**E-LETTER on Systems, Control, and Signal Processing**
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Welcome to the August issue of the Eletter, available electronically here.
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7.3 Post-Doc: York University, Canada
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7.5 Post-Doc: Nanyang Technological University, Singapore
7.6 Post-Doc: Cambridge Centre for Advanced Research in Energy Efficiency, Singapore
7.7 Research Fellow: National University of Singapore, Singapore
7.8 Faculty: Harbin Institute of Technology, China
7.9 Engineer: GE Global Research, Munich, Germany
7.10 Engineer: United Technologies Research Center, Shanghai, China
7.11 Researcher: General Motors R&D, Warren, Michigan, USA
7.12 Technical Expert: Volvo Car Group, Göteborg, Sweden

# 1. IEEE CSS Headlines

## 1.1. IEEE CSS Video Clip Contest: Extended deadline

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

CSS Control Video Clip Contest

Submission deadline extended until August 18, 2014

The idea behind the Video Clip Contest is that participants prepare a video clip of at most five minutes length (and possibly much shorter) on any subject related to the automatic control field. The video may focus on a particular topic in control or on the field in general, may focus on some interesting people in the control field, or may be in relation to a control course or a research project in control. Already existing videos can be re-used as long as the rules and regulations detailed on the contest webpage (see below) are satisfied. Videos that have the potential to promote the control field are especially encouraged.

The IEEE CSS Video Clip Contest is open for submissions until the extended deadline August 18, 2014. No further extension will be granted. Everybody from within and from outside the control community is invited to participate. We especially encourage undergraduate and graduate students to submit video clips and would appreciate it if the announcement is spread widely among students.

All videos are equally judged by a jury and the top three videos will be awarded $1000, $500, and $250 for the 1st, 2nd, and 3rd place, respectively.

In addition, the 1st place receives financial support to attend the 2014 IEEE Multi-Conference on Systems and Control (MSC 2014) which takes place in beautiful Antibes, France, October 8 to 10, 2014. The top videos will be presented to the public and an award ceremony will be held at MSC 2014.

For more information about the contest and for details regarding the submission procedure, please visit: http://www.ieeecss.org/video-contest.

Important Dates:

August 18, 2014: Extended deadline for video clip submissions

August 31, 2014: Winners are notified

October 8-10, 2014: Award ceremony during MSC 2014

The contest is hosted by the Institute for Systems Theory and Automatic Control, University of Stuttgart.

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## 1.2. 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.

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### 1.3. 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

IEEE Transactions on Automatic Control
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- Stability of a General Class of Distributed Algorithms for Power Control in Time-varying Wireless Networks. E. Devane, I. Lestas p. 1999
- Stability and Performance of Continuous-Time Power Control in Wireless Networks. H. R. Feyzmahdavian, T. Charalambous, M. Johansson p. 2012
- Weak Invariant Simulation and its Application to Analysis of Parameterized Networks. M. Hadi Zibaeenejad, J. G. Thistle p. 2024
- Stability of Switched Linear Differential Systems. J. C. Mayo-Maldonado, P. Rapisarda, P. Rocha p. 2038
- Flow-Level Stability of Wireless Networks: Separation of Congestion Control and Scheduling. J. Ghaderi, R. Srikant, T. Ji p. 2052
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## 2. Awards and Honors

### 2.1. 2015 American Automatic Control Council Awards

Contributed by: William S. Levine, wsl@ece.umd.edu

2015 American Automatic Control Council Awards, Nominations Solicited

Nominations for the 2015 AACC Awards are now open. We would hereby ask for your help in attracting deserving nominations.
Nominations can be made for the following awards:

- Richard E. Bellman Control Heritage Award
- Control Engineering Practice Award
- Donald P. Eckman Award
- John R. Ragazzini Education Award
- O. Hugo Schuck Best Paper Award (2)

More information about these awards, including selection criteria, nomination details, and past winners, is available at http://a2c2.org/awards/aacc-awards.
All nominations should be submitted using the online form, also available at http://a2c2.org/awards/aacc-awards.
Bill Levine, AACC Awards Committee Chair
Tariq Samad, AACC President

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## 3. Books

### 3.1. LPV & Time-Delay systems. Analysis, Observation, Filtering and Control

Contributed by: Corentin Briat, corentin@briat.info

LPV & Time-Delay systems Analysis, Observation, Filtering and Control
Springer-Heidelberg, September 2014

http://www.briat.info
http://www.springer.com/engineering/control/book/978-3-662-44049-0

