof. Javad Lavaei (2016 Eckman Award Winner), University of California, Berkeley, USA

Prof. Jacquélien Scherpen, University of Groningen, The Netherlands

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## 4.2. SIAM Conference on Control & Its Applications

Contributed by: Wei Kang, [wkang@nps.edu](mailto:wkang@nps.edu)

The 2017 SIAM Conference on Control & Its Applications - SIAM CT17

July 10-12, 2017

David Lawrence Convention Center (DLCC), Pittsburgh, PA, USA

<http://www.siam.org/meetings/ct17/>

Twitter hashtag: #SIAMCT17

This meeting is being held jointly with the SIAM Annual Meeting (AN17). It is also co-located with several other SIAM conferences and workshops on industrial and applied mathematics and their applications.

SIAM CT is a conference series on control systems and its applications started in 1989 in San Francisco. Every two years, this conference showcase a wide range of topics in control and systems theory, including but not limited to: control of PDEs, computational mathematics for control and optimization, filtering and data assimilations, dynamic games, financial mathematics and control theory, cooperative control and unmanned autonomous vehicles, control of distributed system and power systems, risk sensitive control, control of hybrid systems, control of biomedical systems, flow control and quantum control, aerospace systems and dynamics of very high dimensional systems.

Some Important Dates

January 4, 2017: Minisymposium Proposal Submissions

January 20, 2017: SIAM Student Travel and Early Career Travel Award Applications

February 1, 2017: Contributed Lecture, Poster and Minisymposium Presentation Abstracts

February 1, 2017: Full Paper Consideration in Proceedings (Optional)

Please visit <http://www.siam.org/meetings/ct17/submissions.php> for detailed submission information.

For additional information, contact the SIAM Conference Department ([meetings@siam.org](mailto:meetings@siam.org)).

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### 4.3. Mediterranean Conference on Control and Automation

Contributed by: Didier THEILLIOL, [didier.theilliol@univ-lorraine.fr](mailto:didier.theilliol@univ-lorraine.fr)

25th Mediterranean Conference on Control and Automation - MED'17

Valletta, Malta

July 3-6, 2017

<https://www.um.edu.mt/events/med2017/>

Important Dates/Deadlines:

Full Papers / Invited Sessions / Tutorial Proposals: February 6, 2017

Acceptance / Rejection Notification: April 17, 2017

Upload Final, Camera Ready Papers: May 5, 2017

Early Registration: April 17 - May 5, 2017

The theme of MED'17 centers on control and automation challenges and opportunities in the 21st century and on control of autonomous systems. MED'17 spans four full days. July 3 is devoted to Tutorials and Workshops, followed by the three day technical conference on July 4-6. The conference, through its technical program and keynote presentations, will provide a unique opportunity for the academic, research 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 and systems theory with hardware/software and communication technologies, as well as new developments in robotics and mechatronics, autonomous systems, unmanned systems, cyber physical systems, network controlled systems, with the goal of strengthening cooperation of control and automation scientists with industry.

For topics of interest please visit the conference website.

Paper Submission:

The Program Chairs are soliciting contributed technical papers for presentation at the Conference and publication in the Conference Digital Proceedings. All papers must be submitted and uploaded electronically. Go to <https://controls.papercept.net>. Click on the link "Submit a Contribution to MED'17" 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 submitted paper is 6. Up to two additional pages will be permitted for a charge of 100 euro per additional page. Illustrations and references are included in the page count.

Invited and Special Sessions:

Proposals for invited and special sessions by topic of interest must be submitted and uploaded electronically. A Summary Statement describing the motivation and relevance of the proposed session, invited paper titles and author names must be uploaded electronically by February 7, 2017. In addition, authors must submit full versions of invited papers electronically, through <https://controls.papercept.net>. Each such paper must be marked as 'Invited Session Paper'

Workshops - Tutorials:

Proposals for workshops - tutorials should contain the title of the session, the list of speakers, and extended summaries (2000 words) of their presentations. Proposals must be sent by e-mail to the Tutorial and Workshop Chair by February 7, 2017.

Paper Review Process:

All submitted papers will undergo a peer review process coordinated by the Program Chairs, Advisory

Committee Members, IPC members and qualified reviewers.

Authors 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 appear in IEEE Xplore.

For information and details about the Conference, contact by e-mail the General or Program Chairs (med2017@um.edu.mt).

Important Dates/Deadlines:

Full Papers / Invited Sessions / Tutorial Proposals: February 6, 2017

Acceptance / Rejection Notification: April 17, 2017

Upload Final, Camera Ready Papers: May 5, 2017

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#### **4.4. IEEE International Conference on Control & Automation**

Contributed by: Lu Liu, [lulu45@cityu.edu.hk](mailto:lulu45@cityu.edu.hk)

2017 13th IEEE International Conference on Control & Automation (IEEE ICCA 2017)

July 3-6, 2017

Ohrid, Macedonia

<http://www.ieee-icca.org/>

The 13th IEEE International Conference on Control & Automation (IEEE ICCA 2017) will be held on July 3-6, 2017, in Ohrid, Macedonia. It is to create a forum for scientists and practicing engineers throughout the world to present the latest research findings and ideas in the areas of control and automation. The conference is featured with Best Paper Award and Best Student Paper Award. Past IEEE ICCA Proceedings have been included in EI Compindex, IEEE Xplore and ISI Proceedings.

The conference will be held in Ohrid, a beautiful city in the Republic of Macedonia and the seat of Ohrid Municipality. It is the largest city on Lake Ohrid and notable for once having had 365 churches. It was accepted as Cultural and Natural World Heritage Sites by UNESCO and one of only 28 sites that are part of UNESCO's World Heritage that are both Cultural and Natural sites.

Important Dates

Deadline for Manuscript Submissions: December 31, 2016

Notification of Acceptance: March 15, 2017

Submission of Final Manuscripts: April 15, 2017

Conference: July 3-6, 2017

Topics of interest include but not limited to Modeling of Complex Systems, Linear Systems, Robust and H-infinite Control, Nonlinear Systems and Control, Fuzzy and Neural Systems, Estimation and Identification, Fault Detection, Process Control & Instrumentation, Motion Control, Flexible Manufacturing Systems, Integrated Manufacturing, Factory Modeling and Automation, Petri-Nets and Applications, Micro and Nano Systems, Modeling of Complex Systems, Linear Systems, Robust and H-infinite Control, Nonlinear Systems and Control, Fuzzy and Neural Systems, Estimation and Identification, Fault Detection, Process Control & Instrumentation, Motion Control, Flexible Manufacturing Systems, Integrated Manufacturing, Factory Modeling and Automation, Petri-Nets and Applications, Micro and Nano Systems, Sensor networks and networked control.

Keynote Speeches:

- Extremum Seeking and its Applications, Professor Miroslav Krstic, University of California at San Diego,

USA.

- Analysis and Control of Collective Behaviour in Complex Multi-agent Systems, Professor Mario di Bernardo, University of Bristol, U.K. and University of Naples, Italy.

- Representations of the Saturation Nonlinearity and Lyapunov Functions for Control Systems with Actuator Saturation, Professor Zongli Lin, University of Virginia, USA.

Submission of Papers:

Authors should submit the full version of their manuscripts online through the conference website at <http://www.ieee-icca.org> (or <http://uav.ece.nus.edu.sg/icca17/>). General inquiries should be addressed directly to Program Chair, Professor Lu Liu, at City University of Hong Kong (email: [lliu4579@gmail.com](mailto:lliu4579@gmail.com)). Proposals for invited sessions in the related areas are also solicited and should be submitted through email to Invited Session Chair, Professor Keyou You at Tsinghua University(email: [youky@tsinghua.edu.cn](mailto:youky@tsinghua.edu.cn)).

More detailed information about conference sponsors, conference technical program, organizing committee and more can be found on the conference web page.

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#### **4.5. International Conference on Process Control**

Contributed by: Michal Kvasnica, [michal.kvasnica@stuba.sk](mailto:michal.kvasnica@stuba.sk)

21st International Conference on Process Control

Strbske Pleso, High Tatras, Slovak Republic

June 6 - 9, 2017

<http://www.kirp.chtf.stuba.sk/pc17>

The 21st conference PC'17 will be held in the hotel Trigan in Strbske Pleso, beautifully located in the heart of the High Tatras mountains in the northern Slovakia.

##### **LOCATION**

Situated on the border between Slovakia and Poland, High Tatras is one of the most impressive national parks in the Slovakia. It is a home to a wide variety of wildlife. Many kilometers of well marked pathways can be explored ranging from easy to extremely difficult. Strbske pleso is a renowned place for its winter and summer sport activities.

##### **SCOPE OF THE CONFERENCE**

The objective of the conference is to bring together theoretical experts and control systems specialists, to evaluate new possibilities of techniques, design procedures and instruments in process control projects. Papers for presentation may range from theoretically rigorous research works to industrial applications.

##### **SESSIONS**

1. Linear and Non-linear Control System Design
2. Modelling, Simulation, and Identification of Processes
3. Process Measurements and Devices
4. Process Optimisation
5. Robust and Adaptive Control
6. Control Education
7. Intelligent Control Systems
8. Industrial Automation
9. Applications and Case Studies
10. Model Predictive Control

11. Algorithms and Computing for Control

12. MATLAB Computing and Toolboxes

#### PLENARY SPEAKERS

S. Skogestad (NTNU Trondheim): Economic Plantwide Control: Control structure design for complete processing plants

M. Moenningmann (RU Bochum): Constructive Nonlinear Dynamics in Optimisation and Process Systems

#### WORKSHOP

B. Houska (ShanghaiTech): Optimal Control, ACADO Toolkit, MPC

#### IMPORTANT DATES

January 31, 2017 Submission of full papers

April 1, 2017 Notification of acceptance

May 2, 2017 Submission of camera-ready papers

June 6-9, 2017 Conference

#### SUBMISSION

Papers can be uploaded through the on-line conference management system. The submitted full papers will be subject to a peer-review process. One of the authors is supposed to take part in the conference. The working language will be English. Accepted papers will be submitted to IEEE Xplore and to Scopus.

#### REGISTRATION FEE

The fee is 360 EUR (260 EUR for PhD students) and includes participation at the conference and exhibitions, conference proceedings, banquet and a complimentary bus transport from Bratislava to Strbske Pleso and back. Hotel accommodation at the conference venue and special full board meals (breakfast, lunch, dinner) can be booked at a reduced rate of 60 EUR/night for the duration of the conference. The booking must be done via the conference management portal.

#### INFORMATION

For more information, visit

<http://www.kirp.chtf.stuba.sk/pc17>

or write to

1. e-mail: [pc17@kirp.chtf.stuba.sk](mailto:pc17@kirp.chtf.stuba.sk)

2. Institute of Information Engineering, Automation, and Mathematics

Slovak University of Technology in Bratislava

Radlinskeho 9, 812 37 Bratislava, Slovak Republic

phone: (+421) (2) 59325366, fax: (+421) (2) 59325340

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#### **4.6. International Conference on Information Science and Technology**

Contributed by: Leung Man Fai, [manfleung7-c@my.cityu.edu.hk](mailto:manfleung7-c@my.cityu.edu.hk)

The Seventh International Conference on Information Science and Technology (ICIST 2017) will be held in Da Nang, Vietnam during April 16-19, 2017, following the successes of previous events. Located at the central Vietnam, Da Nang is a popular beach resort and the second largest seaport in Vietnam, with three UNESCO heritage sites (Hue, Hoi An, and My Son) nearby.

ICIST 2017 aims to provide a high-level international forum for scientists, engineers, and educators to present the state of the art of research and applications in related fields. The conference will feature plenary speeches given by world renowned scholars, regular sessions with broad coverage, and special sessions focusing on popular topics.

Prospective authors are invited to contribute high-quality papers to ICIST2017. In addition, proposals for special sessions within the technical scopes of the conference are solicited. Special sessions, to be organized by internationally recognized experts, aim to bring together researchers in special focused topics. Papers submitted for special sessions are to be peer-reviewed with the same criteria used for the contributed papers. Researchers interested in organizing special sessions are invited to submit formal proposals to ICIST2017. A special session proposal should include the session title, a brief description of the scope and motivation, names, contact information and brief biographical information on the organizers.

Authors are invited to submit full-length papers (8 pages maximum) by the submission deadline through the online submission system. Special session organizers are also invited to enlist six or more papers with cohesive topics to form special sessions. The submission of a paper implies that the paper is original and has not been submitted under review or is not copyright-protected elsewhere and will be presented by an author if accepted.

All submitted papers will be refereed by experts in the field based on the criteria of originality, significance, quality, and clarity. The authors of accepted papers will have an opportunity to revise their papers and take consideration of the referees' comments and suggestions. All accepted papers are expected to be included in IEEE Xplore and will be indexed by EI.

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#### **4.7. International Symposium on Neural Networks**

Contributed by: Leung Man Fai, [manfleung7-c@my.cityu.edu.hk](mailto:manfleung7-c@my.cityu.edu.hk)

Following the successes of previous events, the 14th International Symposium on Neural Networks (ISNN 2017) will be held in Sapporo, Hokkaido, Japan. Located in northern island of Hokkaido, Sapporo is the fourth largest Japanese city and a popular summer/winter tourist venue.

