E-LETTER on Systems, Control, and Signal Processing
Issue 314
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Welcome to the November issue of the Eletter, available electronically here.
To submit new articles, go "Article Submissions" on the Eletter website
To unsubscribe, please send an email with the subject line "Eletter Unsubscribe".

The next Eletter will be mailed out in the beginning of Dicember 2014.

Contents

1. IEEE CSS Headlines

1.1. IEEE CSS Video Clip Contest 2014: Announcement of winners
Contributed by: Frank Allgöwer, allgower@ist.uni-stuttgart.de

At the beginning of 2014, the IEEE Control Systems Society decided to launch for the first time a public video clip contest (http://www.ieeecss.org/video-contest). Participants were asked to create short video clips explaining or promoting the field of automatic control in some or all of its aspects, including theory and applications.

After the submission deadline in August the winners of the Video Clip Contest 2014 were determined by a jury and officially announced during the CSS Video Clip Contest Awards ceremony that was held during the 2014 IEEE Multi-Conference on Systems and Control (MSC 2014) in Antibes, France, on Thursday, October 9, 2014.

All together 53 interesting video clips of high quality had been submitted from different groups in 19 countries. Seven videos have been selected as finalists, out of which the following winners were determined:

1st place for the video clip "Automation" by F. Fontanive, R. Vignali, A. Falsone. G. Manganini, D. Caporale, S. R. Cominesi, P. Panizza, L. Deori, Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano

2nd place for the video clip "Control-Theoretic Swarm Joysticks" by Y. Diaz-Mercado, M. Egerstedt, S. Chopra, J.-P. de la Croix, T. Ramachandran, R. O'Flaherty, A. Egerstedt, O. Egerstedt, S. G. Lee, P. Kingston, Z. Costello, E. Macdonald, Georgia Robotics and Intelligent Systems Laboratory, Georgia Institute of Technology

3rd place for the video clip "The Cubli: A Cube that can Jump up, Balance, and 'Walk' " by F. Berkenkamp, A. Braun, M. Corzillius, R. D'Andrea, C. Dubs, M. Egli, C. Flores, H. U. Honegger, G. Huber, M. Merz, G. Mohanarajah, M. Muehlebach, S. Segmueller, I. Thommen, C. Waibel, M. Waibel, T. Widmer, Institute for Dynamic Systems and Control, ETH Zurich

The winning video clips can be viewed at the contest website http://www.ieeecss.org/video-contest
The winning videos and the finalists' videos will also be shown in a moderated way at a special lunch time session during the upcoming CDC Conference in Los Angeles (Wednesday, December 17, 12:15-1:15 pm, room Platinum D+E at the CDC venue).

1.2. IEEE CSS Video Clip Contest 2015: Early announcement
Contributed by: Frank Allgöwer, allgower@ist.uni-stuttgart.de

Because of the success of the first CSS Video Clip Contest in 2014, the Control systems Society decided to sponsor a second CSS Video Clip Contest for the year 2015 with submission deadline July 1, 2015.
All details will be announced at the CSS Video Clip Contest Website at http://www.ieeecss.org/video-contest by January 1, 2015.

1.3. IEEE Control Systems Society Publications Content Digest
Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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

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

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

1.4. IEEE Transactions on Automatic Control
Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

Please note that the contents of the IEEE Transactions on Automatic Control, together with links to the abstracts of the papers may be found at the TAC web site:http://www.nd.edu/ ieeetac/contents.html

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IEEE Transactions on Automatic Control

Volume 59 (2014), Issue 11 (November)

Relaxation Method in Identification and Estimation Problem Special Issue Section

1.5. IEEE Transactions on Control Systems Technology

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IEEE Transactions on Control Systems Technology
Volume 22 (2014), Issue 6 (November)

Regular papers

Brief papers

1.6. IEEE CSS Outreach Fund
    Contributed by: Daniel E. Rivera, daniel.rivera@asu.edu

The IEEE CSS Outreach Task Force is pleased to announce that the next window for submission of proposals to the IEEE CSS Outreach Fund will be held from November 4 to November 25, 2014.

General information regarding the program can be found in: http://www.ieeecss.org/general/control-systems-society-outreach-fund

Inquiries, including a request for application forms, should be made directly to Daniel E. Rivera, Outreach Task Force Chair, at daniel.rivera@asu.edu.

2. Awards

2.1. European Control Award (ECA)
Contributed by: Carlos Canudas de Wit, carlos.canudas-de-wit@gipsa-lab.fr

The "European Control Award (ECA)" is to recognize outstanding contributions by a young researcher in the area of systems and control. The award is sponsored by the European Control Association (EUCA), and will be presented during the annual European Control Conference. The recipient will give a plenary lecture during the final day of the ECC.

Details of this award and the nomination procedure can be found at http://www.euca-control.org/eca.html
We encourage you to identify and to promote potential candidates for the European Control Award 2015, before January 15th 2015.

3. Journals

3.1. Contents: Control Engineering Practice
Contributed by: Tobias Glück, cep@acin.tuwien.ac.at

Table of Contents
Control Engineering Practice
Volume 31, October 2014

- Fengxiang Wang, Zhenbin Zhang, Alireza Davari, José Rodríguez, Ralph Kennel, An experimental assessment of finite-state Predictive Torque Control for electrical drives by considering different online-optimization methods, Pages 1-8
- Zhiqiang Ge, Quality prediction and analysis for large-scale processes based on multi-level principal component modeling strategy, Pages 9-23
- Edoardo F. Colombo, Egidio Di Gialleonardo, Alan Facchinetti, Stefano Bruni, Active carbody roll control in railway vehicles using hydraulic actuation, Pages 24-34
- Francesco Basile, Fabrizio Caccavale, Pasquale Chiacchio, Jolanda Coppola, Alessandro Marino, Diego Gerbasio, Automated synthesis of hybrid Petri net models for robotic cells in the aircraft industry, Pages 35-49
- Eugenia Minca, Adrian Filipescu, Alina Voda, Modelling and control of an assembly/disassembly mechatronics line served by mobile robot with manipulator, Pages 50-62
- Wenkang Xu, Bing Chu, Eric Rogers, Iterative learning control for robotic-assisted upper limb stroke rehabilitation in the presence of muscle fatigue, Pages 63-72
- Cristina Verde R., Editorial for the special section of the 8th IFAC SAFEPROCESS 2012 Symposium, Page 73
- Halim Alwi, Christopher Edwards, Second order sliding mode observers for the ADDSAFE actuator benchmark problem, Pages 74-91

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3.2. Contents: Journal of Industrial and Management Optimization
Contributed by: Liwei Ning editorial@aimsciences.org

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Journal of Industrial and Management Optimization (JIMO)
Volume: 11, Number: 3 July 2015

http://aimsciences.org/journals/contentsListnew.jsp?pubID=719

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3.3. Contents: Asian Journal of Control
Contributed by: Fu Li-Chen lichen@ntu.edu.tw

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Asian Journal of Control
Vol.16, No.6 - November, 2014

- Force Control of a Cellular Tensegrity Structure with Model Uncertainties and Partial State Measurability. Shengfeng Zhou, Peter C. Y. Chen and Chong-Jin Ong
- The Structural Robustness of the Induction Motor Stator Currents Subsystem. Luis Amezquita-Brooks, Eduardo Liceaga-Castro and Jesús Liceaga-Castro
- Maximally Permissive Petri Net Supervisors for Flexible Manufacturing Systems with Uncontrollable and Unobservable Transitions. YuFeng Chen and Kamel Barkaou
- Synchronization of Interconnected Multi-valued Logical Networks. Min Meng, Jun-e Feng and Zhongsheng Hou
- Fault Prediction and Maintenance of Non-Periodic Incipient Fault for Hydraulic Tube Tester. Zhen Zhao, Jun Zhang, Shu Wang, Yuqing Chang and Mingxing Jia
- Output feedback stabilization for stochastic nonholonomic systems with nonlinear drifts and Markovian switching. Dongkai Zhang, Chaoli Wang, Guoliang Wei and Hua Chen
- Optimized-Based Stabilization of Constrained Nonlinear Systems: A Receding Horizon Approach. De-feng He, Li Yu and Xiu-lan Song
- Static Output Feedback Control for Interval Type-2 T-S Fuzzy Systems Based on Fuzzy Lyapunov Functions. Tao Zhao, Jian Xiao, Lu Han, Cunyong Qiu and Jingchun Huang
- Fault diagnosis of hydraulic servo system using the unscented Kalman filter. Hongmei Liu, Dawei Liu, Chen Lu and Xuan Wang
- Delay-dependent Stability and Static Output Feedback Control of 2-D Discrete Systems with Interval Time-varying Delays. Dan Peng and Changchun Hua
- Policy Gradient Approach of Event-Based Optimization and Its Online Implementation. Li Xia
- QC Characterizations for the Closed-loop Stability of Time-varying Linear Systems. Liu Liu and Yufeng Lu
- $L2 - L_\infty$ Consensus Control for High-Order Multi-Agent Systems with Nonuniform Time-Varying Delays. Yan Cui
- Programmable-logical-controllers Synthesis for Automated-guided-vehicle Systems Using Ordinary Petri Nets. Jiliang Luo and Huijuan Ni
- Flocking of Multi-Agents Following a Leader with Adaptive Protocol in a Noisy Environment. Shukai Li, Xinzhi Liu, Wansheng Tang and Jianxiong Zhang
- Sliding Mode Control for Uncertain Switched Systems with Partial Actuator Faults. Yonghui Liu, Yugang Niu, James Lam and Baoyong Zhang
- Extended Elementary Siphons and Their Application to Liveness-Enforcement of Generalized Petri Nets. YiFan Hou, ZhiWu Li, Abdulrahman M. Al-Ahmari, Abdul-Aziz Mohammed El-Tamimi and Emad Abouel Nasr
- Global Robust Output Regulation for a Class of Switched Nonlinear Systems with Nonlinear Exosystems. Lijun Long and Jun Zhao
- Robust Exponential Stability Analysis of Uncertain Discrete Time-Varying Linear Systems. Yu Yao, Kai Liu, Venkataramanan Balakrishnan, Wenxue She and Jianhong Zhang
- Adaptive Stabilization for a Class of Stochastic Nonlinearly Parameterized Nonholonomic Systems with Unknown Control Coefficients. Fangzheng Gao, Fushun Yuan and Yuqiang Wu
- A Discrete-Time Global Quasi-Sliding Mode Control Scheme with Bounded External Disturbance Rejection. M. Wu and J. S. Chen