This book provides an introduction to the analysis and control of linear parameter-varying systems and time-delay systems and their interactions. The purpose is to give the readers some fundamental theoretical background on these topics and to give more insights on the possible applications of these theories.
This monograph is intended to be self-contained and is written in an accessible way for readers ranging from undergraduate/PhD students to engineers and researchers willing to know more about the fields of time-delay systems, parameter-varying systems, robust analysis, robust control, gain-scheduling techniques in the LPV fashion and LMI-based approaches.The only prerequisites are basic knowledge in linear algebra, ordinary differential equations and (linear) dynamical systems. Most of the results are proved unless the proof is too complex or not necessary for a good understanding of the results. In the latter cases, suitable references are systematically provided. The first part pertains on the representation, analysis and control of LPV systems along with a reminder on robust analysis and control techniques. The second part is concerned with the representation and analysis of time-delay systems using various time-domain techniques. The third and last part is devoted to the representation, analysis, observation, filtering and control of LPV time-delay

systems. The last topic is about the manipulation of LMIs, extensively used in this monograph, for which many basic and advanced results are presented.

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Part I Linear Parameter-Varying Systems
Chapter 1. Introduction to LPV systems
Chapter 2. Stability of LPV systems
Chapter 3. Control of LPV systems
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Part III Linear Parameter-Varying Time-Delay Systems
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### 3.2. Adaptive Control of Solar Energy Collector Systems

Contributed by: J. M. Lemos, jlml@inesc-id.pt

J. M. Lemos, R. Neves-Silva, J. M. Igreja.
Adaptive Control of Solar Energy Collector Systems.
Series: Advances in Industrial Control. Springer, Cam, Heidelberg, New York, Dordrecht, London.

This book describes methods for adaptive control of distributed collector solar fields: plants that collect solar energy and deliver it in thermal form. Controller design methods are presented that can overcome difficulties found in these type of plants: they are distributed parameter systems, i. e., systems with dynamics that depend on space as well as on time; their dynamics is nonlinear, with a bilinear structure; there is a significant level of uncertainty in plant knowledge.

Adaptive methods form the focus of the text because of the degree of uncertainty in the knowledge of plant dynamics. Parts of the text are devoted to design methods that assume only a very limited knowledge about the plant. Other parts detail methods that rely on knowledge of the dominant plant structure. These other methods are more plant specific, but allow the improvement of performance.

"Adaptive Control of Solar Energy Collector Systems" demonstrates the dynamics of solar fields to be rich enough to present a challenge to the control designer while, at the same time, simple enough to allow analytic work to be done, providing case studies on dynamics and nonlinear control design in a simple and revealing, but nontrivial way.

The control approaches treated in this monograph can be generalized to apply to other plants modelled by hyperbolic partial differential equations, especially process plants in which transport phenomena occur, like dryers, steam super-heater and even highway traffic.

Although the primary focus of this monograph is solar energy, the reange of other systems that can benefit

from the methods described will make it of interest to control engineers working in many industries as well as to academic control researchers interested in adaptive control and its applications.

The book index as well as sample chapters can be seen at the Springer site
http://www.springer.com/energy/renewable+and+green+energy/book/978-3-319-06852-7

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## 4. Journals

### 4.1. IMA Journal of Mathematical Control and Information)

Contributed by: Suzanne Eves, suzie.eves@oup.com

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http://www.oxfordjournals.org/page/5976/1

- Guoying Mao, Shengyuan Xu, Baoyong Zhang, and Yun Zou. Mean square consensus of second-order multi-agent systems under Markov switching topologies. - Xiuxia Yin, Dong Yue, and Housheng Su. Event-triggered tracking control for discrete-time multi-agent systems
- Yang Xin, Jia Jun Guo, and Guo Li Juan. The study of the stability analysis of the string damped system by time delay
- Magdi S. Mahmoud, Nezar M. Alyazidi, and Abdul-Wahed A. Saif. Dynamic feedback control over unreliable communication channels
- Magdi S. Mahmoud and Haris M. Khalid. Model prediction-based approach to fault-tolerant control with applications
- Qi Wang, Zhiwu Li, Anrong Wang, Abdulrahman M. Al-Ahmari, Abdul-Aziz Mohammed El-Tamimi, and Emad Abouel Nasr. A versatile supervisor with one monitor based on macro-tokens
- Rifat Sipahi and Ismail Ilker Delice. On some features of core hypersurfaces related to stability switching of LTI systems with multiple delays
- Yongkun Li. Periodic solutions of non-autonomous cellular neural networks with impulses and delays on time scales

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### 4.2. European Journal of Control