ISNN 2017 aims to provide a high-level international forum for scientists, engineers, and educators to present the state of the art of neural network research and applications in related fields. The symposium will feature plenary speeches given by world renowned scholars, regular sessions with broad coverage, and special sessions focusing on popular topics.

Call for Papers and Special Sessions

Prospective authors are invited to contribute high-quality papers to ISNN 2017. In addition, proposals for special sessions within the technical scopes of the symposium are solicited. Special sessions, to be organized by internationally recognized experts, aim to bring together researchers in special focused topics. Papers submitted for special sessions are to be peer-reviewed with the same criteria used for the contributed papers. Researchers interested in organizing special sessions are invited to submit formal proposals to ISNN 2017. A special session proposal should include the session title, a brief description of the scope and motivation, names, contact information and brief biographical information of the organizers.

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#### **4.8. IFAC Conference on Cyber-Physical & Human-Systems**

Contributed by: Mariana Netto, [mariana.netto@ifsttar.fr](mailto:mariana.netto@ifsttar.fr)

CPS'2016] 1st IFAC Conference on Cyber-Physical&Human-Systems  
7-9 December 2016, Florianopolis, Brazil

The detailed programme is now available at:

<http://www.cps2016.org/technical-program/>

#### 7 Keynote talks:

- New challenges for advanced control in connected buildings, Petr Stluka, Honeywell, Prague, Czech Republic
- High performance computing: breakthroughs and challenges, Gérard Roucairol, TERATEC, President, and French Academy of Technologies, France.
- Where humans and machines meet: systematic modeling of human-machine systems, Brian Mettler, Minneapolis, University of Minnesota, US.
- Operator support for improving resource efficiency in chemical plants, Sebastian Engell, TU Dortmund, Allemagne.
- Human reliability and CPHS, Frédéric Vanderhaegen, LAMIH, Université de Valenciennes, France.
- A cybernetic driver model to support steering control assistance and distraction monitoring, Franck Mars, IRCCyN, CNRS & ECN, France.
- New developments on lower extremity exoskeleton systems, Homayoon Kazerooni, University of California at Berkeley, Founder and CEO, US.

#### 7 Sessions on:

- Smart Control Mechanisms in Complex Systems
- Human & Cyber-Physical Systems
- CPHS in transportation: from humans to autonomous traffic management
- Human Operators
- Pilot Vehicle System Analysis and Design
- Smart CPS for Restoring Human Movement after Paralysis
- Human and robotics

#### 1 Tutorial on Neuroergonomics & CPHS

#### 2 Open Panels:

- CPHS in Transportation, a look through completely different Worldwide scenarios
- Evolution, potential impacts and prospective - from an interdisciplinary view

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### **4.9. CDC Workshop: “Verification and Control of Cyber-Physical Systems: Theory and Applications”**

Contributed by: Maria Prandini, [maria.prandini@polimi.it](mailto:maria.prandini@polimi.it)

Workshop “Verification and control of cyber-physical systems: theory and applications” at the 55th IEEE Conference on Decision and Control

Date and Place: December 11, 2016, ARIA Resort & Casino, Las Vegas, USA

Website: <http://cdc2016.ieeecss.org/workshops.php>

#### Organizers:

Axel Busboom - GE Global Research Europe, Munich, Germany

Maria Prandini - Politecnico di Milano, Italy

#### Speakers:

Matthias Althoff - Technical University Munich, Germany

John S. Baras - University of Maryland, US

Mauricio Castillo-Effen - GE Global Research, US

Kerstin Eder - University of Bristol, UK

Karl Henrik Johansson - KTH Stockholm, Sweden

George J. Pappas - University of Pennsylvania, US



Alessandro Pinto - United Technologies Research Center, US

Olaf Stursberg - University of Kassel, Germany

This one-day workshop highlights recent advances and developments in the field of cyber-physical systems (CPSs), motivated by emerging applications involving autonomous systems such as automated vehicles and robotic systems. A concise, yet comprehensive, exposition to verification and control of complex CPSs will be provided, with an in depth understanding of the challenges posed by their hybrid dynamics, interconnected and distributed nature, the presence of exogenous and/or endogenous uncertainty affecting their evolution, their safety and operational critical nature, and with a wide coverage of possible solution methodologies. The goal is to expose attendees to cutting edge research in the field, with an eye on both theory and applications, and to encourage the development of new results and the investigation of several important issues in the future of complex CPS design, promoting novel collaborations. To this purpose, outstanding researchers from leading industries and universities worldwide are brought together to offer their vistas on the field. The target audience comprises graduate level control engineers as well as researchers with a strong interest in systems and control theory, either from a theoretical or an application point of view.

For more details, please visit [http://home.deib.polimi.it/prandini/CDC16\\_CPS\\_workshop.htm](http://home.deib.polimi.it/prandini/CDC16_CPS_workshop.htm) and take a look at the pdf file with the scheduled presentations

([http://home.deib.polimi.it/prandini/agenda\\_workshop\\_CDC16.pdf](http://home.deib.polimi.it/prandini/agenda_workshop_CDC16.pdf))

Students can register at a discounted rate (see <http://cdc2016.ieeecss.org/registration.php>).

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#### **4.10. CDC Workshop: “Perception, Control and Planning for Agile Autonomous Agents”**

Contributed by: Panagiotis Tsiotras, [tsiotras@gatech.edu](mailto:tsiotras@gatech.edu)

IEEE CDC Workshop WS17 on “Perception, Control and Planning for Agile Autonomous Agents”

Organizers: Panagiotis Tsiotras, Evangelos Theodorou, Eric Feron

Speakers: Eric Feron (Georgia Tech), Laurent Itti (USC), Sertac Karaman (MIT), Giuseppe Loianno (UPenn), Marco Pavone (Stanford), Jim Rehg (Georgia Tech), Evangelos Theodorou (Georgia Tech), Panagiotis Tsiotras (Georgia Tech)

Despite the great success in recent years in the area of perception and control of autonomous vehicles, most of the developed algorithms to date are limited to vehicles operating at low-to-moderate speeds and insider relatively structured environments. Agility and maneuverability or operating in highly uncertain and dynamically changing environments requires sensing and execution at much shorter time scales than what is currently common practice. Enabling “aggressive agility” and extreme maneuvering of highly nonlinear aerial or ground autonomous vehicles induces major challenges in closing the perception/action loop. New algorithms and methodologies are needed to tackle this problem and these methodologies most likely will span diverse areas beyond control theory: machine learning, artificial intelligence, real-time algorithms, information theory, compressive sensing, etc. Certifying and validating such algorithms is also a major challenge.

The objective of this workshop is twofold: the first objective is to report on current advances in the area of perception, planning, and control to enable “aggressive agility” for autonomous agents; the second objective is to bring together - in the same room - researchers from a diverse set of disciplines (e.g., computer vision, robotics, machine learning, control theory, identification, communication) who are interested in this topic for a free exchange of ideas. Arguably, similar questions and problems are encountered (often disguised) in many other engineering applications. It is therefore imperative to start a more direct exchange of ideas and available methodologies between researchers from different fields working on similar problems.

The workshop will take place on Sunday, December 11th 2016, at the Aria Resort & Casino, Las Vegas, USA

For more information please see:

<http://perception-control-planning-workshop.gatech.edu>

<http://cdc2016.ieeecss.org/workshops.php#w17>

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## 5. Positions

### 5.1. PhD: NC A&T State University, USA

Contributed by: Ali Karimodini, [akarimod@ncat.edu](mailto:akarimod@ncat.edu)

Three PhD positions are available in the area of Control and Robotics in Autonomous Cooperative Control of Emergent Systems of System (ACCESS) Laboratory at Autonomous Control and Information Technology (ACIT) Center, North Carolina A&T State University. The project will involve highly cross-disciplinary research in different aspects of autonomous systems. The research topics will include but not be limited to Modelling and analysis of multi-agent systems; Teaming and cooperative control of multi-agent systems; Testing, evaluation, and verification of multi-agent systems; Motion planning and coordination of multi-agent systems.

Minimum Qualifications:

- Meet the minimum admissions requirement for the ECE Department at NC A&T State University:
- Recent B.S. in Electrical & Computer Engineering
- Demonstrated experience in control and robotics
- Programming in MATLAB and C/C++

Desired Qualifications:

- Recent M.S. in Electrical & Computer Engineering or related fields
- Strong analytical skills
- Strong mathematical background in: linear algebra, probability and stochastic processes, system and control, estimation, and optimization
- Experience in embedded real-time systems
- Programming skills for embedded devices and Microcontrollers
- U.S. citizenship or permanent residency. Minority candidates are strongly encouraged to apply.

If you are interested, please send an email to Dr. Karimodini at [akarimod@ncat.edu](mailto:akarimod@ncat.edu) with the subject "PhD Application", and include:

1. A cover letter that explains why the proposed research topic interests you, how you fulfill the requirements of this project, and list any relevant undergraduate and MS courses or projects.
2. Your curriculum vitae and details of your publications (if any).
3. Two contact referees (including name, e-mail, and phone number of the person)
4. Your Bachelor and Master Transcripts if applicable.
5. One page summary of your MSc thesis if applicable.
6. Electronic copies of your publications if any.
7. Other information that might be relevant to your application.

Only shortlisted candidates will be contacted.

Contact:

Dr. Ali Karimodini

Autonomous Cooperative Control of Emergent Systems of System (ACCESS) Laboratory

TECHLAV DoD Center of Excellence in Autonomy  
North Carolina A&T State University  
E-mail: akarimod@ncat.edu

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### **5.2. PhD: Oklahoma State University, USA**

Contributed by: Rushikesh Kamalapurkar, [rushikesh.kamalapurkar@okstate.edu](mailto:rushikesh.kamalapurkar@okstate.edu)

Two PhD positions are available in the Systems, Cognition, and Controls Lab at Oklahoma State University. The PhD candidates will have the opportunity to choose from a broad range of research topics related to control systems theory and information theory. For further details, please visit the lab website at <http://scc.okstate.edu/content/research-positions-available>

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### **5.3. PhD: Max Planck ETH Center, Switzerland**

Contributed by: Magdalena Seebauer, [magdalena.seebauer@inf.ethz.ch](mailto:magdalena.seebauer@inf.ethz.ch)

The Max Planck ETH Center for Learning Systems is a joint research center of ETH Zurich and the Max Planck Society. The Center's mission is to pursue research in the design and analysis of learning systems, synthetic or natural. This initiative brings together more than 30 professors and senior researchers in the fields of machine learning, perception, robotics on large and small scales, as well as neuroscience. We offer PhD Fellowships at the Max Planck ETH Center for Learning Systems

The Center offers a unique fellowship program, where PhD students are co-supervised by one advisor from ETH Zurich and one from the MPI for Intelligent Systems in Tübingen and Stuttgart. PhD students are expected to take advantage of the opportunities offered by both organizations and to actively seek cross-group collaborations. The Center also offers a wide range of activities like retreats, workshops, and summer schools, as well as the possibility to engage in organizing such events. This is an exciting new program and we expect admission to be highly competitive. Each PhD fellow will have a primary location (chosen based on interests and match) and is expected to spend about one year at the other location as well. Fellowships will be remunerated through employment contracts, subjected to the rules of the Max-Planck-Society and ETH Zurich, respectively. All PhD fellows will register as graduate students at ETH Zurich and - upon successful completion of their PhD project - be granted a doctoral degree by ETH Zurich. Details of this process are governed by ETH regulations and committees.

We encourage applications from outstanding candidates with academic backgrounds in Mathematics, Physics, Computer Science, Engineering, Materials Science, Neuroscience and related fields, and a keen interest in doing basic research in areas like: Machine Learning and Empirical Inference of Complex Systems, Machine Intelligence, including Machine Vision and Natural Language Understanding, Perception-Action-Cycle for Autonomous Systems, Robust Model-Based Control for Intelligent Behavior, Robust Perception in Complex Environments, Design, Fabrication, and Control of Synthetic, Bio-Inspired, and Bio-Hybrid Micro/Nanoscale Robotic Systems, Data-Driven Computational Biology, or Neurotechnology and Emergent Intelligence in Nervous Systems. We seek to increase the number of women in areas where they are underrepresented and therefore explicitly encourage women to apply. Furthermore, we are committed to increasing the number of individuals with disabilities in its workforce and therefore encourage applications from such qualified individuals.

For further information please contact: Dr. Magdalena Seebauer at [magdalena.seebauer@inf.ethz.ch](mailto:magdalena.seebauer@inf.ethz.ch) (no application documents) or visit our website <http://learning-systems.org>

We are looking forward to receiving your online application consisting of a complete CV (incl. a list of publications, talks and awards), a short mission statement (max. 1-2 pages) outlining the research interests of the candidate, and scanned transcripts of certificates (bachelor's degree, master's degree, other degrees). Please arrange for 2-3 reference letters to be sent directly per email to Dr. Magdalena Seebauer. Please send your application to: ETH Zurich, Human Resources, Mrs. Nadja Lang, CH-8092 Zurich. The deadline for applications is November 15, 2016.

The selection interviews will take place on January 19 and January 20, 2017 at the Max Planck Campus in Tübingen, Germany.