- Trajectory Tracking Control of a PVTOL Aircraft Based on Linear Algebra Theory. D. Gandolfo, C. Rosales, D. Patiño, G. Scaglia and M. Jordan
- Fixed-Structure H_∞ Controller Design for Systems with Polytopic Uncertainty: An LMI Solution. Arash Sadeghzadeh
- Almost Asymptotic Regulation of Markovian Jumping Linear Systems in Discrete Time. Shu-ping He, Zheng-tao Ding and Fei Liu

Brief Paper

- Sliding-Mode Velocity Control of a Two-Wheeled Self-Balancing Vehicle. Chih-Chen Yih
- A Computing Approach for Delay Margin of Linear Fractional-Order Retarded Systems with Commensurate Time Delays. Zhe Gao and Xiaozhong Liao
- Open-Loop Functional Observer and State Feedback for Linear Systems Using Multirate Output Sampling. Neeli Satyanarayana and S Janardhanan

3.4. Contents: Unmanned Systems
Contributed by: Ben M. Chen, bmchen@nus.edu.sg

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Unmanned Systems
Vol. 2, No. 4 - October 2014
Special Issue on Autonomous Underwater Robots
Guest Editors: J. Gu, M. Seto and H. Li

Unmanned Systems SG-UAV Outstanding Paper Award:
The award is to recognize outstanding papers published in the Unmanned Systems. Sponsored by Singapore UAV (SG-UAV) Private Limited, the award consists of a cash prize up to US$3,000 in total each year starting from 2015. The winners will be announced each year by December 1.
Authors of papers published in Unmanned Systems during the two calendar years preceding the year of the award are eligible for the award. More information can be found at the journal website: http://www.worldscientific.com/us/

3.5. CFP: Computers in Industry

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

Call for papers: Computers in Industry

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

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

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

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

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

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

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

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

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

Important dates:

Paper submission deadline: December 31, 2014.

The first review notification: March 15, 2015.

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

The final review notification: June 15, 2015.

Planned publication date: December 15, 2015.

Guest editors:

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

Please find details about the journal at the following link: http://www.journals.elsevier.com/computers-in-industry/ and about the CFP at the following link: http://www.journals.elsevier.com/computers-in-industry/call-for-papers/special-issue-on-synergy-of-computers-cognition/

4. Conferences

4.1. Asia-Pacific Conference on Computer Aided System Engineering
Contributed by: Alberto Sanchez, aesanchez@ieee.org

2015 Asia-Pacific Conference on Computer Aided System Engineering (APCASE 2015)

July 14-16, 2015

Quito, Ecuador

http://conference.apcase.org

Important dates:

Full Paper Submission: 15 March 2015

Acceptance Notification: 30 April 2015

Regular Registration: 15 June 2015

Conference Dates: 14-16 July 2015

Conference Scope

Nowadays system engineering and design cannot be conceived without the help of computers. The APCASE conference topics cover the wide spectrum of applications in which Computer Aid is fundamental to accomplish system engineering and design; therefore topics of interest include, but are not limited to:

- System theory and applications
- Communications and networks
- Biomedical and health systems
- Ubiquitous and ambient computing
- Mechatronic and robotic systems
- Software intensive systems
- Engineering Smart Systems
- Power Systems Computing and Software

Papers accepted for presentation will be submitted to IEEE Xplore.

Submission Guidelines:

Submitted papers should present original research that is unpublished and not submitted elsewhere. Regular

papers should have no more than 6 pages and should strictly comply with IEEE Xplore guides for publication. IEEE templates and author instructions will be available at the website.

4.2. International Conference on Process Control
Contributed by: Michal Kvasnica, michal.kvasnica@stuba.sk

The 20th International Conference on Process Control, technically sponsored by the Czechoslovakia section of IEEE and by a National member organisation of IFAC, will take place between June 9 and 12, 2015 at Strbske Pleso, High Tatras, Slovakia. Accepted papers will be submitted to the IEEE-Xplore digital library. 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 kilometres of well marked pathways can be explored ranging from easy to extremely difficult. Strbske pleso is a renowned place for its summer and winter sport activities.

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.

The conference will feature plenary lectures delivered by prof. Vladimir Havlena (Honeywell/CVUT Prague) and by prof. Mazen Alamir (University of Grenoble). In addition, a tutorial workshop on Model Predictive Control and its applications will take place during the conference.

Important dates:

January 31, 2015: Deadline for submission of full papers

April 1, 2015: Notification of acceptance

May 2, 2015: Final paper submission

June 9-12, 2015: Conference

More information can be found on the conference website: http://www.kirp.chtf.stuba.sk/pc15

Papers can be uploaded through the on-line conference management system. The submitted full papers will be subject to a peer-review process. 8 pages in the IEEE conference template are accepted for the initial submission.

Michal Kvasnica, NOC Chairman

4.3. IFAC Safeprocess 2015 Symposium
Contributed by: Vincent Cocquempot, vincent.cocquempot@univ-lille1.fr

IFAC Safeprocess 2015 Symposium
Paris, France
September 2-4, 2015
http://safeprocess2015.fr

Scope:
SAFEPROCESS is a major international gathering of leading experts in academia and industry. It aims at strengthening contacts between academia and industry to build up new networks and cultivate existing relations. High-level speakers will present the global spectrum of fault diagnosis, process supervision and safety monitoring, state-of-the-art applications and emerging research directions. The symposium is also meant as a forum for young scientists from all over the world, with the opportunity to introduce their

research ambitions and work to an audience of international experts. Fault diagnosis and fault-tolerant control build a major area of research at the intersection of systems and control engineering, artificial intelligence, applied mathematics and statistics, and application fields like chemical, electrical, mechanical, aerospace engineering and transportation systems. IFAC has recognized the significance of this area by launching a triennial symposium series dedicated to this subject. SAFEPROCESS 2015 is continuing the successful series of symposia.

In SAFEPROCESS 2015 edition, a special focus will be made on industrial applications. Special sessions, plenary lectures will highlight industry-academia collaborative projects.

Topics:
Model-based diagnosis of linear, nonlinear and hybrid systems, Data-driven diagnosis methods, Fault-tolerant control, control reconfiguration, Process supervision, Active fault diagnosis methods, Condition monitoring, maintenance engineering, Prognosis, Diagnosis and fault-tolerant control of discrete-event systems, Statistical methods for fault diagnosis, Statistical methods for reliability and safety, Interval methods, numerical methods, Neural and fuzzy methods, Structural methods of fault diagnosis and fault-tolerant control, Artificial Intelligence methods for fault diagnosis, Safety-critical systems, Structural Health Monitoring

Application areas:
Aeronautics and aerospace systems, Transportation, traffic and automotive applications, Electrical, mechanical and mechatronic systems, Mining, minerals, metal applications, Networked systems, Process engineering applications, Production systems, Power systems and networks, Robotics, Chemical systems, Biosystems

Important dates:
Invited session proposals: Oct. 10, 2014
Submission of draft papers: Nov. 20, 2014
Notification of acceptance: March 1, 2015
Final paper submission: May 1, 2015
Early registration: May 1, 2015

Author information:
Papers and all other proposals must be submitted electronically using the IFAC PaperPlaza Conference Manuscript Management System: www.ifac.papercept.net Copyright policy may be found at http://www.ifac-control.org/publications/copyright-conditions

Chairs:
IPC chair: Prof. Steven Ding
IPC co-chairs: Prof. Michel Kinnaert and Prof. Didier Maquin
IPC vice-chair from industry: Dr. Philippe Goupil
NOC chair: Prof. Vincent Cocquempot
NOC vice-chair from industry: Dr. Marco Pengov
Local organization chair: Dr. Nazih Mechbal

Invited speakers:
Prof. Richard Braatz, Massachusetts Institute of Technology, USA
Prof. Keith Worden, University of Sheffield, UK.
Prof. Alessandro Giua, University of Cagliari, IT and Aix-Marseille University, FR.
Prof. Daniel Hissel, Universit√© de Franche-Comt√©, FR.
Prof. Donald L. Margolis, Univ. of California Davis, USA.
Michel Comes, Airbus R&T Chief Engineer.

Awards:

- Paul M. Frank Award: This award, sponsored by University of Duisburg-Essen, will be given to honour the best theoretical paper.

- ABB Award: The automation company ABB offers an award for the best application/case study paper. Separate committees for the two awards will evaluate all entries, and the winners will be announced during the symposium. The two awards consist of a certificate and an amount of 1000 euros.