Contributed by: Alessandro Astolfi, a.astolfi@ic.ac.uk

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### 4.3. Proceedings of the Institute of Applied Mathematics

Contributed by: proceedings.iam@gmail.com

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- M.J. Nikmehr, N. Soleimani, M. Veylaki. Topological indices based end-vertex degrees of edges on nanotubes
- S. Rahman. Geometry of hypersurfaces of a semi symmetric metric connection in a quasi-sasakian manifold
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Contributed by: Tobias Glück, cep@acin.tuwien.ac.at

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Contributed by: Ben M Chen, bmchen@nus.edu.sg

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- Fast 3D AML-Based Bird Song Estimation, pp.249-259. J. Zhang, G. Kossan, R. W. Hedley, R. E. Hudson, C. E. Taylor, K. Yao and M. Bao
- Wireless Sensor Network for Satellite Applications: A Survey and Case Study, pp.261-277. S. L. Xie, G. X. Lee, K.-S. Low and E. Gunawan
- Platform and Algorithm Development for a RFID-Based Indoor Positioning System, pp.279-291. H. Zou, L. Xie, Q.-S. Jia and H. Wang

Note that all manuscripts published in Unmanned Systems up to April 2014 can be downloaded for free from the journal website at http://www.worldscientific.com/us/.

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### 4.6. International Journal of Control, Automation, and Systems

Contributed by: Young-Hoon Joo, Editor-in-Chief, journal@ijcas.com

International Journal of Control, Automation, and Systems (IJCAS)
ISSN: 1598-6446
hrefhttp://www.springer.com/engineering/robotics/journal/12555http://www.springer.com/engineering/robotics/journal/12
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- Mixed $l_-/l_1$ Fault Detection Observer Design for Positive Switched Systems with Time-varying Delay via Delta Operator Approach. Shuo Li, Zhengrong Xiang, Hamid Reza Karimi, pp.709-721
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- Sliding Mode Control Design via Piecewise Smooth Lipschitz Surfaces based on Contingent Cone Criteria. Xin Huo, Kai Zheng, Kemao Ma, pp.733-741
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### 4.7. Asian Journal of Control

Contributed by: Fu Li-Chen, journal@ijcas.com

Asian Journal of Control
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- A Port-Hamiltonian Approach to Visual Servo Control of a Pick and Place System. Daniel A. Dirksz, Jacquelien M.A. Scherpen and Maarten Steinbuch
- Uncalibrated Image-Based Visual Servoing of Rigid-Link Electrically Driven Robotic Manipulators. Xinwu Liang, Hesheng Wang, Weidong Chen, Yun-Hui Liu
- Vision-Based Trajectory Tracking System for an Emulated Quadrotor UAV. Francisco Jurado, Guillermo Palacios, Francisco Flores, Héctor M. Becerra
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### 4.8. CFP: Computers in Industry

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

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/

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## 5. Conferences

### 5.1. World Congress of the International Federation of Automatic Control

Contributed by: Lisa Vickers, info@ifac2014.org

19th World Congress of the International Federation of Automatic Control (IFAC)
24-29 August 2014, Cape Town, South Africa
www.ifac2014.org

Pre-Congress Registration Closes 11 August
Registration will close at 17:00 South Africa time (SAST) on Monday, 11 August. Please register as soon as possible to ensure you do not miss this deadline. Kindly note that no further changes to existing registrations will be accepted after this time.

On-site registration for the Congress opens on Sunday 24 August at 12:00, at the Cape Town International Convention Centre.

Please ensure that you make all the necessary arrangements in respect of visa and inoculations well in advance of your arrival. Further information is available at www.ifac2014.org/travel-info.php.

Day Registration
A day registration fee will be available on-site at the CTICC from 07:30 on Monday, August 25. The fee will be R2250 per day, including all sessions and day time congress refreshments (which exclude lunch); all social events excluded.

Continuing Professional Development (CPD) Points
IFAC 2014 has been accredited by the Society for Automation, Instrumentation, Measurement and Control (SAIMC) for five continuing professional development points. South African delegates are eligible for these points if they attend sessions on all five days of the congress.

Pre-Congress Tutorials
A series of in-depth Pre-Congress Tutorials presented by experts are being offered on the weekend preceding the Congress. Topics range from smart grids to predictive repetitive control to mechatronics control education to fractional order motion controls, and more. Further information and the schedule of these tutorials can be found on the website at http://www.ifac2014.org/tutorials.php. Places are limited, so we encourage you to register as soon as possible.