Apply here: <https://apply.refine.ch/845721/4942/pub/1/index.html>

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#### **5.4. PhD: Instituto Politécnico Nacional, Mexico**

Contributed by: Konstantin E. Starkov, [kstarkov@ipn.mx](mailto:kstarkov@ipn.mx)

OPEN PHD POSITIONS in January 2017 in the area of Mathematical Medicine: comprehensive dynamical analysis of models for cancer growth.

Two PhD student positions are available under the supervision of Prof. Dr. Konstantin Starkov ([kstarkov@ipn.mx](mailto:kstarkov@ipn.mx), [konstarkov@hotmail.com](mailto:konstarkov@hotmail.com), [konst@citedi.mx](mailto:konst@citedi.mx)).

This analysis is applied to modeling of cancer growth, validation of the obtained model, its modification or correction and for the prediction of patient health status and adjustment of treatment.

Research area and project description

Dynamical analysis of cancer growth models under various types of therapy is in a great demand and is one of the most rapidly developing areas arisen as an integration of nonlinear science, medicine and biology. This analysis may be realized with help of a solution of control problems for systems describing by nonlinear ordinary differential equations. This field contains a large number of intriguing, entertaining and useful problems emerged from nonlinear dynamics, chaos theory and control theory: finding upper and lower bounds for a density of interacting cells populations, establishing the property of dissipativity in the sense of Levinson; existence of a chaotic attractor and/or periodic orbits, existence of bistable behavior, studies of nonlocal dynamics of the process of cancer development, equilibrium points outside the tumor free coordinate plane; finding asymptotic tumor clearance conditions, other related problems and biological interpretation of the obtained results. A trustworthy new original method of applied mathematics is employed for carrying out these studies.

It is assumed that the PhD students are going to take part in the realization of the CONACYT project N 219614 with the title "Análisis de sistemas con dinámica compleja en las áreas de medicina matemática y física utilizando los métodos de localización de conjuntos compactos invariantes" (2015-2018), Mexico. Countries participating in this project are Mexico, Spain, Russia and the Netherlands. Director of this Project is Dr. K. Starkov.

Financial support for studying in this PhD program will be provided by CONACYT (around 13000 Mex Peso monthly, net amount). An additional income from resources of Dr. Starkov's IPN projects will be also available.

The PhD program period is 3-4 years.

Qualifications and specific competences:

Students with background in Control Systems or Engineering disciplines are welcomed to apply. Preferences are given for students with a strong background in Applied Mathematics / Nonlinear Dynamics or Mathematical Medicine / Biology.

Requirements for applicants.

The desired candidates hold a Master degree (or equivalent, giving access to doctoral studies) in the mentioned areas and have

- An excellent academic record showing analytical skills;
- A strong mathematical background in the mentioned areas;
- Strong interest to work in the proposed area;
- Ability in oral and written English.

If you have interest to this position you should send an email to [posgrado@citedi.mx](mailto:posgrado@citedi.mx) including:

- One page cover letter describing your research and early achievements;
- Bachelor and master transcripts (list of courses with corresponding grades);
- A summary of (or an e-link to) your master thesis;
- Name and email of three referees.

Contacts:

Applicants seeking further information are invited to contact Postgraduate Department Head, M.Sc. Luis Miguel Zamudio Fuentes at [posgrado@citedi.mx](mailto:posgrado@citedi.mx)

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### 5.5. PhD: EPFL, Switzerland

Contributed by: Giancarlo Ferrari Trecate, [giancarlo.ferraritrecate@epfl.ch](mailto:giancarlo.ferraritrecate@epfl.ch)

2 PhD positions at EPFL; Automatic Control Laboratory

Project title: Scalable Control Design for Microgrids

General description: The goal is to maximize the flexibility of microgrids, by allowing generation and load nodes to enter/leave over time. For guaranteeing safe and reliable operations, flexibility must be mirrored in the microgrid control layers and PhD students will study methods for designing on-the-fly regulators of generation units and smart loads when they are plugged in or out, yet preserving fundamental properties of electric variables such as stability. These plug-and-play controllers will allow to build microgrids in a modular way and let them grow/shrink seamlessly over time. In absence of a reference structure, plug-and-play control synthesis must be complemented with formal proofs guaranteeing the realization of the desired emergent behaviors. The first PhD project will focus on islanded microgrids while the second one will consider grid-connected microgrid managed by aggregators. In the latter scenario, the goal is to design, in a plug-and-play fashion, energy management systems for letting the microgrid behave as a virtual power plant and deliver ancillary services to the main grid in a reliable manner.

Requirements: Prospective PhD students should have:

- a Master degree from a recognised university
- a strong background in System and Control theory
- creativity and motivation
- excellent English language skills

Basic knowledge in microgrids and power electronics will be a plus, although not essential.

Application procedure: prospective PhD students must apply to a doctoral program before starting their PhD at EPFL, see <http://phd.epfl.ch/prospective>.

For the doctoral program on Electrical Engineering (EDEE), application deadlines are January 15th, April 30th and September 15th.

For more information, see the online advertisement at <http://la.epfl.ch/positions>

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## 5.6. PhD: Universities of Oxford, Bristol & Warwick, UK

Contributed by: Declan Bates, [d.bates@warwick.ac.uk](mailto:d.bates@warwick.ac.uk)

Applications are invited for 15 fully funded PhD studentships in the EPSRC & BBSRC Synthetic Biology Centre for Doctoral Training (SynBioCDT), a 4-year doctoral programme that offers training in the new field of Synthetic Biology, the “Engineering of Biology”. This centre is a collaboration between the Universities of Oxford, Bristol and Warwick in the United Kingdom.

We encourage applications from students with a wide range of academic backgrounds, including Engineering, Biology, Biochemistry, Physics, Plant Sciences, Chemistry, Statistics, Mathematics and Computing.

Applications can be made through any of the three collaborating institutions, where they will be admitted for graduate study. All students will initially spend a six month training period in Oxford and will then rejoin their home institution to complete their doctorate. For full details of the training program and how to apply, see: <http://www.synbio-cdt.ac.uk/>

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## 5.7. PhD: Universities of Oxford, Bristol & Warwick, UK

Contributed by: Antonis Papachristodoulou, [antonis@eng.ox.ac.uk](mailto:antonis@eng.ox.ac.uk)

PSRC & BBSRC Centre for Doctoral Training in Synthetic Biology

Doctoral Studentships Available

The EPSRC & BBSRC Centre for Doctoral Training in Synthetic Biology (SynBioCDT) combines the fundamental understanding of biological systems with the principles of engineering, so as to create the next generation of industrial and academic leaders in Synthetic Biology. The CDT focuses on the design and engineering of biologically based parts, novel devices and systems as well as the re-design of existing, natural biological systems across all scales from molecules to organisms.

SynBioCDT is an exciting collaboration between the Universities of Oxford, Bristol and Warwick. The programme combines world-leading expertise in engineering and the physical and life sciences across all three Universities. The CDT’s four-year programme of research and training has strong industrial links and is multi-disciplinary, accepting students from a wide range of scientific backgrounds who will apply engineering principles to design biological parts, devices, and systems.

SynBioCDT has a growing list of industrial partners including DSTL, Syngenta, and GSK. We offer industrially oriented projects in collaboration with these partners, and also encourage applicants to consider development of research projects and areas that are within the remit of our industrial partners. A major advantage of SynBioCDT is that students choose a PhD project after a training phase, allowing a more informed choice.

The first six months of the course develops advanced theoretical and technical skills for Synthetic Biology, drawing from the engineering, mathematical, physical, chemical and biological sciences. It also involves a term-long project, in our purpose-built Wetlab. The taught course is combined with research and communication skills training, through a combination of intensive lecture courses and project work.

After completing the taught training, two, 11-week Exploratory Research Projects are undertaken, at least one in the candidate’s home institution. The substantive PhD research project then follows, also based in the home institution.

Applications are invited from students with a wide range of academic backgrounds, including Engineering, Biology, Biochemistry, Physics, Plant Sciences, Chemistry, Statistics, Mathematics and Computing who have received, or are on target to achieve, a strong 2:1 degree or above. You can apply to SynBioCDT

through the graduate admissions procedures at Oxford, Bristol or Warwick. By applying through one of these universities, you identify it as your preferred host institution.

Oxford applicants are encouraged to submit a copy of an up to date CV for assessment before making a formal application for the programme to [dtcenquiries@dtc.ox.ac.uk](mailto:dtcenquiries@dtc.ox.ac.uk)

Warwick applicants should not submit a CV before applying; instead they should make a formal application via: <http://www2.warwick.ac.uk/fac/sci/lifesci/study/pgr/studentships/synbiocdt/>

Bristol applicants should not submit a CV before applying; instead they should make a formal application at <http://www.bristol.ac.uk/study/postgraduate/2016/doctoral/phd-epsrc-cdt-synthetic-biology/>

Full studentships are available to home students. A limited number of studentships are available to EU and overseas students.

Deadlines vary depending on the host University of your choice. Please check our website for more details: [www.synbio-cdt.ac.uk](http://www.synbio-cdt.ac.uk)

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### **5.8. PhD: Ecole Centrale de Lyon in Ecully, France**

Contributed by: Anton Korniienko, [anton.korniienko@ec-lyon.fr](mailto:anton.korniienko@ec-lyon.fr)

The Ampère laboratory (UMR CNRS 5005) at Ecole Centrale de Lyon in Ecully (France) has vacancies for “PhD students in data-based modeling and control of MEMS sensors” (3 years)

#### Project description

These vacancies are open in the scope of the project NEXT4MEMS. The objective of this large-scale project is the development of a novel industrial sector aiming at the production of a new generation of MEMS inertial sensors with higher performance (as e.g. required by the aerospace industry). To cover the multiple facets of this ambitious project, the project consortium consists of the French leaders in the inertial sensor industry (Tronics Microsystems, Thales, iXblue, Asygn) and two academic laboratories that will be in charge of the related fundamental research challenges: Ampère for the control engineering aspects and ONERA for the aerospace aspects. The project NEXT4MEMS is sponsored by BPI France (the French bank for public investments) within the PSPC funding scheme (aiming at enhancing the long term competitiveness of the French industry).

The level of sensor accuracy required in NEXT4MEMS can solely be obtained if the sensor is operated in a finely optimized feedback loop integrated in the electronic instrumentation. The Ampère researchers will therefore team up with the engineers of Asygn whose expertise lies in the development of this electronic instrumentation and the related computer-aided design (CAD) tools. In this cooperation with Asygn, Ampère will be responsible for the development of systematic methodologies for the design of highly performing model-based control systems for MEMS sensors. The developed methodologies will also be used to enhance the CAD tools of Asygn with new functionalities ranging from data-based modeling to controller design and system robustness analysis.

The research in this project will require fundamental developments in multiple control engineering areas such as data-based modelling, optimal and robust control, monitoring, fault detection and performance restoration. Moreover, due to the close interplay with microelectronics, it will also involve the design of both analog and digital electronic systems, the conception of new system architectures and the analysis of the industrial dispersions to characterize the system uncertainty.

#### Research team description

The Ampère research team for this project is led by A. Korniienko, X. Bombois and G. Scorletti, who are,



respectively, Assistant Professor, CNRS Research Director and Full Professor at Ampère. Their expertise covers the different control engineering aspects present in this research project (data-based modeling and its interplay with robust control, robust control and its extension to linear parameter varying and nonlinear systems, convex optimization and SDP). Moreover, the research team has also past experience in projects combining microelectronics and control engineering.

The Ampère team in the NEXT4MEMS project will be strengthened by three postdoc researchers and three PhD students. They will be hosted by the Ampère laboratory whose expertise ranges from control engineering and electrical engineering to biology. The Ampère lab consists of 160 people, among which 20 academic staff members in control engineering.

#### Requirements

We are looking for candidates who have:

- A MSc degree in systems and control, electrical engineering or applied mathematics
- A strong interest in control engineering
- The ability of performing fundamental and applied research at an internationally recognized level
- The ability of integrating a team in an multidisciplinary project environment
- Strong analytical, communication and writing skills
- A very good command of the English language. The command on the French language is an asset

#### Appointment and employment perspectives

We offer a challenging job in a multidisciplinary project environment including several industrial and academic partners through a fixed-term appointment for a period of three years. We are relatively flexible with respect to the appointment start date since a number of PhD positions have to be filled in the course of this four-year project. Since this challenging project involves both fundamental and applied research components, such a position offers an ideal stepping stone towards either an academic career or a career in the industry (in particular in the new industrial sector that the project aims to develop).

#### Information and Application

For further information on these job offers, the research subjects or the NEXT4MEMS project, please contact A. Korniienko ([anton.korniienko@ec-lyon.fr](mailto:anton.korniienko@ec-lyon.fr)), X. Bombois ([xavier.bombois@ec-lyon.fr](mailto:xavier.bombois@ec-lyon.fr)) and/or G. Scorletti ([gerard.scorletti@ec-lyon.fr](mailto:gerard.scorletti@ec-lyon.fr)). Applications must also be sent to these email addresses and must include a cover letter, a detailed curriculum vitae, electronic copies of the BSc and MSc grades and a recommendation letter (if available).