Contact:

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Bd Paul Langevin, 59655 Villeneuve d'Ascq

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4.4. IFAC Symposium on Robust Control Design
Contributed by: Miroslav Fikar, miroslav.fikar@stuba.sk

The IFAC Symposium on Robust Control Design (ROCOND) is one of the premier conferences to publish novel research results within robust control and related subjects.

The event will take place on July 8-11, 2015, in Bratislava, the capital of Slovakia.

At the symposium, we have arranged for six plenaries by high-profile researchers within the field, who will enlighten us on interesting new research ideas and results:

- Eduardo F. Camacho (Spain)

- Jose C. Geromel (Brazil)

- Didier Henrion and Dimitri Peaucelle (France)

- Vladimír Kučera (Czech Republic)

- Vladimir Kharitonov (Russia)

- Carsten W. Scherer (Germany)

Key dates:

Oct 10, 2014: Submission site is open

Jan 15, 2015: Initial papers / invited sessions submission deadline

Apr 20, 2015: Notification of acceptance

May 24, 2015: Final paper submission deadline

Jul 8-11, 2015: ROCOND'15 Symposium

All details can be found on the symposium's website: http://www.rocond15.sk

The symposium venue is located in artfully restored splendid Radisson Blu Carlton Hotel that provides historical accommodation in the very heart of the city. This central location makes it easy to explore top cultural attractions like St. Martin's Cathedral, Bratislava Castle, or the glimmering Danube River.

You may consider to combine ROCOND'15 with European Control Conference ECC15 (July 15-17, Linz, Austria, 270 km from Bratislava). Both conference venues are well connected by public transport via Vienna.

Miroslav Fikar, Conference Editor

Stefan Kozak, NOC Chair

Michael Sebek, IPC Chairman

4.5. IFAC Conference on Analysis and Design of Hybrid Systems
Contributed by: Magnus Egerstedt, magnus@gatech.edu

5th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS)
Atlanta, GA, USA, October 14-16 2015
http://adhs15.gatech.edu

Important Dates:
Papers Due: Apr. 15, 2015
Author Notification: July 1, 2015
Final Papers Due: Sept. 1, 2015
Conference: Oct. 14-16, 2015

The IFAC Conference on Analysis and Design of Hybrid Systems brings together researchers and practitioners in the area of hybrid systems, with backgrounds in control, computer science, and operations research, to provide a forum for discussing and presenting recent results in the fields of hybrid and cyber-physical systems.

Submissions are invited in all areas pertaining to the design, analysis, control, optimization, implementation, and applications of hybrid dynamical systems. Topics of interest include, but are not limited to: modeling, specification, analysis, verification, controller synthesis, simulation, and implementation. Contributions on applications of hybrid methods in various fields, such as networked control systems, large-scale process industries, transportation systems, energy distribution networks, communication networks, safety systems, etc, are particularly encouraged.

General Chairs:
Magnus Egerstedt and Yorai Wardi
Program Chairs:
Bengt Lennartson and Paulo Tabuada
Plenary Speakers:
Jessy Grizzle, Pramod Khargonekar, and Christoforos Hadjicostis

4.6. IFAC Conference on Analysis and Control of Chaotic Systems
Contributed by: Toshiki Oguchi, t.oguchi@tmu.ac.jp

The 4th IFAC Conference on Analysis and Control of Chaotic Systems (IFAC CHAOS 2015)
August 26-28, 2015
Tokyo, Japan
http://ctrl.mech.se.tmu.ac.jp/chaos2015/index.html

IFAC CHAOS 2015 is the fourth IFAC meeting related to analysis and control of chaotic systems. It will provide a forum for the presentation of new developments in the important interdisciplinary field of chaos control, synchronization and complex networks.
For further details, please visit the website: http://ctrl.mech.se.tmu.ac.jp/chaos2015/index.html

Important dates:
December 30, 2014: Deadline for invited session proposals
January 20, 2015: Deadline for all contributed papers
April 20, 2015: Acceptance/Rejection notification
June 30, 2015: Deadline for final manuscript submission

All papers must be submitted through the conference submission website PaperPlaza:
http://ifac.papercept.net/conferences/scripts/start.pl

4.7. IFAC Conference on Modelling, Identification and Control of Nonlinear Systems
Contributed by: Frank Allgöwer, frank.allgower@ist.uni-stuttgart.de

1st IFAC Conference on Modelling, Identification and Control of Nonlinear Systems (MICNON-2015)

June 24–26, 2015 Saint Petersburg, Russia

http://micnon2015.org

Deadline for electronic submission of full papers and invited session proposals: December 20, 2014

MICNON 2015 is the first event of a new conference series that is organized by the IFAC Technical Committee on Nonlinear Systems.

The scope of the conference will cover all areas of nonlinear systems theory and applications in science and engineering, including control of nonlinear systems, analysis of nonlinear systems, modeling and identification of nonlinear systems and all types of applications in connection to nonlinear systems.

The first MICNON is dedicated to the memory of Vladimir Andreevich Yakubovich, one of the founders of modern control theory and will take place in beautiful St. Petersburg during the famous white nights season. For the upcoming first MICNON conference, contributed papers, invited sessions and workshops are solicited in all areas of nonlinear systems and control. See the webpage at http://micnon2015.org for more details.

5. Workshops

5.1. International Workshop on Recent Advances in Sliding Modes
Contributed by: Okyay Kaynak, okyay.kaynak@boun.edu.tr

2015 International Workshop on Recent Advances in Sliding Modes - RASM 2015

April 9-11, 2015, Istanbul, Turkey

http://www.rasm.boun.edu.tr

It is expected that many leading experts in VSS/SMC will gather in Istanbul for the occasion above and you are cordially invited to join them.

Accepted and presented papers will be copyrighted to IEEE and published in the conference proceedings, which will be eligible for inclusion in the IEEE Xplore®Digital Library, once it meets the requirements of an IEEE quality review. Selected papers will be gathered in focussed sections of academic journals.

The deadlines are as below and the details are available at the web site indicated.

Submission of abstracts: 15 December 2014

Invitation to submit a full paper: 22 December 2014

Submission of full papers: 5 January 2015

Notification of peer review results: 2 February 2015

Camera-ready papers: 2 March 2015

5.2. IFAC Workshop on Multivehicle Systems
Contributed by: Giovanni Indiveri, giovanni.indiveri@unisalento.it

3rd IFAC Workshop on Multivehicle Systems - MVS 2015

Genova, Italy - May 18th, 2015

In conjunction with MTS/IEEE OCEANS'15

http://mvs2015.unisalento.it/IFAC_MVS_2015/Home.html

Important Dates:

Paper Submission deadline: 5 December 2014

Notification of Acceptance: 23 January 2015

Final paper upload: 27 March 2015

Early Registration deadline: 17 April 2015

Workshop: 18 May 2015

The IFAC MVS 2015 Workshop is organized by the Dipartimento Ingegneria Innovazione - Università del Salento (Giovanni Indiveri) on behalf of the IFAC Technical Committee TC 7.5 on Intelligent Autonomous Vehicles http://tc.ifac-control.org/7/5 with the co-sponsorship of the TC 4.3. Robotics and TC 7.2. Marine Systems

IPC Chair:

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pino@dist.unige.it

Editor:

Giovanni Indiveri, Università del Salento, Lecce, Italy

giovanni.indiveri@unisalento.it

Topics:

Multivehicle planning, Cooperative navigation, Cooperative mapping, Task allocation, Robot swarms, Coordinated and cooperative control, Architectures for cooperation, Cooperative perception, interaction, and communication, Learning and adaptation in multivehicle systems, Applications of multivehicle systems, Navigation, guidance and control for multivehicle systems, Autonomous localization, Fault diagnosis and recovery in multirobot systems

Workshop Objectives:

The objective of the workshop is to provide an international forum for the discussion of recent developments and advances in the field of multivehicle systems. In-depth discussions of relevant theories and applications related to multivehicle systems are expected, including the presentation of results of applications to real-world land, sea, underwater, aerial and space multi-vehicle systems, as well as strong theoretical contributions. The Workshop will include topics related to cooperative control of multi vehicle systems, distributed sensing, mapping, data acquisition, surveillance & monitoring, fault diagnosis, identification and recovery, navigation, guidance and control of cooperative and coordinated autonomous vehicles in water, land and air.

At least one full registration will be required for each accepted paper by the time of its final upload on the Symposium paper submission web site. Uploaded papers without a corresponding full registration will not be included in the Symposium Program and Proceedings.

The IFAC MVS 2015 Workshop is a joint event with MTS/IEEE OCEANS'15 (http://www.oceans15mtsieeegenova.org). Discounted registration fees will be applied for registrants to both events.

The IPC of the IFAC event may screen presented papers with the purpose of recommending the authors

to consider a derivative publication of the presented paper in one of the IFAC Journals (at present: Automatica, Control Engineering Practice, Annual Reviews in Control, Journal of Process Control , Engineering Applications of Artificial Intelligence, and Mechatronics). The IFAC Journals have priority access to all contributions presented at IFAC events. However, if the author(s) is (are) not contacted, within three months after the meeting, the author(s) is (are) free to submit an appropriately modified version of the presented material for journal publication as considered appropriate by the author(s). In this case, the journal outlet may be freely chosen by the author(s).