Technical Tours
A selection of Technical Tours to major installations of control technology in the Western Cape Province of South Africa are available. These will take place throughout the Congress week. More information on the Technical Tours can be found on the website at http://www.ifac2014.org/site-visits.php

Please note that there is an additional charge to attend the Pre-Congress Tutorials and Technical Tours. Pre-registration is required for all.

If you would like to amend your registration to include a Pre-Congress Tutorial or a Technical Tour, visit here. Be sure to have the user name and password found in your registration confirmation email at hand.

Visit http://www.ifac2014.org/information-fees-and-deadlines.php for the registration packages and rates including the tutorials.
Visit http://www.ifac2014.org/accommodation.php for the accommodation options.
Visit http://www.ifac2014.org/online-registration.php to register.

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### 5.2. SIAM Conference on Control and Its Applications

Contributed by: Kirsten Wilden, wilden@siam.org

SIAM Conference on Control and Its Applications (CT15)
Maison de la Mutualité, Paris, France
July 8-10, 2015

This conference is sponsored by the SIAM Activity Group on Control and Systems Theory, and is co-sponsored by Inria.
Organizing Committee Co-Chairs:
Catherine Bonnet, Inria Saclay - Ile-de-France, France Bozenna Pasik-Duncan, University of Kansas, USA
Local Conference Organizers:
Catherine Bonnet, Inria Saclay - Ile-de-France, France Maurice Robin, Digiteo, France
Program Committee Co-chairs: Hitay Ozbay, Bilkent University, Turkey, Qing Zhang, University of Georgia, USA
The Call for Presentations for this conference is available at: http://www.siam.org/meetings/ct15
Twitter hashtag: #SIAMCT15

Submission deadlines:
January 12, 2015: Minisymposium proposals
January 21, 2015: Abstracts for contributed and minisymposium speakers
January 21, 2015: Full Paper for Consideration in Proceedings

Conference participants have the option to submit a full paper for consideration in the conference proceedings. Visit http://www.siam.org/meetings/ct15/submissions.php for submission links and details. Submitting a full paper for consideration in the proceedings is optional.

Travel fund application deadline
January 7, 2015: SIAM Student Travel Award and Early Career Travel Award Applications
For additional information, contact the SIAM Conference Department (meetings@siam.org).

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### 5.3. 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 going to be 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, modelling 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.

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## 6. Workshops and tutorials

### 6.1. IFAC Workshop on Automatic Control in Offshore Oil and Gas Production

Contributed by: Sigurd Skogestad, skoge@ntnu.no

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### 6.2. Workshop on Advances and Wish Lists in Control Research

Contributed by: Kai Cai, kai.cai@info.eng.osaka-cu.ac.jp

Advances and Wish Lists in Control Research, Celebrating Professor W. Murray Wonham's 80th Birthday
Half-day Workshop at CDC'14
December 14, 2014 (Sunday), 13:00-17:15
J.W. Marriott Hotel, Los Angeles, CA
https://sites.google.com/site/kaikai627/cdc-14-workshop-wmw

This workshop is to celebrate Professor Murray Wonham's 80th birthday at the CDC'14, in honor of his seminal contributions to systems and control theory. The workshop also aims to create an intellectual wish list of exciting research questions in the long term.
First proved pole assignment theorem, initiated internal model principle, systematized geometric control theory, pioneered supervisory control of discrete-event systems: Professor Murray Wonham has made a number of major contributions in the field of systems and control. He is a Professor Emeritus in the University of Toronto, a Life Fellow of the IEEE, a Fellow of the Royal Society of Canada, and a Foreign Associate of the National Academy of Engineering of USA.

To celebrate the special event of Professor Wonham's 80th birthday, this workshop gathers 14 of his friends, colleagues, and former students who will present a range of topics in linear, nonlinear, and discrete-event systems. A main focus of the workshop is on composing a "wish list" of exciting problems for future control research.
The list of speakers is: Alberto Isidori, A. Stephen Morse, Harry Trentelman, Peter Caine, Jan van Schuppen, Peter Ramadge, Feng Lin, Karen Rudie, Rong Su, Kai Cai, Edward Davison, Raymond Kwong, Mireille Broucke, and Bruce Francis.

All are welcome to join us in this celebration of Professor Wonham's 80th birthday.