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### 5.9. PhD: Eindhoven University of Technology, Netherland

Contributed by: A. Pogromsky, [a.pogromsky@tue.nl](mailto:a.pogromsky@tue.nl)

A PhD position hosted in Eindhoven University of Technology in the framework of UCoCoS project.

Major challenges in science, society and industry are induced by the complexity of our hyper-connected world. Examples are the climate change, artificial interconnected systems whose dynamics are beyond our understanding such as the internet, the global banking system and the power grid. A demand of performance emerges at an unprecedented scale: collaborative sensors and robots so to ensure competitiveness of the production industry, better management of traffic flows, designing (de)synchronization mechanisms applicable in neuroscience, are examples illustrating the necessity to understand and control the dynamics of complex networks.

The objectives of the UCoCoS project are to create a control-oriented framework for complex systems, and to define a common language, common methods, tools and software for the complexity scientist. UCoCoS



aims at i) creating a closely connected new generation of leading scientists, capable of designing network structures and policies to affect the networks, and ii) initiating long-term partnerships and collaboration mechanisms leading to sustainable doctoral training. The UCoCoS approach builds on recent developments in three domains: control engineering, computer science, mechanical engineering. In the framework of UCoCoS there are six open PhD positions, two of them will be hosted in TU Eindhoven, The Netherlands. Every PhD researcher performs a cutting-edge project, strongly relying on the complementary expertise of three academic partners (KU Leuven, Ecole Centrale de Lille, and Eindhoven University of Technology) and benefiting from training by non-academic partners from three different sectors.

The project focuses on reduced modelling of large-scale networks. Reduced models of large-scale networks are essential for the control of large-scale networks. Challenges lie both in the representation of the communication structure, and in the identification of the subsystems in the network. This research addresses modelling techniques for the control of large-scale networks, and, in particular, on the identification of the subsystems of the network. The latter is decisive for the level of abstraction of the model. For example, neural mass models have proven effective to simulate specific aspects of electrical brain activity such as alpha-rhythms and epileptic patterns by identifying different populations of neurons, modelling the dynamics within the population with a few state variables. More detailed models describe each individual neuron in the human brain as a subsystem. A trade-off between the conflicting requirements of a low number of agents, and a low complexity of the individual agents is required, while ensuring that the essential elements of the dynamics are captured in the model.

Candidate profile: An ideal candidate has a MSc degree in engineering or applied mathematics, a strong background in control, optimization, an experience in software development (Matlab, C/C++) will be a bonus. Proficiency in English is a requirement. The candidate will be appointed for four years (subject to positive evaluation after the first year). It is required that the first two years of research will be conducted in Eindhoven University of Technology (The Netherlands), while the remaining two years will be spent in Ecole Centrale de Lille (France).

The application procedure will be closed once an appropriate candidate is appointed.

The UCoCoS project and training network is funded by the European Commission under the H2020 program, as a Marie Skłodowska-Curie Actions ITN-EJD (Innovative Training Network- European Joint Doctorates). More information on the project, and application instructions/forms can be found at <http://www.ucocos-project.eu>

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## **5.10. PhD: University of Texas at Arlington, USA**

Contributed by: Yan Wan, [yan.wan@uta.edu](mailto:yan.wan@uta.edu)

Multiple fully funded Ph.D. and Postdoctoral positions available in the Dynamical Networks and Control Laboratory directed by Dr. Yan Wan at the Department of Electrical Engineering, University of Texas at Arlington (<http://www.uta.edu/ee/>). The Postdoctoral positions are multiple-year positions that start immediately.

The research areas of these positions are generally related to network control, wireless networking, and their applications to unmanned aerial vehicles and air traffic management.

Applicants for the Postdoctoral positions are required to have received a Ph.D. degree in a related engineering field or mathematics with expertise in at least two of the following areas: control, stochastic systems, optimization, big data, wireless communication, and embedded systems. Previous research experience in

unmanned aerial vehicles is a plus. Depending on the candidate's expertise, the position can involve fundamental theoretical development, and/or system implementation and fabrication. Excellent writing and communication skills are expected.

Applications for the Ph.D. positions are required to have received a Bachelor's degree in a field related to electrical engineering. Exceptional students in mathematics are also considered. Self-motivated students with a strong theoretical background and/or rich hands-on experience are encouraged to apply. Excellent writing and communication skills are expected. Previous research experience with a good publication record will be highly valued.

Interested applicants for the Ph.D. and Postdoctoral positions please send the application to Dr. Yan Wan by email: [yan.wan@uta.edu](mailto:yan.wan@uta.edu). Please send a single pdf document that includes 1-page cover letter that states the qualification and career plan, detailed CV, and contact information of three professional references. Applications will be received by January 31, 2017 or until the positions are filled.

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### **5.11. PhD: Imperial College London, UK**

Contributed by: Thulasi Mylvaganam, [thulasi.mylvaganam06@imperial.ac.uk](mailto:thulasi.mylvaganam06@imperial.ac.uk)

Distributed Control of Multi-Agent Systems

Imperial College London

DEPARTMENT OF AERONAUTICS

PhD Studentship in Cooperative Control

Applications are invited for a PhD studentship on distributed control for multi-agent systems within the Department of Aeronautics, Imperial College London.

It is widely recognised that a team of (aerial) robots, forming a multi-agent system, cooperatively can successfully perform complicated tasks which would be difficult, or impossible, to accomplish using a single more complex robot. To increase the autonomy of teams of robots it is crucial to develop novel methods for efficient and effective cooperative control.

The goal of the PhD studentship is to develop methods for designing distributed controllers for multi-agent systems. Teams of aerial robots equipped with sensors could, for example, be employed to monitor large regions to aid search and rescue missions or perform tasks related to environmental monitoring. Drawing inspiration from the monitoring problem the student will develop methodologies for designing distributed controllers for general systems, which will be useful for a range of different problems involving multi-agent systems.

Applicants should have a keen interest and solid background in Mathematics and Control Engineering and have experience with using MATLAB. Knowledge of Nonlinear Control is preferable. Applications are invited from candidates with (or who expect to gain) a first-class honours degree or an equivalent degree in Engineering or a related discipline.

“Funding is available for UK and EU citizens. The studentship is for 3.5 years starting as soon as possible and will provide full coverage of tuition fees and an annual tax-free stipend of approximately £16,296.”

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

Informal enquiries and requests for additional information for this post can be made to: Dr Thulasi Mylvaganam via email: [thulasi.mylvaganam06@imperial.ac.uk](mailto:thulasi.mylvaganam06@imperial.ac.uk).

To apply, please go to <http://www.imperial.ac.uk/study/pg/apply/how-to-apply/>

Any queries regarding the application process should be directed to Ms. Lisa Kelly by email at [l.kelly@imperial.ac.uk](mailto:l.kelly@imperial.ac.uk).

Closing date for applications: Open until filled

Start Date: As soon as possible

PLEASE NOTE THAT FUNDING IS NOW AVAILABLE FOR ALL EU CITIZENS.

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### **5.12. PhD: KU Leuven, Netherland**

Contributed by: Wim Michiels, [Wim.Michiels@cs.kuleuven.be](mailto:Wim.Michiels@cs.kuleuven.be)

PhD: KU Leuven, Belgium

The Scientific Computing group, Faculty of Engineering Science of KU Leuven, has a vacancy in the area of control of interconnected systems

The aim of the project is to develop decentralized and distributed control schemes for complex delay coupled systems. For large networks it is expensive, if not impossible, to control all systems individually, and centralized solutions are infeasible. Most of the existing approaches do not carry over to systems with delay. Furthermore, the underlying theoretical framework is not adapted toward complex systems where the overall dynamics are largely determined by the interactions. Hence, a shift of the control paradigm is needed. Instead of tuning controller parameter, the focus is on optimizing the topology of the network, that is, we determine which systems need to interact in order to optimize a global objective in an efficient way. While the focus is on methodological developments, applications are foreseen in robotics and sensor networks.

The PhD researcher will spend the first two years at KU Leuven and the final year at Ecole Centrale de Lille. She/he will be awarded a joint doctoral diploma upon a successful completion.

What do we offer: an interdisciplinary research project, a stimulating environment at two of Europe's top universities, a balanced and personally tailored PhD trajectory, exposure to both academic and non-academic environments, and a highly competitive salary (Marie Skłodowska-Curie program of the EU).

Eligibility criteria, mobility requirements, and application instructions can be found at the website

<http://ucocos-project.eu>,

position ESR5. Deadline: November 28.

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### **5.13. PhD: New York University, USA**

Contributed by: Tao Bian, [tbian@nyu.edu](mailto:tbian@nyu.edu)

The Department of Electrical and Computer Engineering at New York University, Tandon School of Engineering is looking for outstanding Ph.D. candidates to work at the control and networks (CAN) lab under the supervision of Prof. Zhong-Ping Jiang. Applicants are expected to have strong background in control theory, optimization method, or stochastic systems, and will work on the following topics:

1. optimal control for stochastic and deterministic systems,
2. advanced nonlinear control,

with applications including biological motor control and intelligent transportation systems and control design. Scholarships covering the cost of full tuition and stipends at a competitive rate, will be available to successful candidates.

Interested individuals should apply officially to NYU Tandon School of Engineering via

<http://engineering.nyu.edu/admissions/graduate>.

Also, please mention your interest in our research projects in the personal statement. Applicants should also send their curriculum vitae, copies of their recent transcripts to Prof. Zhong-Ping Jiang at the following email address: [zjiang@nyu.edu](mailto:zjiang@nyu.edu).

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#### 5.14. PhD: Aalto University, Finland

Contributed by: Themistoklis Charalambous, [themistoklis.charalambous@aalto.fi](mailto:themistoklis.charalambous@aalto.fi)

A fully-funded PhD student position is available at the Distributed Systems Group

([http://eea.aalto.fi/en/research/distributed\\_systems/](http://eea.aalto.fi/en/research/distributed_systems/)),

Department of Electrical Engineering and Automation (<http://eea.aalto.fi/en/>), School of Electrical Engineering, Aalto University, under the supervision of Professor Themistoklis Charalambous. The doctoral candidate position is fixed-term and filled initially for 1 year with an option for extension until the end of 4-year PhD studies. It is a full-time position available from February 2017. As a PhD student at Aalto University, the successful candidate will have access to an outstanding PhD program, with competitive salary and benefits.

Subject:

Wireless Networked Control Systems (WNCSs) have a wide range of applications in a plethora of areas, such as factory automation networks and autonomous systems, including Intelligent Transportation Systems (ITSs) and Robotics. As a result, we have been witnessing a great surge in both research and industrial interest towards the realization of such systems. The PhD candidate will work on the development of control-aware communication strategies and communication-aware control strategies for WNCSs.

Candidate's profile:

The applicant should have a M.Sc. (or equivalent) degree in Electrical and Computer Engineering, a strong mathematical background with good knowledge in control, excellent programming skills and proficiency in English. Knowledge in wireless networks is desirable.

How to apply

Please send your application as a single PDF file by the 23rd of December 2016, through the recruitment system via "Apply for this job" link

([https://www.saimanet.com/aaltohome/aew.html?did=5900&lang=fi&job\\_id=1064&jc=6](https://www.saimanet.com/aaltohome/aew.html?did=5900&lang=fi&job_id=1064&jc=6)).

The application should include:

- 1) Letter of motivation (maximum 1 page in 10pt font size)
- 2) CV with contact details
- 3) Degree certificates and Transcripts (if not in English, a certificated English translation)
- 4) Contact details of at least two referees

For further information, please contact Professor Themistoklis Charalambous ([firstname.lastname@aalto.fi](mailto:firstname.lastname@aalto.fi)), and questions related to recruitment process, please contact HR Coordinator Jaana Hanninen ([firstname.lastname@aalto.fi](mailto:firstname.lastname@aalto.fi)). Applications via email will NOT be taken into account.

Aalto University:

AALTO (Aalto University) has six schools with nearly 20,000 students and more than 400 professors. Our campuses are located in Espoo and Helsinki, Finland. The School of Electrical Engineering fosters basic research as well as the development of the latest technologies, providing top-quality engineering education. AALTO's Shanghai subject ranking 2016 in Electrical & Electronic Engineering is 51-75 world wide and 13-17 in Europe.

The Department of Electrical Engineering and Automation is a part of AALTO's School of Electrical Engineering. Hosting a multitude of international and world-leading researchers, the Department of Electrical Engineering and Automation provides a truly inspirational ecosystem, where scientists and engineers from different fields interact and work together by crossing traditional boundaries to solve the most challenging scientific and technological problems, provide an excellent education and produce greater wellbeing for society in general. Its main research focus areas are: control, robotics, autonomous systems, power systems, and Industrial electronics and informatics. The department develops technologies, data models and standards supporting the integration of industrial information systems.

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### **5.15. Internship: Pacific Northwest National Laboratory, USA**

Contributed by: Krishnamurthy Dvijotham, [dj@pnnl.gov](mailto:dj@pnnl.gov)

The Pacific Northwest National Laboratory (PNNL), a US DOE lab, has an internship opening on an exciting project on verification of controllers for complex systems. The application is available here:

<https://pnnl.jibeapply.com/jobs/305931/PhD+Intern++Optimization+of+Infrastructure+Networks?lang=en-US>

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### **5.16. Research Associate: Paderborn University, Germany**

Contributed by: Burak Demirel, [burak.demirel@upb.de](mailto:burak.demirel@upb.de)

The Automatic Control Group (Prof. Daniel Quevedo) in the Department of Electrical Engineering at the Paderborn University is seeking a Research Associate (Wissenschaftliche/r Mitarbeiter/in).