5.3. Security and Privacy for Internet of Things and Cyber-Physical Systems
Contributed by: Heath LeBlanc, h-leblanc@onu.edu

IoT/CPS-Security 2015
The First IEEE International Workshop on Security and Privacy for Internet of Things and Cyber-Physical Systems
Organized in conjunction with IEEE International Conference on Communications (ICC 2015)
8-12 June 2015, London, UK

Call for Papers:
http://conta.uom.gr/IoTCPSsecurity2015/

Scope:
Recent advances in networking, communications, computation, software, and hardware technologies have revolutionized the way humans, smart things, and engineered systems interact and exchange information. The Internet of Things (IoT) and Cyber-Physical Systems (CPS), which are the major contributors in this area, will fuel the realization of this new, globally interconnected cyber-world. Yet, the success, prosperity, and advancement of IoT and CPS strongly depend on the security, privacy, and trust of the IoT and cyber-physical devices as well as the sensitive data being exchanged. While these technologies offer a lot of new possibilities, the increasing complexity of hardware and software as well as the worldwide access increase the vulnerability to security attacks Successful attacks targeted to IoT devices and CPS have in common that not only a single computer is affected, but also interconnected technical systems allowing interaction with the physical world are influenced, leading to malfunction of devices and control systems with severe financial, environmental, and health losses. This fact highlights the need to develop novel tools that will constitute the heart of a much-needed science of security for IoT & CPS. The goal of this workshop is to bring together internationally leading academic and industrial researchers in an effort to identify and discuss the major technical challenges and recent results aimed at addressing all aspects of security and privacy for IoT and CPS.

Topics of interest:
To ensure complete coverage of the advances in this field, the 2015 IoT/CPS-Security Workshop solicits original contributions in, but not limited to, the following topical areas: Security, Privacy, and Trust for IoT and CPS; Secure IoT and CPS architectures; Detecting and preventing attacks in IoT devices and CPS; Security in Machine-to-Machine (M2M) systems; Evaluation of Threats, Attacks, and Risks in IoT and cyber-physical devices; Data Security and Privacy in the IoT; Game Theory for IoT and CPS Security; Security and Privacy in IoT RFID, sensors, actuator technologies, applications and services; Security in Smart Grids and Smart Spaces; Network-distributed sensor processing for security solutions in CPS; Testbed and performance metrics of security solutions in CPS; Deployment and performance studies of secure CPS; Secure Network Control Systems for CPS applications; Architectures for secure hardware/software

CPS.

Submission procedure:

The workshop accepts only novel, previously unpublished papers. All submissions should be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures without incurring additional charges, and must be formatted in strict accordance with the IEEE Communication Society author guidelines.

For more information please visit the following URL: http://icc2015.ieee-icc.org/content/authors-guidelines.

The EDAS link for submission is: https://edas.info/newPaper.php?c=18701&track=66317

Important dates:

Paper submission deadline: 10 January, 2015

Author Notification: 14 February, 2015

Camera-ready due: 28 February, 2015

Workshop date: 8 June, 2015

Organizing committee:

General Co-Chairs:

Anastasios A. Economides (Univ. of Macedonia, Greece)

Minho Jo (Korea University, South Korea)

Houbing Song (West Virginia University, USA)

Daqiang Zhang (Tongji University, China)

Technical Program Co-Chairs:

Eirini Karapistoli (Univ. of Western Macedonia, Greece)

Vasilis Friderikos (King's College London, UK)

Joao Paulo Miranda (CPqD, Brazil)

Dev Audsin (Orange, UK)

Krishna Kumar Venkatasubramanian (Worcester Polytechnic Institute, USA)

Jianguo Ding (University of Skovde, Sweden)

Publicity Co-Chairs:

Qinghe Du (Xi'an Jiaotong Univ., China)

Heath LeBlanc (Ohio Northern University, USA)

Eirini Karapistoli (Univ. of Western Macedonia, Greece)

6. Online Courses and Graduate Schools

6.1. Online Seminar Series on Control Systems
Contributed by: Tansel Yucelen, yucelen@mst.edu

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

The upcoming online seminars include:

* Dr. Andrew Teel (University of California, Santa Barbara): On the modeling power of stochastic hybrid inclusions (November 13, 2014, 12:00 pm CDT)

* Dr. Rifat Sipahi (Northeastern University): Interplay between delays, network graphs, and stability/performance in coupled dynamical systems (November 20, 2014, 2:00 pm CDT)

To register for free (and learn more about these talks), please visit the Control Systems Forum:
http://consys.forum.mst.edu/upcomingwebinars/

Dr. Tansel Yucelen

Program Director of the Control Systems Forum

Director of the Advanced Systems Research Laboratory

Assistant Professor of the Mechanical and Aerospace Engineering Department

Missouri University of Science and Technology

email: yucelen@mst.edu

http://www.asrl.us/ (Research Webpage)

http://consys.forum.mst.edu/ (Control Systems Forum Webpage)

6.2. Cyber Physical Systems mini-course
Contributed by: Eric Feron, feron@gatech.edu

Cyber Physical Systems mini-course

Georgia Institute of Technology, Atlanta, GA, USA

November 15 and 16, 2014

http://cps-course.ensma.fr/

Guy Boy, Eric Feron, Pierre-Loic Garoche, Emmanuel Grolleau, and Marilyn Wolf

A Cyber-Physical system is a system of collaborating computational elements controlling physical entities. Motivated by this definition and by several years of research, the instructors will offer a comprehensive view of what cyber-physical systems consist of today. Acknowledging the need for many distinct elements and disciplines to build cyber-physical systems, the instructors are distributed over a broad range of fundamental disciplines, including Human factors and cognition (Dr. Guy Boy), Software analysis and design (Dr. Loïc Garoche), Control systems and autonomy (Dr. Eric Feron), Real-time embedded systems (Dr. Emmanuel Grolleau) and Cyber-Physical Systems design (Dr. Marilyn Wolf). Acknowledging the broad range of interpretation given to Cyber-Physical Systems, the team will primarily focus on safety-critical CPS. Over the course of two days, each instructor will present CPS concepts and tools from his perspective, linking it with the perspective of the other participants.
The lectures will allow plenty of interactions between the instructors and the workshop attendees.

6.3. International Graduate School on Control
Contributed by: Francoise Lamnabhi-Lagarrigue, lamnabhi@lss.supelec.fr

International Graduate School on Control

EECI-IGSC-2015

http://www.eeci-institute.eu/IGSC2015

- 24 Independent Graduate Modules - one 21 hours module per week, taught in English
- Deadline for advance registration to each module: 20/12/2014
- Eligible for 2nd Year Master Degree credits and Scientific Thesis modules (3 ECTS)
- Possible financial support for PhD Students all over the word

List and place of courses (for the summaries, see http://www.eeci-institute.eu/EECI-docs2/EECI-Modules-2015-summaries.pdf)

M1 Paris-Saclay (Supelec) 19/01/2015 - 23/01/2015

Advanced topics in the optimal control of economic systems

Raouf Boucekkine, GREQAM, Aix-Marseille School of Economics, France

M2 Paris-Saclay (Supelec) 26/01/2015 - 30/01/2015

Moments, positive polynomials and LMIs for optimal control

Didier Henrion & Jean-Bernard Lasserre, CNRS LAAS, University of Toulouse, France

M3 Paris-Saclay (Supelec) 02/02/2015 - 06/02/2015

The scenario approach for robust control, identification, and machine learning

Marco C. Campi, University of Brescia, Italy & Simone Garatti, Politecnico di Milano , Italy

M4 Paris-Saclay (Supelec) 16/02/2015 - 20/02/2015

Control-oriented modeling and system identification

Emmanuel Witrant, University Joseph Fourier, GIPSA, Grenoble, France

M5 Paris-Saclay (Supelec) 23/02/2015 - 27/02/2015

Decentralized and distributed control

Giancarlo Ferrari-Trecate, University of Pavia & Marcello Farina, Politecnico di Milano, Italy

M6 Paris-Saclay (Supelec) 02/03/2015 - 06/03/2015

Model Predictive Control

Eduardo F. Camacho, University of Sevilla, Spain

M7 Stuttgart 02/03/2015 - 06/03/2015

Randomized algorithms for systems, control and networks

Roberto Tempo & Fabrizio Dabbene

CNR-IEIIT, Politecnico di Torino, Italy

M8 Istanbul 09/03/2015 - 13/03/2015

Introduction to nonlinear systems analysis and nonlinear feedback control

Hassan K. Khalil, Michigan State University, USA

M9 Berlin 23/03/2015 - 27/03/2015

Nonlinear control for physical systems

Roger W. Brockett, Harvard SEAS, USA & Alexandre L. Fradkov, RAS, St-Petersburg, Russia

M10 Belgrade 23/03/2015 - 27/03/2015

Extremum seeking

Miroslav Krstic, Univ. California, San Diego, USA

M11 Paris-Saclay (Supelec) 23/03/2015 - 27/03/2015

Feedback control of quantum systems

Pierre Rouchon, Mines-ParisTech, France & Alain Sarlette, Ghent University, Belgium

M12 Paris-Saclay (Supelec) 30/03/2015 - 03/04/2015

Local methods for nonlinear systems and control

Rodolphe Sepulchre, Univ. of Cambridge, UK

M13 Paris-Saclay (Supelec) 06/04/2015 - 11/04/2015

Sliding mode control and observation

Christopher Edwards, Univ. of Exeter, UK

M14 Paris-Saclay (Supelec) 13/04/2015 - 18/04/2015

Attractive ellipsoid method in robust nonlinear control

Alexander Poznyak, CINVESTAV-IPN, Mexico

M15 Istanbul 13/04/2015 - 18/04/2015

Advances in feedback design for MIMO nonlinear systems

Alberto Isidori, University of Rome "La Sapienza", Italy

M16 St Petersburg 20/04/2015 - 25/04/2015

Time-delay systems: Lyapunov functional and matrices

Vladimir Kharitonov, St.-Petersburg State University, Russia

M17 Grenoble 27/04/2015 - 31/04/2015

Distributed control and computation

A. Stephen Morse, Yale University, USA

M18 Grenoble 04/05/2015 - 07/05/2015

Identification in closed loop operation and controller reduction

Ioan D. Landau, CNRS GIPSA-LAB, Grenoble, France & Alireza Karimi, EPFL, Switzerland

M19 Istanbul 04/05/2015 - 08/05/2015

Modeling and control of multiphysics systems

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

M20 Paris-Saclay (Supelec) 1/05/2015 - 15/05/2015

Hybrid systems: modeling, stability, robustness, and the math behind it

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

M21 Paris-Saclay (Supelec) 18/05/2015 - 22/05/2015

Hybrid feedback control systems: analysis and design

Ricardo G. Sanfelice, Univ. California at Santa Cruz, California, USA

M22 Paris-Saclay (Supelec) 25/05/2015 - 29/05/2015

Switched systems and control

Daniel M. Liberzon, Univ. of Illinois, USA

M23 Paris-Saclay (Supelec) 01/06/2015 - 05/06/2015

Predictive and optimization based control for automotive and aerospace applications

Ilya Kolmanovsky, Univ. of Michigan, USA & Stefano Di Cairano, Mitsubishi Res. Lab Boston

M24 Paris-Saclay (Supelec) 08/06/2015 - 12/06/2015

Networked control with limited data rates

Girish Nair, Univ. of Melbourne, Australia

EECI-IGSC-2015 is supported by: CNRS (GdR MACS), Digiteo, iCODE, CentraleSupelec

7. Positions

7.1. PhD: University of New South Wales, Australia
Contributed by: Daoyi Dong, d.dong@unsw.edu.au

PhD scholarship
Project title: Robust control of quantum ensembles

Supervisors: Dr Daoyi Dong and Prof Ian Petersen

https://research.unsw.edu.au/people/mr-daoyi-dong
http://seit.unsw.adfa.edu.au/staff/sites/petersen/P1.html

Quantum ensembles have wide applications in emerging quantum technology including quantum computation, long-distance quantum communication, and magnetic resonance imaging. The thesis project aims to develop new theories and control algorithms to enhance control capabilities and robustness in the engineering of quantum ensembles. The project also involves possible collaboration with Professor Herschel Rabitz's group at Princeton University.

The successful applicant, subject to admission to the PhD degree program, will be awarded a UNSW Canberra Research Training Scholarship with an annual tax-free stipend of $26,392 (2014 rate). This scholarship is for a period of 3 years, subject to satisfactory progress reviews. The successful applicant would be expected to be available to commence their studies no later than Session 1, 2015 and must be on campus and enrolled at UNSW Canberra in the relevant PhD program by March 2015. Potential students with strong background of mathematics, quantum physics or control theory are encouraged to apply for this scholarship. Prospective students should contact Daoyi Dong (daoyidong@gmail.com) with their academic transcript, a CV and English test scores (if necessary). Applications will be accepted by 10 November, 2014.

UNSW Australia (the University of New South Wales) is one of Australia's leading research and teaching universities and a founding member of the prestigious Group of Eight (Go8) research-intensive universities in Australia and a member of the Universities 21 international consortium. UNSW Australia is an Australian university with a global vision to bring our students a truly world-class learning experience; we regularly collaborate with pioneering universities around the world. The Canberra campus of UNSW Australia is located at the Australian Defence Force Academy (ADFA).

For further information, please contact:
Dr Daoyi Dong
Email: d.dong@unsw.edu.au or daoyidong@gmail.com
Phone: +61 2 6268 6285
School of Engineering and Information Technology
UNSW Australia, Canberra ACT 2600 Australia

7.2. PhD: Missouri University of Science and Engineering, USA
Contributed by: Tansel Yucelen, yucelen@mst.edu

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

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

recognized as one of the top research laboratories in the nation by significantly advancing the knowledge and training science-based engineers and professionals to shape the future of our society.

Dr. Tansel Yucelen

Assistant Professor of the Mechanical and Aerospace Engineering Department

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

Missouri University of Science and Engineering

7.3. PhD: University of Houston, USA
Contributed by: Behrouz Ebrahimi, bebrahimi@uh.edu

Research assistantships are available in the Department of Mechanical Engineering at the University of Houston for Ph.D. studies in the areas of dynamic systems identification and control with applications to mechanical, energy and biomedical systems. Specific areas of interest include: (i) the modeling and control of combustion engines, (ii) the identification and control of the human physiology and response to drugs, and (iii) the real-time monitoring and control of subsea oil production systems. Applicants are expected to have strong mathematical background and knowledge of modern control systems theory and applications documented by publications and MS studies on relevant topics. The Houston metropolitan area offers ample opportunities for interaction with collaborating industry and the Texas Medical Center. Applications from qualified students are invited for Spring and Fall 2015.

For more information please contact:

Prof. Karolos Grigoriadis,

Department of Mechanical Engineering,

University of Houston,

Houston, TX 77204-4792,

E-mail: karolos@uh.edu

7.4. PhD: ETH Zürich, Switzerland
Contributed by: Philipp Reist, reistp@ethz.ch

PhD Position available in Dynamic Systems and Control with Prof. Raffaello D'Andrea at ETH Zurich

Research in Prof. D'Andrea's group is focused on the creation of systems that leverage technological innovations, scientific principles, advanced mathematics, algorithms, and the art of design in unprecedented ways, with an emphasis on advanced motion control, adaptation, and learning. Test-beds include dynamic sculptures, juggling machines, and the Flying Machine Arena. For more information, visit http://www.idsc.ethz.ch/Research_DAndrea.

The specific research project is determined based on the candidate's background and aptitude. Starting dates are negotiable.

We offer:

- A PhD position in a small, dedicated team (8-10 PhD students)

- Excellent research infrastructure

- Excellent salary and benefits

We require:

- A Master/Diploma degree from a top university in a subject related to our research
- Outstanding GPAs in all obtained degrees
- Excellent track-record in conducting research in dynamic systems and control
- Proficient oral and written English skills

Advantageous are:

- Strong C/C++ and embedded systems skills
- Experience in hardware implementation

Please include the following documents in your application:

1. Cover letter that includes a research statement (max. 2 pages)
2. CV
3. Transcripts of all obtained degrees (in English)
4. Ranking information about all obtained degrees (absolute ranking, or mean and standard deviation of GPAs of graduating class)
5. Three references and their contact information

Mail your application to the following address (applications by e-mail are ignored):
D'Andrea Research Position Application Attention: Katharina Munz Institute for Dynamic Systems and Control ETH Zürich ML K 32.3 Sonneggstrasse 3 8092 Zurich Switzerland

7.5. PhD/Post-Doc: Clemson University, USA
Contributed by: Yongqiang Wang, yongqiw@clemson.edu

PhD/Post-Doc Positions, The Holcombe Department of Electrical and Computer Engineering, Clemson University, USA

Applications are invited for doctoral and/or post-doctoral positions in the general area of dynamics and control of network systems. Competitive financial supports will be provided. Students with a strong background in systems and control and a clear interest in the general area of network systems are encouraged to apply. Specific areas of research include: - analysis of dynamical engineered or biochemical networks - hybrid systems - oscillator networks or synchronization Clemson University is ranked 20st among national public universities by U.S. News & World Report (tie with Purdue University-West Lafayette and University of Maryland–College Park). It is described by students and faculty as an inclusive, student-centered community characterized by high academic standards, a culture of collaboration, school spirit, and a competitive drive to excel. Clemson is located on Lake Hartwell in the foothills of the Blue Ridge Mountains, an area of outstanding natural beauty and temperate climate. It is 30 miles from Greenville, SC, a vibrant and growing city which provides many opportunities for entertainment, culture, and fine dining. Strong mathematical and analytic skills are desired. Candidates with a demonstrated track record in one or more of the previous area(s) will be preferred. Interested students should send a short resume, along with representative relevant publications, if applicable, to yongqiw@clemson.edu

7.6. PhD/Post-Doc: Tel Aviv University, Israel
Contributed by: George Weiss, gweiss@eng.tau.ac.il

A PhD or Post-Doc position in control theory and/or power electronics is available at the School of Electrical Engineering, Tel Aviv University, Israel, which is internationally very highly ranked. Applicants from China and India are especially encouraged to apply, as there are large joint government funded programs for this. The successful candidate will work (depending on his/her background and interests) in one of the two areas of investigation described below.

The first area is:

Internal model based control which includes regulator theory as well repetitive control. This area involves a lot of mathematics and some knowledge of distributed parameter systems would be welcome in this project. To get a glimpse of the nature of this work, the candidate is advised to look up the recent paper by Natarajan, Gilliam and Weiss published online in IEEE Trans. on Automatic Control, 2014, or the paper by Rebarber and Weiss in Automatica, 2003, or the recent survey on well-posed systems by Tucsnak and Weiss in Automatica, 2014. The precise topic and approach is open, depending on the candidate's background and interests.