This is a full-time position and is limited to three years due to external funding in accordance with the federal state Science Employment Law (WissZeitVG). The contract period corresponds to the approved project period. The position is available immediately and may be filled either by a doctoral student or a Postdoc.

Your duties and responsibilities:

The candidate will be actively involved in research on stochastic optimisation-based control methods within the project "Network-Informed Control - Control-Informed Network." The latter is funded by the German Science Foundation (DFG) Priority Programme "Cyber-Physical Networking" (SPP 1914).

For further information on our activities, see <http://control.upb.de>

Your profile:

- Applicants must have received a Master's degree or a doctoral degree in electrical engineering or a related field (such as applied mathematics or mechanical engineering).
- Postdoctoral applicants must have a proven capacity for high-quality research and an excellent international publication record.
- Fluency in English is required, knowledge of German is an advantage.

We offer a stimulating work environment in an international team and an attractive remuneration package according to pay scale TV-L EG 13 of the German public service (approx. euro 3.500-4.000/month).

Applications from women are particularly welcome and, in case of equal qualifications and experience, will receive preferential treatment according to state law (LGG). Qualified disabled people (in the sense of the German social law SGB IX) are also encouraged to apply.

Please send your application (including a cover letter, your CV, list of publications, and contact details of at least two referees) to Ines Kaiser, [ines.kaiser@upb.de](mailto:ines.kaiser@upb.de) by 20.11.2016. In your application, please mention the reference no. 2750.

For further information, see

[http://controlsistemas.upb.de/fileadmin/Files\\_Gruppe/pdfs/announcements\\_n\\_info/Kennziffer2750.pdf](http://controlsistemas.upb.de/fileadmin/Files_Gruppe/pdfs/announcements_n_info/Kennziffer2750.pdf)

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### **5.17. PostDoc: NC A&T State University, USA**

Contributed by: Ali Karimodini, [akarimod@ncat.edu](mailto:akarimod@ncat.edu)

The Testing, Evaluation, and Control of Heterogeneous Large Scale systems of Autonomous Vehicles (TECHLAV) Center, a DoD Center of Excellence in Autonomy, located in the Inter-Disciplinary Research Center (IRC) at NC A&T State University, invites applications for a full-time, post-doctoral research associate position in Machine Learning particularly on approximate reasoning using Fuzzy Type-2 for handling of uncertainty. The project uses these methods to develop and implement test and evaluation techniques for autonomy algorithms of autonomous vehicles.

This is a non-tenure-track, year-to-year appointment, renewable annually for up to four years subjected to satisfactory performance, availability of resources, and the needs of the Center. The research results of this project are expected to reach a high Technology Readiness Level (TRL) to be applied to testing and evaluation of autonomous vehicles. We thus look for applicants that have a demonstrated track record in the applications of Machine Learning techniques to systems and control problems. Programming skills and practical experiences with embedded real-time systems are desired.

The candidate will be also working with both undergraduate and graduate students in a mentoring role, and will be involved in teaching relevant courses, conducting workshops, and seminars. The candidate will enjoy a dynamic and collaborative working environment. U.S. citizenship is preferred and minority candidates are strongly encouraged to apply. If interested, please apply electronically by sending a detailed curriculum vitae, copies of your top three publications, the summary of your PhD thesis, names and contact information of three references, and other information that might be relevant to your application to Dr. Karimodini ([akarimod@ncat.edu](mailto:akarimod@ncat.edu)), Deputy Director of the TECHLAV DoD Center of Excellence in Autonomy.

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### **5.18. PostDoc: California Institute of Technology, USA**

Contributed by: Soon-Jo Chung, [sjchung@caltech.edu](mailto:sjchung@caltech.edu)

Professor Soon-Jo Chung's Aerospace Robotics and Control Group at the Graduate Aerospace Laboratories of the California Institute of Technology (GALCIT) seeks to fill multiple full-time Postdoctoral Scholar positions in two areas: (1) Space Engineering, with focus on Distributed Space Systems and Guidance, Navigation, and Control (GNC), and (2) Aerospace Autonomous Systems. We are particularly interested in candidates with expertise in any of the following areas: nonlinear control, estimation and computer vision, real-time optimal control, space optics, and space hardware systems. Prior knowledge in flight dynamics, nonlinear dynamics, or orbital mechanics is a plus.

Successful candidates must have a Ph.D. in Aerospace Engineering, Mechanical Engineering, Electrical Engineering, Computer Science, or a related field. An annual salary will range from \$60,000 to \$75,000 based on qualifications. Candidates should email a detailed CV and a list of references (e-mail and telephone numbers) to [sjchung@caltech.edu](mailto:sjchung@caltech.edu). Applications will be accepted until the positions are filled.

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### 5.19. PostDoc: Zhejiang University, China

Contributed by: Shibo He, [shibohe@ieee.org](mailto:shibohe@ieee.org)

There are multiple postdoctoral positions available at the research group of Networked Sensing and Control (NeSC) with Zhejiang University (ZJU) ([www.sensornet.cn](http://www.sensornet.cn)), led by Prof. Youxian Sun, a member of the Chinese Academy of Engineering and Prof. Jiming Chen, Changjiang Scholars Chair Professor, MOE, China. NeSC is affiliated with Faculty of Information Technology, State Key Laboratory of Industrial Control Technology, and National Engineering laboratory of Industrial Control System Security Technology. With the goal of meeting the national strategical demand and addressing the frontier theoretical challenges, NeSC is currently focusing on Cyber-Physical Systems, Control System Security, Networked Estimation and Control, Network Optimization, as well Mobile Computing and Crowdsensing.

Qualifications:

1. A Ph.D. in well-known universities and research institutions in related fields;
2. Strong self-motivation and teamwork spirit;
3. Excellent publication record in related journals and conferences.

Positions:

Position 1: Cyber Security

Position 2: Internet of Things

Position 3: Big Data

Position 4: Mobile Computing/Crowdsensing

If you are interested in the above positions, please send your CV and three representative papers to Dr. Chen. Successful applicants will receive annual salary ranging from \$30000 to \$45000 and will be provided with an apartment by the university at a discounted price.

Contact: Jiming Chen

Tel: (86) 0571-87951879

Email: [cjm@zju.edu.cn](mailto:cjm@zju.edu.cn)

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### 5.20. PostDoc: Boston University, USA

Contributed by: Denise Joseph, [dejoseph@bu.edu](mailto:dejoseph@bu.edu)

The Division of Systems Engineering at Boston University invites applications for Post-Doctoral Associates (equivalently, post-doctoral fellows) for 1 or 2 years to contribute to ongoing research projects in one or more of the following or related areas:

Multi-agent systems, Cyber-Physical systems with applications of particular interest in sensor networks, robotics, energy, and Smart Cities

Network systems and economics, cooperative control and optimization, game theory

Distributed algorithms for decision making

Machine learning and data science with applications of particular interest in robotics, biology, health care

Candidates are expected to have a proven publication record and the ability to work independently. Preference will be given to candidates interested in joint projects involving two or more research teams led by Division faculty. Candidates who are also interested in contributing to the teaching mission of the Division will receive additional consideration and commensurately higher compensation. The form of teaching contribution is negotiable.



To apply, please submit your CV and a cover letter that includes the names of three references to <https://academicjobsonline.org/ajo/jobs/8268>.

Prior to applying, you are encouraged (but not required) to contact a Division faculty member who may be a potential supervisor and, if so, please mention this in your cover letter. Applications will be reviewed starting November 1, 2016 and continuing until the positions are filled.

For more information, please go to [www.bu.edu/se](http://www.bu.edu/se)

Boston University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law. Boston University is also a VEVRAA Federal Contractor.

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### **5.21. PostDoc: Ohio State University, USA**

Contributed by: Mingjun Zhang, [zhang.4882@osu.edu](mailto:zhang.4882@osu.edu)

PostDoc: The Ohio State University, Columbus, OH, USA

We have a new post-doctoral researcher position opening in control theory with applications in soft robotics. Solid background in engineering or mathematics is expected. Past experience working on control theory is required. The researcher will assist the PI complete theoretical proof of a feedback and feedforward integrated robust control framework, and then use an established experimental platform to validate the closed-loop control framework across the scales for meeting the needs of soft-robotics.

Our group is interested in emerging grand challenging research problems facing society, and takes a highly integrated interdisciplinary approach to address the challenge. Research results from our group have been published in high impact scientific research journals, including Nature Nanotechnology, PNAS, and many others.

Interested applicants may send CV along with 2-3 papers to [zhang.4882@osu.edu](mailto:zhang.4882@osu.edu)

Mingjun Zhang

Professor, College of Engineering

The Ohio State University

Columbus, OH43210

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### **5.22. PostDoc: University of Colorado Boulder & Colorado School of Mines, USA**

Contributed by: Lucy Pao, [pao@colorado.edu](mailto:pao@colorado.edu)

Post-doctoral position opening in control of wind turbines

We are seeking an outstanding post-doctoral researcher for the development, validation, implementation, and experimental field testing of controllers for a novel wind turbine rotor design. This post-doctoral position is available starting approximately April 2017 for a duration of up to 24 months. Candidates should have a strong background in aerospace, mechanical, and/or electrical engineering with a specialization in control systems, and have strong hands-on experimental skills. Familiarity with issues related to the control of wind turbines and NREL-developed software tools for evaluating wind turbine control algorithms will be beneficial, as will leadership and mentoring skills. The candidate will work as part of a collaborative, creative, interdisciplinary team and should have excellent written and oral communication skills. The position will be jointly appointed at both Colorado School of Mines (Golden, CO) and University of Colorado Boulder



(Boulder, CO), and the applicant must meet requirements to gain site access at the US National Renewable Energy Laboratory where the field testing will be performed.

To apply for the position, please send the following all in one PDF file to both email addresses below: (1) a cover letter summarizing your interest, (2) CV, and (3) contact information for at least three references.

Professor Lucy Y. Pao

Electrical, Computer, & Energy Engr. Dept.

425 UCB

University of Colorado Boulder

Boulder, CO 80304 USA

Email: pao@colorado.edu

<http://ecee.colorado.edu/~pao>

Professor Kathryn E. Johnson

Electrical Engr. & Computer Sci. Dept.

Colorado School of Mines

1610 Illinois St.

Golden, CO 80401 USA

Email: kjohnson@mines.edu

<http://inside.mines.edu/~kjohnson/>

For more information, see <http://ecee.colorado.edu/~pao/SUMR-controls-postdoc> and

<https://inside.mines.edu/~kjohnson/postdoc.html>

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### **5.23. PostDoc: Ecole Centrale de Lyon in Ecully, France**

Contributed by: Anton Korniienko, [anton.korniienko@ec-lyon.fr](mailto:anton.korniienko@ec-lyon.fr)

The Ampère laboratory (UMR CNRS 5005) at Ecole Centrale de Lyon in Ecully (France) has vacancies for “Postdoc researchers in data-based modeling and control of MEMS sensors”

Project description

These vacancies are open in the scope of the project NEXT4MEMS. The objective of this large-scale project is the development of a novel industrial sector aiming at the production of a new generation of MEMS inertial sensors with higher performance (as e.g. required by the aerospace industry). To cover the multiple facets of this ambitious project, the project consortium consists of the French leaders in the inertial sensor industry (Tronics Microsystems, Thales, iXblue, Asygn) and two academic laboratories that will be in charge of the related fundamental research challenges: Ampère for the control engineering aspects and ONERA for the aerospace aspects. The project NEXT4MEMS is sponsored by BPI France (the French bank for public investments) within the PSPC funding scheme (aiming at enhancing the long term competitiveness of the French industry).

The level of sensor accuracy required in NEXT4MEMS can solely be obtained if the sensor is operated in a finely optimized feedback loop integrated in the electronic instrumentation. The Ampère researchers will therefore team up with the engineers of Asygn whose expertise lies in the development of this electronic instrumentation and the related computer-aided design (CAD) tools. In this cooperation with Asygn, Ampère will be responsible for the development of systematic methodologies for the design of highly performing model-based control systems for MEMS sensors. The developed methodologies will also be used to enhance the CAD tools of Asygn with new functionalities ranging from data-based modeling to controller design and system robustness analysis.

The research in this project will require fundamental developments in multiple control engineering areas such as data-based modelling, optimal and robust control, monitoring, fault detection and performance restoration. Moreover, due to the close interplay with microelectronics, it will also involve the design of both analog and digital electronic systems, the conception of new system architectures and the analysis of the industrial dispersions to characterize the system uncertainty.

#### Research team description

The Ampère research team for this project is led by A. Korniienko, X. Bombois and G. Scorletti, who are, respectively, Assistant Professor, CNRS Research Director and Full Professor at Ampère. Their expertise covers the different control engineering aspects present in this research project (data-based modeling and its interplay with robust control, robust control and its extension to linear parameter varying and nonlinear systems, convex optimization and SDP). Moreover, the research team has also past experience in projects combining microelectronics and control engineering.