The second area is:

Advanced control of switched power converters Within this broad area, one topic of ongoing research is the grid integration of renewable and other distributed energy sources, with particular emphasis on the stability and reliability of the power grid. Another topic of current research is to build electronic circuits that can replace large and unreliable filtering capacitors on DC buses of converters or power factor compensators. Here, experience in building power electronic circuits and/or programming digital signal processors would be very welcome. To get a glimpse on the nature of this work, the candidate is advised to look up the paper by Zhong and Weiss in IEEE Trans. on Industrial Electronics from 2011, or the recent paper by Natarajan and Weiss on the stability of a grid-connected generator to be presented at CDC 2014 in Los Angeles.

The two projects are funded by grants from the Israel Science Foundation, and by the Ministry of Energy and Water. The successful applicant is anticipated to have a first-class honours degree or equivalent in Electrical Engineering, Applied Mathematics, or other relevant areas, with specialization in either power conversion or control theory. All applicants are expected to possess good communication skills in English (Hebrew in not required) and (if not yet having a PhD degree) should satisfy the academic admission requirements for the PhD programme of Tel Aviv University.

Applications should include a detailed CV, including e-mail addresses of two referees, a copy of academic transcripts and a cover letter detailing the applicant's research interest and its relevance to the project. Potential applicants should discuss their application and forward their paperwork via e-mail to George Weiss, gweiss@eng.tau.ac.il. The deadline for applications is end of 2014 or until the position filled. Further information can be obtained by e-mail.

7.7. PhD/Post-Doc: Technische Universität München, Germany
Contributed by: Matthias Althoff, althoff@in.tum.de

PhD/Postdoc Position in Formal Verification of Cyber-Physical Systems
The Research Group "Cyber-Physical Systems" of Prof. Matthias Althoff at the Technische Universität München offers a doctoral/postdoctoral position in the EU-funded project "Unifying Control and Verification of Cyber-Physical Systems (UnCoVerCPS)". The offered position has a strong focus on formal verification of cyber-physical systems with applications to automated driving, human-robot collaboration and smart grids.

Technische Universität München is one of the top research universities in Europe. The university fosters a strong entrepreneurial spirit and international culture that places it at the forefront of research in a diversity of disciplines.

More information can be found at http://portal.mytum.de/jobs/wissenschaftler/NewsArticle_20141026_165219

7.8. Post-Doc: Luxembourg Centre of Systems Biomedicine
Contributed by: Jorge Goncalves, jmg@uni.lu

Postdoc (Research Associate) in Systems Control

The Systems Control Group (SCG) of the Luxembourg Centre of Systems Biomedicine (LCSB) has the following vacancy:

Description:
This project is funded by ERASysAPP to develop mathematical tools based on control systems to model and analyse large-scale time-series genomic data. In particular, the project focuses on the circadian clock network of crops and aims at increasing its biomass. The project is part of a larger consortium with partners in Germany (biology and breeders), Sweden and Cyprus (theory).

Your Role:
The Systems Control Group seeks a highly skilled Postdoctoral Fellow (Research Associate) to work on the ERASysAPP project. The Postdoctoral Fellow is expected to work together with the rest of the consortium. In particular, the Postdoc must understand advance control systems, with emphasis on system identification.

Your Profile:
To hold a PhD degree in mathematics, control systems or machine learning. Prior knowledge of biology is not required. However, the candidate must be willing to learn the basics of biology, to be able to communicate with biologists. Excellent working knowledge in English.

We offer:
Full contract for 1 year with the possibility of renewal up to 3 years. Opportunity to supervise Ph.D. students working on the project. A very competitive salary.

Further Information at online application at the following link
Applications should contain the following documents:
A detailed Curriculum vitae. A motivation letter. Description of past research experience and future interests. Name and addresses of at least three references.

Please apply online until 15th November 2014.
For further information, please contact: Jorge Goncalves (jorge.goncalves@uni.lu)

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

7.9. Post-Doc: Nanyang Technological University, Singapore
Contributed by: Guoqiang Hu, gqhu@ntu.edu.sg

Post-doc: Nanyang Technological University

Nanyang Technological University (NTU) of Singapore and KTH Royal Institute of Technology (KTH) of Sweden have established a joint research programme.

We are looking for one post-doc to work on control, optimization and resilience of networked systems with

applications to smart grid. The post-doc will be jointly supervised by Prof. Guoqiang Hu of NTU and Prof. Karl H. Johansson of KTH. She/he will be based in Singapore but can have opportunities to visit KTH for joint research from time to time.

We are looking for excellent researchers with the potential to be converted to faculty members at NTU after the completion of the post-doc.

Candidates should have a PhD degree in the area of distributed control and optimization of networked systems with a strong publication record. It would be an advantage if the candidates have experiences in control and optimization of smart grid or power networks. The initial offer is one year, but can be renewed up to three years.

Interested applicants are required to send Prof. Guoqiang Hu at gqhu@ntu.edu.sg a detailed CV, a description of previous related experiences and achievements, pdf files of 2-3 representative publications, and a list of at least two referees.

If you have any question regarding the position, please, do not hesitate to contact Prof. Guoqiang Hu at gqhu@ntu.edu.sg or Prof. Karl H. Johansson at kallej@kth.se.

7.10. Post-Doc: Delft University of Technology, the Netherlands
Contributed by: Manuel Mazo Jr., m.mazo@tudelft.nl

A postdoctoral researcher position is available at the Delft University of Technology in the area of safety, sensing, and control implementations for highly automated driving.

This position is sponsored by the Dutch Technology Foundation STW through the IAVTRM project "From Individual Automated Vehicles to Cooperative Traffic Management - Predicting the benefits of automated driving through on-road human behaviour assessment and traffic flow models".

This activity is part of the larger Dutch Automated Vehicle Initiative (DAVI, http://www.davi.connekt.nl), founded in 2013 to investigate, improve, and demonstrate automated driving on public roads.

The goals of the IAVTRM project are to investigate highly automated driving with: 1) individual automated vehicles, 2) cooperative platoons, and 3) cooperative traffic management through infrastructure communication. In the project a particular attention will be given to:

(i) the interaction between humans and automation; and (ii) the emerging effects on traffic of automated driving. Two PhD students will be working on these two aforementioned topics in close collaboration with the candidate to fill this postdoc position.

Research topics include the cyber-physical interaction between the vehicle, the computing platforms, and communication channels, and its effects on the overall performance of highly automated vehicles.

Critical aspects include quantization effects, delays, or data availability. The candidate is also expected to contribute to the development of state-of-the-art and novel embedded control solutions.

The ideal candidate should:

- hold a PhD in electrical, mechanical, or aerospace engineering with specialization in Control Systems;
- be knowledgeable in the fields of: Hybrid Systems, Non-linear Control and/or Real-Time Embedded Optimization;
- have some general knowledge on the topics of sensor fusion, image processing, and filtering;
- be familiar with real-time programming/implementation environments, preferably LabView;
- have previous experience in the automotive domain (this is a plus, but not a strict requirement);

- be a team-player willing to work in an interdisciplinary team including behavioral scientists, civil engineers, computer scientists, and industrial partners.

Interested applicants should send the following application material to Nancy Kouters (N.Kouters@tudelft.nl):

- a letter of application also specifying "Vacancy 3 (PostDoc) IAVTRM" as the vacancy you are applying for;
- a detailed CV, including courses & grades at Master & Bachelor level, experience, and publications;
- an example publication or report of which you are the first author;
- two to three letters of recommendation

For more information you may contact Dr. R. Happee r.happee@tudelft.nl, Dr. M. Mazo Jr. m.mazo@tudelft.nl or Dr. T. Keviczky t.keviczky@tudelft.nl

7.11. Post-Doc: University of Michigan, USA
Contributed by: Dawn Tilbury, tilbury@umich.edu

Physiological Signal Modeling Postdoctoral Fellow

The Departments of Anesthesiology and Mechanical Engineering of the University of Michigan are looking to hire a Postdoctoral Research Fellow to develop and test novel physiological network and forecasting systems. Our current work uses dynamic systems modeling techniques to study how the human body responds to various physiological stimuli. The postdoctoral fellow will work in an interdisciplinary environment with focus on the development and application of computational solutions to biomedical problems, involving signal processing of time series physiological data, data-driven and physiological-based models, and data mining. The position has the potential for long term professional employment.

To qualify for this 2-year Postdoctoral Fellowship, the applicant must have received a Ph.D. degree in a NSF-supported science, technology, engineering or mathematical discipline in the three years prior to the application date.

Responsibilities:

1. Formulates experimental hypotheses leading to design and implementation of experimental protocols related to computational models.
2. Develops necessary new technologies and protocols
3. Develops and creates models from data sets collected by the medical collaborators.
4. Collects, processes and interprets experimental data and model outputs.
5. Trains, and in some instances supervises, graduate and undergraduate students.
6. Collaborates with other scientists and computational staff on research projects and development of new approaches to existing research problems.
7. Prepares research proposals, progress reports, and manuscripts for submission to scientific journals.
8. Presents research methods and findings at appropriate scientific conferences.
9. Completes other projects as needed.

Required qualifications:

- Ph.D. in Computer Science, Math, Control Engineering or related field
- Experience in developing and evaluating models for dynamic systems. Excellent mathematical and analytical skills

- Demonstrable products (publications, applications, patents) showing creative and independent problem solving skills
- Strong programming skills, including some or all of of Matlab, C/C++, databases (MySQL), python

Desired Knowledge:

- Experience in working with physiological data sets and models
- Experience with cloud computing services (AWS, Rackspace, etc.)
- Experience in machine learning
- Expertise in decision trees, inductive logic programming, unsupervised learning, independent component analysis, Bayesian learning systems, and hidden Markov models
- Big data analysis
- Signal Processing

Interested candidates,should send a CV, cover letter summarizing their capabilities and interest, and the names and contact information for three professional references to Prof. Krishna Ramachandran rsatyak@med.umich.edu and Prof. Dawn Tilbury tilbury@umich.edu

Applications received by November 1 will receive full consideration, although the position will remain open until filled.