The Ampère team in the NEXT4MEMS project will be strengthened by three postdoc researchers and three PhD students. They will be hosted by the Ampère laboratory whose expertise ranges from control engineering and electrical engineering to biology. The Ampère lab consists of 160 people, among which 20 academic staff members in control engineering.

#### Requirements

We are looking for candidates who have:

- A PhD degree in systems and control, electrical engineering or applied mathematics
- A strong background in system identification (data-based modeling), robust control, H-infinity control design, frequency-domain controller design methods, convex optimization
- The ability of performing fundamental and applied research at an internationally recognized level
- The ability of integrating a team in an multidisciplinary project environment
- Strong analytical, communication and writing skills
- A very good command of the English language. The command on the French language is an asset

#### Appointment and employment perspectives

We offer a challenging job in a multidisciplinary project environment including several industrial and academic partners through a fixed-term appointment for a period of one year (that may be renewed for another year). We are relatively flexible with respect to the appointment start date since a number of postdoc positions have to be filled in the course of this four-year project. Since this challenging project involves both fundamental and applied research components, such a position offers an ideal stepping stone towards either an academic career or a career in the industry (in particular in the new industrial sector that the project aims to develop).

#### Information and Application

For further information on these job offers, the research subjects or the NEXT4MEMS project, please contact A. Korniienko ([anton.korniienko@ec-lyon.fr](mailto:anton.korniienko@ec-lyon.fr)), X. Bombois ([xavier.bombois@ec-lyon.fr](mailto:xavier.bombois@ec-lyon.fr)) and/or G. Scorletti ([gerard.scorletti@ec-lyon.fr](mailto:gerard.scorletti@ec-lyon.fr)). Applications must also be sent to these email addresses and must include a cover letter, a detailed curriculum vitae with publication record, recommendation letter(s) and electronic copies of the PhD thesis and of the main publications of the candidate.

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#### 5.24. PostDoc: CNRS, France

Contributed by: Antoine Girard, [antoine.girard@l2s.centralesupelec.fr](mailto:antoine.girard@l2s.centralesupelec.fr)

Postdoctoral Position: Embedded control under mixed stochastic/deterministic timing uncertainty: a switched system approach

Supervisors: Antoine Girard ([Antoine.Girard@l2s.centralesupelec.fr](mailto:Antoine.Girard@l2s.centralesupelec.fr)) , Luca Greco ([Luca.Greco@l2s.centralesupelec.fr](mailto:Luca.Greco@l2s.centralesupelec.fr))

Location: Laboratoire des Signaux et Systèmes - L2S, CNRS - CentraleSupélec - Univ. Paris-Sud - Univ. Paris-Saclay, Gif-sur-Yvette, France

Duration: One year, starting early 2017

Context and Objectives:

Timing contracts for embedded controllers specify constraints on the time instants at which specific operations (sampling, computation, actuation) must be performed. Under such contracts, the control engineers are responsible for designing a control law that is robust to all possible timing variation specified in the contract. Stability analysis of embedded control systems subject to stochastic or deterministic timing uncertainties has been an active subject of research. The goal of this project is to extend these approaches to the case of mixed stochastic/deterministic uncertainties.

This postdoctoral position is proposed within the project CODECSYS (Contract based design of cyber-physical systems) funded by the laboratory of excellence DigiCosme.

Work description:

The problem will be tackled within the mathematical framework of switched systems with both stochastic and deterministic switching. We will develop sufficient conditions ensuring the stability of such systems. Computational procedures will be derived from these conditions. These conditions will then be applied to the certification of embedded controllers subject to timing contracts. Afterwards, approaches for the characterization of timing contracts guaranteeing the stability of an embedded controller will be developed.

Background of the candidate:

The candidate must hold a PhD in control theory or a related field with a strong background in applied mathematics. A prior experience in the area of switched systems or Markov jump linear systems is recommended. She/he should also be familiar with programming in Matlab.

Applications must include a cover letter, a detailed CV, the preprints of the two most significant publications, and two references who may be asked to provide letters of recommendation.

All documents should be sent in a single pdf file to the following email addresses: [Antoine.Girard@l2s.centralesupelec.fr](mailto:Antoine.Girard@l2s.centralesupelec.fr) and [Luca.Greco@l2s.centralesupelec.fr](mailto:Luca.Greco@l2s.centralesupelec.fr)

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### 5.25. PostDoc: CNRS, France

Contributed by: Antoine Girard, [antoine.girard@l2s.centralesupelec.fr](mailto:antoine.girard@l2s.centralesupelec.fr)

Postdoctoral Position: Parametric contracts for hybrid systems design

Supervisor: Antoine Girard ([Antoine.Girard@l2s.centralesupelec.fr](mailto:Antoine.Girard@l2s.centralesupelec.fr))

Location: Laboratoire des Signaux et Systèmes - L2S, CNRS - CentraleSupélec - Univ. Paris-Sud - Univ. Paris-Saclay, Gif-sur-Yvette, France

Duration: One year, starting early 2017, with a possibility for a second year

Context and Objectives:

Complex hybrid systems are often the result of the integration of various components. Complexity can be handled by the use of contract based design where each component is assigned a contract, which specifies guarantees that the component must fulfill under assumptions on the behavior of other components. However, for a given desired behavior of the global system, the decomposition into contracts to be satisfied

by components is generally not unique: some contracts may be infeasible by components, resulting in an unsuccessful overall design.

The goal of the position is to develop a general design framework for hybrid systems based on the use of parametric contracts and systematic exploration of the space of possible design contracts. For each component, we characterize a feasible region of parameter values for which the corresponding contract can be satisfied. The intersection of these feasible regions provides parameter values, which guarantee the correct behavior of the overall system. Efficient computational techniques, exploiting structural properties of contracts for contract parameter synthesis will be developed. Connections with control theoretic techniques such as small-gain theorems will be investigated.

This postdoctoral position is proposed within the project CODECSYS (Contract based design of cyber-physical systems) funded by the laboratory of excellence DigiCosme.

Work description:

The first part of the work will be devoted to the formalization of parametric contracts and to the development of the theoretical framework for contract parameter synthesis. We will show how control theoretic techniques such as small-gain theorems can be recast as particular applications of our framework. Then, a thorough study will uncover the relation between the structural properties of the contracts (e.g. monotonicity or convexity with respect to parameters) and the topological property of the sets of feasible (i.e. contracts can be satisfied by components) and compatible (i.e. satisfaction of contracts implies satisfaction of the global specification) parameters.

The second part of the work will consist in developing and implementing efficient algorithms, exploiting the structural properties of contracts, for approximation of the set of feasible and compatible parameters. We will also develop approaches to impose some structural properties like monotonicity through re-parametrization of contracts.

Background of the candidate:

The candidate must hold a PhD in control theory or computer science with a strong mathematical background. A prior experience in the area of hybrid systems is recommended. Strong programming skills are also needed.

Applications must include a cover letter, a detailed CV, the preprints of the two most significant publications, and two references who may be asked to provide letters of recommendation.

All documents should be sent in a single pdf file to the following email address: [Antoine.Girard@l2s.centralesupelec.fr](mailto:Antoine.Girard@l2s.centralesupelec.fr)

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## **5.26. PostDoc: Cambridge University, UK**

Contributed by: Rodolphe Sepulchre, [r.sepulchre@eng.cam.ac.uk](mailto:r.sepulchre@eng.cam.ac.uk)

Postdoctoral position in Cambridge University, UK.

<http://www.jobs.cam.ac.uk/job/11876/>

Applications are invited for a Research Assistant/Associate in the Department of Engineering, to work on the ERC Advanced Grant project “Switchlets: a theory of multi-resolution behaviors for systems and control across scales” awarded to Professor Rodolphe Sepulchre. The 5-year project aims at laying the mathematical foundations of a multi-resolution behavioral theory.

The post holder will be located in Central Cambridge, Cambridgeshire, UK.

The project is primarily inspired, steered, and benchmarked by the specific application of understanding the

robustness and modulation principles of neuronal behaviors, in collaboration with experimental neuroscientists.

The work will require the successful candidate to generalize the framework of differential analysis of nonlinear systems to systems that are only piecewise smooth, in particular, a differential theory is sought to analyse stability of attractors in interconnections of piecewise linear systems, with an emphasis on excitable systems. The work will involve planning and managing their own research activity and liaising with colleagues in the control research group at Cambridge. Results of the work will be presented at sponsor workshops, and will be written up in the form of reports, conference papers or journal articles, as appropriate.

Applicants must have a very good first degree in engineering, applied mathematics or a closely related field and a PhD degree (or be close to obtaining one) in systems and control. Candidates will have an interest in neuroscience applications and interdisciplinary projects.

Salary Ranges:

Research Assistant: £25,023 - £28,982 Research Associate: £28,982 - £37,768

Fixed-term: The funds for this post are available for 24 months in the first instance.

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### **5.27. PostDoc: Cambridge University, UK**

Contributed by: Jan Maciejowski, [jmm1@cam.ac.uk](mailto:jmm1@cam.ac.uk)

Post-Doctoral Research Fellow in Optimization of Power Systems Using Model Predictive Control (re-advertisement)

Cambridge CARES is the University of Cambridge's presence in Singapore sponsored by the NRF CREATE program, "CAM.CREATE". The research programme Cambridge Centre for Carbon Reduction in Chemical Technology (C4T) is a joint Cambridge, NTU, and NUS research activity within Cambridge CARES.

Job Description:

Applications are invited for a post-doctoral Research Fellow to work on the use of Model Predictive Control (MPC) for 'Smart Grid' applications, with particular reference to reducing the carbon footprint associated with industrial energy consumption.

This post will be associated with the project "Integrated Chemical and Electrical System Operation", which is a collaboration between Nanyang Technological University and the University of Cambridge. The project sits within the Cambridge Centre for Advanced Research and Education in Singapore (CARES), the University of Cambridge's presence in Singapore sponsored by the NRF CREATE programme. Further information on CARES may be found at [www.cares.cam.ac.uk](http://www.cares.cam.ac.uk).

The main responsibility of the Research Fellow will be the development of real-time MPC algorithms for use with linear and nonlinear dynamic models of 'smart grids' containing electrical and thermal power generation and distribution systems, as well as industrial loads. A contribution to the development and maintenance of power system models may also be required. The Research Fellow will be expected to interact with other team members, who will supply detailed models and domain-specific knowledge, as well as MPC expertise.

Job Requirements:

The successful candidate is expected to have a good degree in Engineering, Mathematics or a related subject, and a PhD in Systems and Control, Numerical optimization, or a closely-related field. Expertise with numerical constrained optimization for convex and/or non-convex problems is required. The successful candidate will have experience of at least one of the following: implementation under real-time constraints (for example for MPC); implementation on special-purpose processors; distributed/decentralized optimization;

game theory in the context of power systems; modelling and control of power generation, and distribution systems. The person appointed will work under the supervision of Prof. Jan Maciejowski of the University of Cambridge, and of Prof. Keck-Voon Ling of NTU Singapore.

The post-holder will be employed under a Research Collaboration Agreement between CARES and Nanyang Technological University (NTU) and will be an employee of NTU. The post is located in Singapore. Occasional visits to the University of Cambridge in the UK may be required.

The salary range is SGD 52K - SGD 75K per year; the actual salary will depend on the experience of the successful candidate. The tenure of the post will be up to April 2018, with the possibility of reappointment if further grant funding is obtained. The position is available immediately.

How to apply?

Application Procedure: Please send (1) CV and publication list, (2) Names and contact details of 3 referees, and (3) a covering letter discussing interest and qualification for the position, to Ms Leong Xiang Ning (CARES HR Executive), cares@hermes.cam.ac.uk by 30th November 2016.

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### **5.28. Visiting Scholar: Federal University of Santa Catarina, Brazil**

Contributed by: Daniel Coutinho, [daniel.coutinho@ufsc.br](mailto:daniel.coutinho@ufsc.br)

Visiting scholar - Federal University of Santa Catarina, Brazil

The Department of Automation and Systems (DAS) at the Federal University of Santa Catarina (UFSC), Brazil, invites candidates for two visiting scholar positions in the research area of automation and systems such as control systems theory; networked control systems; robotics; automation and mechatronic systems; computational and embedded systems; industrial and wireless networks; modeling verification and synthesis of discrete event systems; software engineering; real time systems; modeling, control and optimization of traffic systems; and control, optimization and automation for energy and oil systems.

The Visiting Scholar may be either an established faculty member (having at least five years of PhD), possibly in connection with a sabbatical leave, or an active but retired investigator having interest in collaborating with the faculty body, graduate and post-grad students. It is mandatory that the candidate is a resident of a country other than Brazil. The appointment will be for a minimum of one year with the possibility of extension to a maximum period of four years. The salary will be approximately 15000 BRL (around 4600 USD) gross per month.

Main tasks within the area of control and automation engineering: (a) teaching one course (in English) per year at graduate level; (b) supervision or co-supervision of graduate students (including agreements for Cotutelle of Doctoral Thesis); and (c) commitment to build a long term collaboration with the department scholars and graduate students.

Interested candidates should send by e-mail a curriculum vitae (maximum of six pages), a teaching statement (maximum of five pages), a research statement (maximum of five pages) and two references until Feb 08/2017. Review of applications will begin immediately on a rolling basis until the positions are filled.

UFSC is one of the most prestigious universities in Brazil having more than 30000 students. The university main campus is located in the city of Florianopolis which is the Capital of the State of Santa Catarina. Florianopolis has one of the highest HDI in the country and it is surrounded by a vibrant business ecosystem, composed of more than 800 IT- and automation-based companies with whom several kinds of cooperative research can be carried out. Besides that, Florianopolis is composed of one main island, the Island of Santa Catarina, a continental part and surrounding small islands. The city is sprawled along a relatively narrow

island strip, being roughly 54 km long and 18 km wide. The sea, hills and over 42 beaches make Florianopolis a major destination for tourists from Brazil and abroad.

Questions about the application process or the application itself may be addressed to:

Prof. Daniel Coutinho (daniel.coutinho@ufsc.br)

Head of Graduate Program - Department of Automation and Systems - UFSC - Brazil

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### **5.29. Faculty: University of Maryland Baltimore County, USA**

Contributed by: Jinglai Shen, [shenj@umbc.edu](mailto:shenj@umbc.edu)

The Department of Mathematics and Statistics at the University of Maryland Baltimore County (UMBC) invites applications for one tenure-track faculty position in Applied Mathematics at the rank of Assistant Professor starting in the fall of 2017.

The successful candidate should have a PhD in mathematics or a related field, have an active, independent research program, strong potential for obtaining external funding, and a commitment to excellence in teaching. Preference will be given to candidates who are able to interact with existing groups in the Department, conduct interdisciplinary research, as well as those who could continue to strengthen connections with research groups across the university. Applicants with postdoctoral experience are encouraged to apply.

The Department offers BS, MS and PhD degrees in applied mathematics and in statistics. For more information, see our website at [mathstat.umbc.edu](http://mathstat.umbc.edu). Current research areas in the Department include applied analysis, numerical analysis and scientific computing, differential equations, optimization and optimal control, mathematical modeling, mathematical biology and stochastic processes. The departmental culture encourages significant interdisciplinary research collaboration outside the department, with a strong emphasis to involve undergraduate, as well as graduate students, in the research activities. UMBC is a public research university which integrates teaching and research, and has a strong emphasis on science and engineering at the graduate level. UMBC is located between Baltimore and Washington, and is in close proximity to several federal research agencies.

A complete application should include a cover letter, C.V., summary of current research program, teaching statement, and three letters of reference. All application materials should be submitted to

<https://www.mathjobs.org/jobs/umbc/ap>

Screening of applicants will commence December 1, 2016, and will continue until the position is filled.

Applications from minorities, women, veterans, and individuals with disabilities are especially encouraged. UMBC is an NSF-ADVANCE institution and an Affirmative Action/Equal Opportunity Employer.

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### **5.30. Faculty: Boston University, USA**

Contributed by: John Baillieul, [johnb@bu.edu](mailto:johnb@bu.edu)

The Boston University Department of Mechanical Engineering anticipates an opening for a tenure-track junior faculty position in the area of Robotics. While all areas of robotics will be considered, preference will be given to candidates with application-driven research programs that complement existing faculty research in systems and controls. Applicants for this position should be able to contribute to the graduate and undergraduate programs in Mechanical Engineering and should have an interest in the societal impact of their research.



The Mech E department is collaborative and multi-disciplinary with strong expertise in systems and control, biomechanics, MEMs/NEMs, nanofluidics, advanced materials, and nanomedicine. The department is further strengthened by its affiliation with the Division of Systems Engineering and the Division of Materials Science and Engineering. The College of Engineering is ranked 35th in the nation by US News and World Report.

The Department has 46 primary faculty members, many of whom are affiliated with other departments and centers at BU including the Photonics Center, the Center for Information and Systems Engineering (CISE), BU Nano, the Center for Space Physics, the Hariri Institute for Computing and the newly established Sustainable Energy Institute. The Department has recently completed a nearly 5000 sq ft Robotics Research Facility with capabilities for research on coordinating ground and air vehicles. At the graduate level, the Department offers research and professional Masters degrees in both Mechanical Engineering and Product Design and Manufacture with specializations in Robotics, Data Analytics, and Cybersecurity along with our PhD degree in Mechanical Engineering.

Successful Assistant Professor tenure-track candidates will hold a PhD in Mechanical Engineering or a related field of engineering or applied science, have postdoctoral experience, and show potential for leading an independent and vibrant research program. BU also places high value on excellence in teaching.

Boston University is an AAU institution with a rich tradition dedicated to inclusion and social justice. We are proud that we were the first American university to award a Ph.D. to a woman and that Martin Luther King Jr. received his Ph.D. here. The College of Engineering includes diversity as one of five strategic goals. We are dedicated to increasing the participation of all talented students and are committed to the pursuit of engineering by underrepresented groups at BU and beyond.

For more information, please visit <http://www.bu.edu/eng/departments/me/>

Applicants should submit a brief letter of interest, statement of accomplishments and plans, a current CV and contact information for three references to the appropriate link below. For full consideration, applicants should upload materials before November 15, 2016.

Junior Robotics:

<http://ieeecss.org/node/1633/submission/12973>

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### **5.31. Faculty: Boston University, USA**

Contributed by: Sean Andersson, [sanderss@bu.edu](mailto:sanderss@bu.edu)

The Boston University Department of Mechanical Engineering anticipates an open position in Nanofabrication and Soft Robotics. While the ideal candidate will pursue a research program at the intersection of nanofabrication and soft robotics, exceptional candidates that study either soft robotics or nanofabrication will also be considered.

The Mech E department is collaborative and multi-disciplinary with strong expertise in systems and control, biomechanics, MEMs/NEMs, nanofluidics, advanced materials, and nanomedicine. The department is further strengthened by its affiliation with the Division of Systems Engineering and the Division of Materials Science and Engineering. The College of Engineering is ranked 35th in the nation by US News and World Report, having improved its ranking more than any other Engineering school in the country that was ranked in the top 54 ten years ago.

Leading Assistant Professor tenure-track candidates would hold a PhD in Mechanical Engineering or a related field of engineering or applied science, have postdoctoral experience, and show potential for leading an independent and vibrant research program. BU also places high value on excellence in teaching.



Boston University is an AAU institution with a rich tradition dedicated to inclusion and social justice. We are proud that we were the first American university to award a Ph.D. to a woman and that Martin Luther King Jr. received his Ph.D. here. The College of Engineering includes diversity as one of five strategic goals. We are dedicated to increasing the participation of all talented students and are committed to the pursuit of engineering by underrepresented groups at BU and beyond. For more information, please visit <http://www.bu.edu/eng/departments/me/>.

Applicants should submit a brief letter of interest, statement of accomplishments and plans, a current CV and contact information for three references to the appropriate link below. For full consideration, applicants should upload materials before November 15, 2016.

Junior Nanofabrication-Soft Robotics: <https://academicjobsonline.org/ajo/jobs/7994>

Boston University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law. We are a VEVRAA Federal Contractor.

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### **5.32. Faculty: Zhejiang University of Technology, China**

Contributed by: Qiu Xiang, [qiuxiang@zjut.edu.cn](mailto:qiuxiang@zjut.edu.cn)

Faculty Position: Zhejiang University of Technology, Hangzhou, China

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

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

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

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

- (1) Control Science and Engineering, including advanced control theory, robotics, machine vision, pattern recognition, industrial networked control systems, MES, etc.
- (2) Electrical Engineering, including electric drive, power electronics, new energy, etc.
- (3) Mechatronic Engineering, including high-precision servo control of mechatronic devices, the modelling and dynamic analysis of robots, etc.

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

#### A. Selection criteria

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

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

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

#### B. Salary and welfare

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

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

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

(4) Provincial-and-Ministry-Level Talents,Yunhe Specially-Appointed Professors:CAS “100 Plan” Scholars, Zhejiang “Qianjiang Scholars”, Zhejiang “1000 Plan” (long-term) Scholars, or other talents who have made significant academic contributions with great potentials of development and who are awarded “Yunhe Specially-Appointed Professors” after the review of ZJUT. Salary (CNY): $\geq 350K$  /Year; Housing Benefit(CNY):1.5M; Startup Funds(CNY):0.5M-1M.

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

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

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

### C. Required documents

- (1) One self-recommendation letter covering your study and professional records, your teaching and research statements, your achievements, your work plan as well as your possible requirements from us.
- (2) A list of your research funds, awards, and publications in the recent five years.

### D. Contact us

Dr. Qiu,

Email : [qiuxiang@zjut.edu.cn](mailto:qiuxiang@zjut.edu.cn)

Mobile: +86-13867469319

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

Zhejiang Control Science and Engineering First-Class (Class A) Discipline  
OCT 1, 2016

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### 5.33. Faculty: Shanghai Jiao Tong University, China

Contributed by: Anders Lindquist, [alq@kth.se](mailto:alq@kth.se)

#### FACULTY OPENINGS IN SYSTEMS AND CONTROL AT SHANGHAI JIAO TONG UNIVERSITY

Shanghai Jiao Tong University (SJTU) is a top university in China. We are looking for strong applicants in the area of systems and control to join my group in the Department of Automation at SJTU. There are several positions available for outstanding researchers who speak Chinese. Attractive compensation packages, commensurate with the qualifications of the candidate, can be negotiated through the university Human Resources Department. Applications for postdoctoral positions are also welcome.

To apply send a complete CV to my e-mail address: [alindquist@cashq.ac.cn](mailto:alindquist@cashq.ac.cn). Refer to my homepage [www.math.kth.se/~alq](http://www.math.kth.se/~alq) for a presentation of my research interests.

Anders Lindquist

Zhiyuan Chair Professor, Foreign Member of the Chinese Academy of Sciences

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### 5.34. Faculty: Nanyang Technological University, Singapore

Contributed by: Changyun Wen, [ecywen@ntu.edu.sg](mailto:ecywen@ntu.edu.sg)

#### Professorship (Tenured) in Space Technology

Young and research-intensive, Nanyang Technological University (NTU Singapore) is the fastest-rising university in the world's Top 50 and ranked 13th globally by QS World University Ranking for NTU Ranking. NTU is also placed 1st amongst the world's best young universities. The School of Electrical and Electronic Engineering (EEE) at NTU Singapore is one of the largest EEE schools in the world and ranks 8th in the field of Electrical & Electronic Engineering in the 2016 QS World University Rankings by Subjects.

Established in 1981, the SCHOOL OF ELECTRICAL AND ELECTRONIC ENGINEERING (EEE) is one of the founding Schools of the Nanyang Technological University. Built on a culture of excellence, the School is renowned for its high academic standards and research. With more than 150 faculty members and an enrolment of more than 4,000, of which about 1,000 are graduate students. Well-known for its high academic standards and strong tradition in research, the School of EEE is host to 12 mega research centers and more than 50 laboratories, which are well-equipped with modern facilities and state-of-the-art equipment. In

particular, the Satellite Research Center (SaRC) has been very active in research, development and launch of satellite payloads, micro-, nano- and pico-satellites, with very generous funding from external sources.

Join the SCHOOL OF ELECTRICAL AND ELECTRONIC ENGINEERING OF THE COLLEGE OF ENGINEERING, NANYANG TECHNOLOGICAL UNIVERSITY as a faculty member and embark on a challenging and exciting career in research innovations and discoveries and teaching excellence, so as to prepare engineering leaders of the future.

The ideal candidate is expected to have extensive experiences and be a renowned leader in Space Technology which includes but not limited to satellite platform and formation; space-borne instruments and systems (for optical, infrared and SAR remote sensing, navigation and control, etc.) He is expected to play a leading role in the satellite team of the School so as to grow new capabilities, nurture innovative ideas and develop strategies to secure external resources for Space Technology projects on a sustainable basis. As a tenured full Professor, he is also expected to provide academic leadership in the areas pertaining to Space Technology.

<http://www.eee.ntu.edu.sg/aboutus/CareerOpportunities/Faculty/Pages/ProfessorshipTenuredInSpaceTechnology-27April2016.aspx>

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### **5.35. Faculty: Iowa State University, USA**

Contributed by: Degang Chen, [djchen@iastate.edu](mailto:djchen@iastate.edu)

The Department of Electrical and Computer Engineering in the College of Engineering at Iowa State University, Ames, Iowa, invites applications for a tenure-track or tenured faculty positions in all areas of electrical, computer and software engineering. Appointments will be considered at the Assistant, Associate, or Full Professor ranks. Responsibilities will include undergraduate and graduate education; mentoring and engaging undergraduate, as well as prospective students; developing and sustaining externally-funded research; graduate student supervision and mentoring; and professional and institutional service.