7.12. Post-Doc: University of Alberta, Canada
Contributed by: Tongwen Chen, tchen@ualberta.ca

One Post-Doctoral Fellow (PDF) position is available for one year, and can be filled immediately with a highly qualified candidate. This research position is supported by an NSERC Collaborative Research and Development project, working with an industrial partner to develop user-friendly MPC tuning algorithms for cross directional control of paper-making processes. Time-domain performance specifications are targeted and parametric uncertainties are addressed in the tuning process. Desired qualifications for this position include a recent PhD degree in a relevant engineering field, research experience and knowledge on process control, MPC, robust control, optimization, and process modeling, and strong communication skills to interact with engineers from the partner company.

To apply, please email me with your interest and attach your updated CV, detailing your credentials, publications, expertise, and list of at least three references.

Further info on my research activities, the department, and the university can be found at http://www.ece.ualberta.ca/ tchen/

7.13. Post-Doc: Peking University, China
Contributed by: Guangming Xie, xiegming@pku.edu.cn

Several Postdoctoral Fellows are being recruited at the Center for Systems and Control, College of Engineering, Peking University, in the general areas of control systems, robotics, systems/industrial engineering and applications. The appointment is for a period of two years. The ideal candidate is one who has recently completed, or is about to finish, his/her PhD. The themes of research are, but not limited to, robotics, networked control systems, multi-agent systems, hybrid systems, computational intelligence, systems engineering, mechanical engineering and industrial engineering.

Interested candidates should send their CV to Professor Guangming Xie at xiegming@pku.edu.cn.

7.14. Faculty: California Institute of Technology, USA
Contributed by: Sheila Shull, sheila@caltech.edu

The Computing and Mathematical Sciences (CMS) Department at Caltech invites applications for a tenure-track faculty position. Our department is a unique environment where innovative, interdisciplinary, and foundational research is conducted in a collegial atmosphere. We are looking for candidates who have demonstrated exceptional promise through novel research with strong potential connections to natural, information, and engineering sciences. Research areas of particular interest include applied mathematics, computational science, as well as computing. A commitment to high-quality teaching and mentoring is expected.

The initial appointment at the assistant-professor level is for four years and is contingent upon the completion of a Ph.D. degree in Applied Mathematics, Computer Science, or related field. Exceptionally well-qualified applicants may also be considered at the full professor level.

To ensure the fullest consideration, applicants are encouraged to have all their application materials on file by December 28, 2014. For a list of documents required and full instructions on how to apply on-line, please visit http://www.cms.caltech.edu/search. Questions about the application process may be directed to: search@cms.caltech.edu.

Caltech is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

7.15. Faculty: Harbin Institute of Technology, Shenzhen Graduate School, China
Contributed by: Ms.Zhao, scc.hitsz@gmail.com

Faculty Positions in Systems and Control
Organization/Institution: Harbin Institute of Technology, Shenzhen Graduate School, Shenzhen, China
Department: School of Mechanical Engineering and Automation

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

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

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

Ms. Zhao
School of Mechanical Engineering and Automation
HIT Campus Shenzhen University Town
Xili, Shenzhen
Guangdong

P. R. China 518055
or email the documents to scc.hitsz@gmail.com

7.16. Faculty: Georgia Institute of Technology, USA
Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

The School of Aerospace Engineering at the Georgia Institute of Technology (Georgia Tech) invites nominations and applications for a faculty position in the general area of autonomous and intelligent control systems, with emphasis on aerospace vehicles and systems, and their interaction with human operators. The appointment is expected to be at the Assistant Professor level, but appointments to the Associate or Full Professor level will be considered for exceptional candidates having demonstrated a superior research and teaching record with a strong commitment to aerospace applications.

Applicants are required to have a doctorate in Aerospace Engineering, Mechanical Engineering, Electrical or Computer Engineering, Computer Science, or another closely related field. The successful candidate should have an outstanding research record and will be expected to teach graduate and undergraduate courses in his/her area of expertise, supervise graduate students, and interact with the other faculty on the development of a strong, independent, externally funded research program. The candidate will also interact with the newly established Institute for Robotics and Intelligent Machines (IRIM)at Georgia Tech (http://robotics.gatech.edu)

The Aerospace Engineering program at Georgia Tech is the largest program of its kind in the US, having approximately 40 full-time faculty members, and more than 800 undergraduate students and 500+ graduate students. Its undergraduate and graduate programs are typically ranked among the top aerospace engineering programs in the nation.

Information about the School can be found at http://www.ae.gatech.edu.
Applicants should send (electronically or via mail) a curriculum vitae, a cover letter, a statement of teaching interests and philosophy, a statement of research plans, and the name and contact information of at least three references to: Prof. Panagiotis Tsiotras, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA, 30332-0150. Phone: (404) 894-9526, e-mail: tsiotras@gatech.ed
The Georgia Institute of Technology is an equal opportunity/affirmative action employer.

7.17. Faculty: California Institute of Technology , USA
Contributed by: Richard Murray, murray@cds.caltech.edu

Assistant Professor in the area of Mechanical and Autonomous Systems

The Division of Engineering and Applied Science at the California Institute of Technology invites applications for a tenure-track faculty position in the Department of Mechanical and Civil Engineering. We are interested in applicants from a broad range of research areas related to mechanical and autonomous systems. Specific areas include, but are not limited to robotics, controls, energy systems, distributed sensing, manufacturing and structural control and monitoring systems. The search is aimed at the assistant professor level.

Interested applicants should submit an electronic application at https://applications.caltech.edu/job/mce
Review of applications will begin on 15 November 2014 and will continue until the position is filled. The term of the initial appointment at the assistant professor level is normally four years, with appointment contingent upon completion of a PhD in a relevant field. The California Institute of Technology is an

Equal-Opportunity/Affirmative-Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

Questions about the application process may be directed to mas-mce@caltech.edu

7.18. Faculty: University of California, USA
Contributed by: Roberto Horowitz, horowitz@berkeley.edu

The Department of Mechanical Engineering, University of California, Berkeley, seeks applications for a tenure track, Assistant Professor position in the area of Offshore Engineering including offshore structures and the associated aspects of their design and analysis, deployment, operation and control.

Topics of specialization include but are not limited to:

- advanced sensing, monitoring and control of surface offshore platforms,
- unmanned surface systems (USV),
- autonomous underwater vehicles and robotics to support underwater construction, maintenance and repair,
- resilient and adaptive structures,
- structures and systems,
- sea-stead (floating cities),
- structures and systems for:
- oil and gas exploration,
- energy and minerals extraction,
- carbon sequestration
- defense applications,
- deep-sea exploration and subsea engineering,
- large floating platforms.

Further information regarding the position, required qualifications and instructions on how to apply may be obtained at the following link: http://www.me.berkeley.edu/announcements/offshore_engineering_position.pdf
The deadline to apply is December 17, 2014, applications received after the deadline will not be considered.

7.19. Faculty: University of Bath, UK
Contributed by: Mark Opmeer, m.opmeer@bath.ac.uk

Department of Mathematical Sciences, University of Bath, UK

The Department wishes to make a new academic appointment in either of the areas: "Networks and Collective Behaviour" or "Inverse problems and applications". The position will be filled at either Lecturer (roughly equivalent to Assistant Professor), Senior Lecturer or Reader (roughly equivalent to Associate Professor) Level.
We seek applications from excellent candidates in either of these areas, whose work complements and strengthens current research in Mathematical Sciences at Bath (this includes control theory).
The closing date is Monday 1 December 2014 and interviews will take place in the period 19th - 20th January 2015.
See the following website for details: http://www.bath.ac.uk/jobs/Vacancy.aspx?ref=SS2737

7.20. Faculty: New Jersey Institute of Technology, USA
Contributed by: Moshe Kam, kam@njit.edu

The John C. Hartmann Department of Electrical and Computing Engineering (ECE) and the Department of Mechanical and Industrial Engineering (MIE) of the Newark College of Engineering at New Jersey Institute of Technology (NJIT) invite applications for a joint tenure-track assistant professor position in Robotics.
By the time of appointment, successful candidates must have earned a Ph.D. (or equivalent) degree, with a record of pertinent high-quality research. All areas of robotics research will be considered, but we are particularly interested in individuals focused on co-robots (robots as co-workers/co-inhabitants), cloud robots (robots that rely on cloud-computing infrastructure), compliant actuation, factory robot helpers, telepresence robots, and bionic robots (including rehabilitative robotics, and exoskeleton and prosthetic systems).
The successful candidate is expected to carry out high quality scholarly research and collaborate with other faculty. He or she should have a clear plan to establish a vibrant research program, secure external research funding, and participate actively in guiding, educating and teaching graduate and undergraduate students. Additionally, he or she will play a key role in setting up a makerspace dedicated to Robotics. This will be a high visibility space where students can engage in hands-on exploration and creation of robots and related devices. Full details are available at https://njit.jobs/applicants/Central?quickFind=53612

7.21. Faculty: University Graduate Center at Kjeller, Norway
Contributed by: Sofia Strand, sofia@unik.no

Research- and teaching position in autonomous systems /engineering cybernetics at UNIK - University Graduate Center at Kjeller

UNIK - the University Graduate Center at Kjeller - is a foundation collaborating with the University of Oslo (UiO), the Norwegian University of Science and Technology (NTNU) in Trondheim and the research institutes at Kjeller on teaching and supervision of Master students and PhD-candidates (see www.unik.no). Teaching and supervision at UNIK are given by academic staff in full time positions or adjunct positions at UiO, NTNU or UNIK, and by researchers at the Kjeller institutes and affiliated industry. Students are normally admitted at UiO or NTNU, but students from other universities are also welcome.