Successful candidates must hold an earned Ph.D. or equivalent degree in Electrical Engineering, Computer Engineering, Software Engineering, Computer Science, or a closely related field on or before the hire date; must have demonstrated ability or potential to 1) develop a vibrant and high impact externally funded research program; 2) excel in classroom teaching at the undergraduate and graduate levels; 3) supervise research of undergraduate and graduate students; 4) engage in professional and institutional service and leadership. Candidates should have strong communication skills, share our commitment to achieving excellence through diversity and inclusion, and contribute to the mission of the ECpE department. All faculty members are expected to exhibit and convey good citizenship within the program, the department, college, and university activities, while maintaining collegial interactions with the highest standards of integrity and ethical behavior. Associate and Full Professor candidates will, in addition to the above, demonstrate an excellent record of funded research and internationally recognized scholarship commensurate with such appointments.

The Department of Electrical and Computer Engineering at Iowa State University is home to 49 faculty, and is associated with 11 research centers and institutes. The department boasts 18 IEEE Fellows, \$13M in funded research proposals (2015), and one of the largest ECpE enrollments in the nation. For more information about our department's engineering programs, go to [www.ece.iastate.edu](http://www.ece.iastate.edu).

Iowa State University is classified as a Carnegie Foundation Doctoral/Research University-Extensive, a member of the Association of American Universities (AAU), and ranked by U.S. News and World Report as one of the top public universities in the nation. Over 36,000 students are enrolled, served by over 6,100 faculty and staff (see [www.iastate.edu](http://www.iastate.edu)). ISU is responsive to the needs of dual career couples, is dedicated

to work-life balance through an array of policies, and is an NSF ADVANCE institution. Ames, Iowa is a progressive community of 60,000, located approximately 30 minutes north of Des Moines, and recently voted second best most livable small city in the nation (see [www.amescvb.com](http://www.amescvb.com)).

All interested, qualified persons must apply for this position by visiting <http://www.iastatejobs.com/postings/14100> and completing the Employment Application for vacancy #600174. Please be prepared to enter or attach the following:

- 1) Letter of application/cover letter (including email address)
- 2) Current resume/curriculum vitae
- 3) Concise statement of research and teaching interests
- 4) Contact Information for three references (include name, mailing address, email, and phone number)
- 5) A minimum of one (1), but not more than three (3), conference or journal publication(s) representative of your work (submit in "Other Document(s)" 1-3 sections).

If you have questions regarding this application process, please email [employment@iastate.edu](mailto:employment@iastate.edu) or call 515-294-4800 or Toll Free: 1-877-477-7485. Iowa State University is an Equal Opportunity/Affirmative Action employer. All qualified applicants will receive consideration for employment without regard to race, color, age, religion, sex, sexual orientation, gender identity, genetic information, national origin, marital status, disability, or protected veteran status, and will not be discriminated against. Inquiries can be directed to the Director of Equal Opportunity, 3350 Beardshear Hall, 515-294-7612.

Review of applications will begin immediately. For full consideration, applications must be received by Oct. 31, 2016; however, applications may be submitted until all positions are filled. Inquiries regarding the faculty search should be directed to Professor James McCalley at [jdm@iastate.edu](mailto:jdm@iastate.edu) or (515)294-4844.

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### **5.36. Faculty: Iowa State University, USA**

Contributed by: Peng Wei, [pwei@iastate.edu](mailto:pwei@iastate.edu)

The Aerospace Engineering Department of Iowa State University is hiring two faculty this year in the area of control, intelligent systems and autonomy.

Please consider this position or forward this email to your graduating PhD students if they are interested in applying. The job link is at: <https://www.iastatejobs.com/postings/21403>

I would love to talk to you and your students if you are interested.

Our department has strong collaboration with Rockwell Collins. We are also developing a strategic collaboration plan with Boeing, where the current president and CEO is one of our alumni.

Peng Wei, Ph.D.

Assistant Professor

Aerospace Engineering Department

Electrical and Computer Engineering Department (Courtesy Appointment)

Iowa State University

[pwei@iastate.edu](mailto:pwei@iastate.edu)

(515) 294-8215

<http://www.aere.iastate.edu/~pwei/>

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### **5.37. Faculty: University of Nevada, USA**

Contributed by: Lana Byrge, [lbyrge@unr.edu](mailto:lbyrge@unr.edu)

Three Tenure-Track Faculty Positions in Mechanical Engineering  
University of Nevada, Reno

The University of Nevada, Reno Mechanical Engineering Department has three tenured/tenure-track faculty openings. Two of the positions are at any rank with expertise in Thermal/Fluid Science; System Dynamics and Control; Advanced Manufacturing; Materials Processing; and Solid Mechanics. For a complete position description or to apply please go to:

<https://www.unrsearch.com/postings/22099>

The third position is at the Assistant professor level, with expertise in any Mechanical Engineering High Performance Computing field. For a complete position description or to apply please go to:

<https://www.unrsearch.com/postings/22093>

The positions will be available July 1, 2017. Full consideration will be given to candidates who apply by January 16, 2017, however applicant review will continue until position is filled.

In the last five years, the College of Engineering has witnessed an unprecedented growth in student enrollment and number of faculty positions. The College is positioned to further enhance its growth of its students, faculty, staff, facilities as well as its research productivity and its graduate and undergraduate programs.

The University of Nevada, Reno recognizes that diversity promotes excellence in education and research. We are an inclusive and engaged community and recognize the added value that students, faculty, and staff from different backgrounds bring to the educational experience. EEO/AA Women, under-represented groups, individuals with disabilities, and veterans are encouraged to apply.

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### **5.38. Faculty: Uppsala University, Sweden**

Contributed by: Anders Ahlen, [anders.ahlen@signal.uu.se](mailto:anders.ahlen@signal.uu.se)

Faculty: Uppsala University, Sweden

Tenure Track Position as Associate Senior Lecturer in Signal Processing at the Division of Signals and Systems at the Department of Engineering Sciences.

The Division of Signals and Systems is responsible for a significant number of courses covering a wide range of topics such as Signal Processing, Signals and Systems, Automatic Control, Wireless Communications, Analog- and Digital Electronics and Embedded Systems.

The position includes teaching, research and administration. Teaching duties include course responsibility, course administration and supervision of second- and third-cycle students. The holder shall also keep abreast of developments within the subject area and the developments in wider community that are significant for the work at the university. Furthermore, the holder of the the position is required to participate in some of the different research projects of the division within the areas Signal Processing, Wireless Communications, and Automatic Control, as well as participating in the application of external research funding.

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

Qualifications Required: According to the Swedish Higher Education Ordinance those qualified for appointment as associate senior lecturer are persons who have obtained a doctoral degree or achieved the equivalent

competence. Applicants who have obtained a doctoral degree or achieved the equivalent competence in seven years or less prior to the end of the application period will be given priority.

Application deadline: November 30, 2016.

For further information about the position and how to apply, please refer to <http://uu.se/en/about-uu/join-us/details/?positionId=117989>

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### **5.39. Faculty: University of California at Santa Cruz, USA**

Contributed by: Ricardo Sanfelice, [ricardo@ucsc.edu](mailto:ricardo@ucsc.edu)

The Department of Computer Engineering at the University of California, Santa Cruz (UCSC) invites applications for a position at the Assistant Professor (tenure-track) level. We seek outstanding applicants with appropriate expertise, established records, and exceptional potential for research in Robotics. We are particularly interested in candidates with expertise in robotic manipulation, grasping, haptics, and dexterous manipulation with applications to service robotics, autonomous transportation, assistive and medical robotics, or other related areas. Complementarity of research to the other areas of computer engineering, including networks, sensors, control systems, and computer hardware, will be evaluated.

The successful candidate will join our vibrant program in Robotics and Control, that has been active for over a decade and includes an undergraduate Robotics Engineering degree program, and will be expected to maintain an active research program, obtain external funding, teach undergraduate and graduate courses in Computer Engineering, mentor and advise students at the graduate and undergraduate level, and perform University and professional service. The successful candidate must be able to work with students, faculty and staff from a wide range of social and cultural backgrounds. We are especially interested in candidates who can contribute to the diversity and excellence of the academic community through their teaching, research, and/or service.

RANK: Assistant Professor.

SALARY: Commensurate with qualifications and experience, academic year (9-month) basis.

BASIC QUALIFICATIONS: Ph.D. or equivalent foreign degree in computer engineering, computer science, electrical engineering, or closely related field expected to be conferred by June 30, 2017; demonstrated record of research and publication; and teaching experience (demonstrated by college level teaching experience, TA experience, research presentations or professional training seminars).

POSITION AVAILABLE: July 1, 2017, with academic year beginning Fall 2017. Degree must be conferred by June 30, 2018 for employment beyond this date.

TO APPLY: Applications are accepted via the UCSC Academic Recruit online system, and must include: (1) letter of application; (2) curriculum vitae; (3) statement of research interests and research plan; (4) statement of teaching interests and experience; (5) three to five samples of published materials; (6) three to five confidential letters of reference.\* Applicants are invited to submit a statement addressing their contributions to diversity through research, teaching and/or service. Documents/materials must be submitted as PDF files. More details at [http://apo.ucsc.edu/academic\\_employment/jobs/JPF00388-17.pdf](http://apo.ucsc.edu/academic_employment/jobs/JPF00388-17.pdf)

Apply at

<https://recruit.ucsc.edu/apply/JPF00388>

Refer to Position #JPF00388-17 in all correspondence.



CLOSING DATE: Review of applications will begin on December 18, 2016. To ensure full consideration, applications should be complete and letters of recommendation received by this date. The position will remain open until filled, but not later than 6/30/2017.

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#### **5.40. Faculty: University of Houston, USA**

Contributed by: Karolos Grigoriadis, [Karolos@uh.edu](mailto:Karolos@uh.edu)

The Department of Mechanical Engineering at the University of Houston (UH) invites applications for a tenure-track or tenured faculty position at the Assistant, Associate, or Full Professor level beginning Fall 2017. Successful candidates are expected to establish an internationally recognized research program in the field of controls and dynamical systems. Emerging potential targeted areas of application in health and biomedicine, energy and the environment, manufacturing, cyber-physical systems, and networked systems will be given special consideration.

UH is Texas' premier public metropolitan research and teaching institution with more than 40,000 students. Houston is home to the Texas Medical Center, the largest medical center in the world, the NASA Johnson Space Center, and multiple high-tech companies offering excellent local collaboration opportunities.

Applicants must have earned a PhD in a relevant area of engineering. Successful applicants must demonstrate an outstanding record of high quality scholarship, a strong potential to attract external funding and commitment to teaching. Candidates should send a cover letter, statement of teaching and research interests, goals and accomplishments, curriculum vitae and a list of five references. Qualified applicants should apply online at <http://jobs.uh.edu/postings/32515>

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#### **5.41. Faculty: University of Minnesota, USA**

Contributed by: Murti V Salapaka, [murtis@umn.edu](mailto:murtis@umn.edu)

Electrical and Computer Engineering, University of Minnesota - Twin Cities, invites applications for multiple faculty positions.

The search areas particularly relevant to the Control Systems Society include

- (1) Control Systems
- (2) Embedded systems, robotics and automation as part of the MnDRIVE Initiative (<https://mndrive.umn.edu/robotics>).

The Control systems and the Embedded systems, robotics and automation (MnDRIVE) positions invite applications at all ranks.

Positions are open until filled, but for full consideration, apply online by December 15, 2016. Comprehensive details on the faculty search and how to apply can be found at

<http://ece.umn.edu/research/open-faculty-positions/>

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#### **5.42. Faculty: Washington University in St. Louis, USA**

Contributed by: Hiro Mukai, [mukai@ese.wustl.edu](mailto:mukai@ese.wustl.edu)

Tenured/Tenure-Track Faculty

Washington University in St. Louis

Electrical and Systems Engineering



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

Technical areas of interest include, but are not limited to, applied physics, integrated circuits, nano devices, device packaging, imaging, signal processing, cyber-physical systems, control systems, operations research, optimization, applied mathematics, and applied statistics. Applications include biomedicine, robotics, financial engineering, and modeling of physical and complex systems. Successful candidates are expected to conduct high-quality research and teaching, publish in peer-reviewed journals, and participate in department and university service.

Applications will be accepted immediately, and interviews will begin after January 1, 2017. Applications received by December 1, 2016, will receive full consideration. The details of the application process and necessary documents are found at the following site:

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

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

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

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### **5.43. Systems Designer: Kulicke and Soffa Corporation, USA**

Contributed by: Leslie Peoples, [lpeoples@kns.com](mailto:lpeoples@kns.com)

We are looking for an Electrical Control Systems Designer at Kulicke and Soffa Corporation in Fort Washington, PA. Kulicke and Soffa is an international leader in the development of Automation Equipment for Semiconductor Industry. Description and skills are as follows:

Modeling physical systems such as dc brushless motor servo position control systems

- Compensating dc servo systems to achieve system performance,
- Designing algorithms for control, and trajectory planning..
- Designing analog electronics for processing analog input/outputs including op amps, A/Ds, and DACs.
- Designing digital electronics such as DSPs, fpga's, microcontrollers, I2C, SPI, and flash.
- Designing power electronics such as DC/DC converters and motor drivers.

Experience Requirements:

Hands on experience developing electronic hardware and embedded software.

Educational or other requirements:

MSEE or PH.D. in EE with Knowledge of servo systems especially classical control systems, with coursework or experience in designing analog, digital, or power electronics. Coursework or knowledge of C/C++ highly desirable. Knowledge of Matlab Control System and Signal Processing Toolboxes is highly desirable.

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