Job description:
UNIK is expanding its research -, teaching - and supervision activities within autonomous systems / engineering cybernetics in collaboration with UiO, NTNU and the Kjeller institutes, and hereby announces a position as a researcher with teaching and supervision responsibilities in this field at UNIK.
The position will be in association with the research communities on autonomous systems at the Norwegian Defence Research Establishment (FFI), and similar research groups at NTNU and UiO. The work will include teaching and supervision of Master students and PhD - candidates, and own research activities. The successful candidate is expected to contribute to an academic environment in this field at Kjeller, and to apply for funding for research activities from the Norwegian Research Council, the EU's research programs, relevant businesses and other sources.

Requirements:
The holder of the positions must have scientific qualifications at the professor- or associate professor level within one or more of the fields of control theory, estimation theory, robotics, autonomous systems, artificial intelligence and applied mathematics. It is expected that the successful applicant will qualify for and accept an Adjunct Professor, alternatively an Adjunct Associate Professor position (20% position) at UiO and / or NTNU.

The successful applicant must have basic pedagogical qualifications. Applicants, who upon appointment are unable to document such qualifications, must obtain this within the following two years. Since the successful applicant is going to teach courses approved by NTNU and / or UiO, the requirements for pedagogical qualification must follow the rules and regulations for academic positions at the universities.

In evaluation of the applicants, administrative and other qualifying activity will be considered, in addition to the scientific and educational qualifications. The submitted scientific work will be evaluated according to standard procedures at the universities. The candidateÂ´s ability to collaborate, to lead research activities, and other relevant personal qualifications will be taken into consideration, including experience from relevant research collaboration with the research institutes at Kjeller or Norwegian industry if adequately documented. The candidate must be able to obtain a security clearance for Secret.

The requirements and hiring procedure are basically the same as for academic positions at the universities. As a rule, the candidate will be interviewed and may be invited to give a trial lecture.

The teaching language is Norwegian or English. If the successful applicant does not speak Norwegian or English, it will be expected that he or she can teach in Norwegian or English within a specified time after taking position.

UNIK wants to recruit more women in academic positions. Women are encouraged to apply.

Application:

Application including CV, list of scientific publications, certificates, references and testimonials must be sent as an aggregated pdf file to postmottak@unik.no no later than 15. November 2014.

Contact persons:

Director Stian Løvold, UNIK stian.lovold@unik.no, telephone: +47 6484 4705

Professor Oddvar Hallingstad, UNIK oh@unik.no, telephone: + 47 6484 4784

7.22. Faculty: Peking University, China
Contributed by: Guangming Xie, xiegming@pku.edu.cn

Associate Professor & Assistant Professor in College of Engineering at Peking University.

The positions are placed in the Intelligent Control Lab at the department of Industrial Engineering and Management. The main focus of the research should be on field robot, service robot and their applications. The research will be conducted in a team consisting of PhD students and fellow senior researchers. The responsibilities of the Assistant Professor include to lead the running activities of the team and to co-supervise PhD students.

Application deadline: 2015-03-31. Application reviews are ongoing and will continue until the available position is filled. Applications must include:

1. Curriculum vitae and certificate of current or latest position (please specify intended rank of position)
2. Publication list and reprints or copies of publications (up to 5 papers)
3. Three reference letters (sent by regular mail or e-mail in PDF format)
4. A copy of doctoral degree certificate, or a letter stating the expected graduation date with the signature of the applicant's thesis advisor
5. Transcripts or academic records of both undergraduate and graduate studies (optional for applicants of associate and full professor position)
6. A statement of teaching interests with course outlines
7. A statement of research interests and plans

8. Other materials that help demonstrate the applicant's accomplishments (such as certificates of awards, patents, etc.)

Application materials must be sent via e-mail addresses to Prof. Guangming Xie at xiegming@pku.edu.cn

7.23. Faculty: University of Cambridge, UK
Contributed by: Malcolm C. Smith, mcs@eng.cam.ac.uk

Two University Lectureships in the Control Group (one in Control Engineering and one in Information Engineering and Medical Neuroscience), Department of Engineering, University of Cambridge, UK

The University of Cambridge invites applications for two lectureships in the Control Group in the Department of Engineering. Exceptional candidates are sought with the potential to develop a record of world-class research commensurate with the Department's international reputation. The current faculty members in the Cambridge Control Group are: Emeritus Professor Keith Glover, Professor Jan Maciejowski, Professor Rodolphe Sepulchre (Professor of Engineering), Professor Malcolm Smith (Head of Group) and Dr Glenn Vinnicombe (Reader). Candidates will be expected to contribute to undergraduate and graduate teaching in the general area of Control Engineering and possibly other related areas of Information Engineering.

The closing date for applications is 9 January, 2015. The interviewing panel will meet soon after the closing date. Short-listed candidates will be invited to visit the Department, give a short seminar/lecture and attend a formal interview. Informal enquiries can be made to Professor Rodolphe Sepulchre (r.sepulchre@eng.cam.ac.uk) or Professor Malcolm Smith (mcs@eng.cam.ac.uk).

1. University Lecturer in Control Engineering.
The field of this Lectureship is in the general area of Control Engineering. This research area remains very topical and is seen as a key technology for many industries. Indeed there is a strong argument that it is increasing in importance due to the degree of interconnectivity in the modern technological world. The EPSRC in a recent report identified seven Engineering Grand Challenge Themes around which the UK Research Community might be galvanised. Control Engineering is highlighted in five of these themes.

University Lecturers are expected to develop their own research portfolio, including winning research grants and recruiting research students. Lecturers are expected to establish an independent theme of research, as well as collaborating with others in related fields. It is anticipated that the successful candidate will be able to establish good collaborations from the many opportunities within the Department and within the University, e.g. biological sciences, computer science.

Further information and application procedure can be found at: http://www.jobs.cam.ac.uk/job/5100/

2. University Lecturer in Information Engineering and Medical Neuroscience.
The field of this University Lectureship is at the interface between Information Engineering and Medical Neuroscience. Unprecedented challenges and opportunities exist in this area as a consequence of a fast-developing technology of actuating and sensing devices at the neuronal scale (e.g. neural implants, multi-electrode recordings, and optogenetic techniques).

The successful candidate will preferably be working in the field of Control Engineering with a research record in problems of medical neuroscience, and with appropriate theoretical expertise (nonlinear systems). It could be filled by someone whose primary expertise is in a different branch of Information Engineering, but the ability to contribute to teaching in one or more of the 'core' areas of Information Engineering (Control, Signal processing, Information theory, etc) will be expected.

Medical neuroscience and brain science is a current focus of most national and international funding agencies. Funding opportunities will exist in conjunction with Cambridge Neuroscience. The lectureship will

strengthen the Department's Bioengineering strategic theme.

Further information and application procedure can be found at: http://www.jobs.cam.ac.uk/job/5100/

7.24. Faculty: Lehigh University, USA

Contributed by:Eugenio Schuster, schuster@lehigh.edu

Lehigh University invites applications for one tenure-track assistant or associate professor position from candidates whose research focuses on systems, dynamics, and control. The successful candidate must have a proven research interest in applications related to mechanical engineering, including, but not limited to, topics such as: energy systems, healthcare systems, cyber-physical systems, large-scale interconnected systems, mechanical systems, and robotics.

Applicants must possess (1) an earned doctorate, outstanding academic credentials, and a demonstrated record of success, (2) strong record and willingness to engage in collaborative interdisciplinary research, and (3) the ability and commitment to teach courses at both undergraduate and graduate levels.

Multidisciplinary research programs are an important priority at Lehigh University, and include strong interactions with government agencies, industry, and existing research centers on campus. The position will require developing externally funded research programs, supervising M.S. and Ph.D. students, and contributing to the control systems cluster through innovative research and teaching.

Candidates should provide curriculum vitae that includes a statement of professional experience and goals, detailed plans for research and funding, a list of refereed publications and presentations, a summary of teaching experience and plans, and the names and contact information of four references. This material should be submitted electronically using our online application found at https://academicjobsonline.org/ajo/jobs/4403. For questions regarding this position, please contact Barbara McGuire, bcm208@lehigh.edu. Review of applications will begin upon receipt and will continue until the position is filled.

Lehigh University is a premier residential research university, ranked in the top tier of national research universities each year. Lehigh is a coeducational, nondenominational, private university that offers a distinct academic environment of undergraduate and graduate students from across the globe. Lehigh offers majors and programs in four colleges: The College of Arts and Sciences, The College of Business and Economics, The College of Education, and The P.C. Rossin College of Engineering and Applied Science. More than 4,700 undergraduate and 2,000 graduate students call Lehigh "home." Located in Pennsylvania's scenic Lehigh Valley, the campus is situated on 1,600 acres in close proximity to both New York City and Philadelphia.

Lehigh University is an affirmative action/equal opportunity employer and does not discriminate on the basis of age, color, disability, gender, gender identity, genetic information, marital status, national or ethnic origin, race, religion, sexual orientation, or veteran status. Lehigh offers comprehensive benefits including domestic partner benefits: http://www.lehigh.edu/ inprv/faculty/worklifebalance.html .