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### 6.3. Tutorial on Control of Power Inverters for the Smart Grid

Contributed by: Qing-Chang Zhong, zhongqc@ieee.org

Pre-congress Tutorial on Control of Power Inverters for the Smart Grid @IFAC'14
August 24, 1:00-4:30pm, Cape Town
http://www.ifac2014.org/tutorials.php

Power systems are undergoing a paradigm change from centralised generation to distributed generation and further onto smart grid. This will eventually drive future power systems to be power electronics based, instead of electrical machines based, with a huge number of different players involved. Hence, the fundamental

challenge behind the scene is less of a power problem but more of a systems problem, which has provided a great opportunity for our control community. The key to succeed in this transition is to integrate control and power electronics seamlessly so that the power of control could be released fully.
Based on the 10+ years of experiences in integrating control and power electronics, this pre-IFAC WC tutorial brings you a lot of innovative concepts and technologies in this field to demonstrate how we control engineers and theorists could make significant contributions to this exciting field.

The tutorial will cover

1) the universal architecture and its associated technical routes that unify the interface of all generating facilities, including conventional power plants, renewable energy sources, EVs and energy storage systems and the majority of loads so that these different players will follow the same mechanism to maintain system stability. It is believed that this will pave the way to mathematically prove the system stability.
2) deep treatment of the conventional droop control strategies to improve robustness, applicability and stability.
3) a series of control strategies to improve power quality
4) synchronisation strategies etc.

Most of the strategies presented in this tutorial have been validated with extensive experiments, which have made it very popular in both academia and industry.
Potential participants are encouraged to read the book entitled Control of Power Inverters in Renewable Energy and Smart Grid Integration (http://www.amazon.co.uk/Control-Inverters-Renewable-Energy-Integration/dp/0470667095), which covers some parts of the tutorial.

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### 6.4. Tutorial on Randomized methods for analysis and design of control systems

Contributed by: Marco Campi, marco.campi@ing.unibs.it

Pre-Congress Tutorial @IFAC14
Randomized methods for analysis and design of control systems
Sunday August 24, 2014
Full day: 8.30 - 16.30
http://www.sct.ieiit.cnr.it/index.php?amp;sec=3&art=200

The objective of this tutorial is to introduce the attendee to randomized methods for the analysis and design of control systems. Randomized methods are an emerging technology to address problems that are otherwise difficult to solve along more traditional approaches. The main underlying idea is to replace the normally infinite set of possible uncertainty outcomes with finitely many samples that are representative of the uncertainty domain. One of the main properties which makes randomized methods attractive is that the solutions they provide come accompanied by precise probabilistic guarantees that also refer to unseen cases in the uncertainty domain. This is relevant to probabilistic performance guarantees, as well as to a certified satisfaction of control constraints. Depending on the application at hand, the samples can be drawn from a probabilistic model of uncertainty, or they can be obtained as observations. The latter situation covers data-based approaches in learning and identification.
Samples can be used all at the same time (batch or scenario approach) or in succession (sequential methods). This tutorial covers both situations. The scenario approach is a well-established paradigm that can be used to solve convex uncertain optimization problems arising in control. Sequential methods are instead very well suited for feasibility problems, and the presentation will emphasize the many pros and achievements

obtained in this direction. The presentation will be gradual to allow an in-depth understanding of the fundamental concepts. Practical examples will illustrate the main ideas, and a presentation of open problems will complete the tutorial.

Speakers:
Marco Campi, University of Brescia, Italy
Fabrizio Dabbene, CNR IEIIT Torino, Italy
Simone Garatti, Politecnico di Milano, Italy
Maria Prandini, Politecnico di Milano, Italy
Roberto Tempo, CNR IEIIT Torino, Italy

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## 7. Positions

### 7.1. PhD: Louisiana State University, USA

Contributed by: Michael Malisoff, malisoff@lsu.edu

Research positions for graduate students are expected to be available in control engineering and mathematical control theory, with a focus on time delay systems, under the direction of Prof. Michael Malisoff; see https://www.math.lsu.edu/ malisoff/.
These positions would be funded by the US National Science Foundation and would be for students wishing to earn PhDs in the control area from LSU, in engineering or math.
Applicants should email malisoff@lsu.edu their CV as a .pdf file including contact information for 3 references, a plain text statement of interest of at most 500 words, and a .pdf file containing a list of courses taken. Minorities and women are strongly encouraged to apply.

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### 7.2. PhD/Post-Doc: Clemson University, USA

Contributed by: Yongqiang Wang, wyqthu@gmail.com

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

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 21st among national public universities by U.S. News & World Report. 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 wyqthu@gmail.com

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### 7.3. Post-Doc: York University, Canada

Contributed by: Jinjun Shan, jjshan@yorku.ca

Post-Doctoral Fellow position is available at Dynamics Control and Navigation Laboratory, Department of Earth and Space Science and Engineering, York University, Toronto, Canada.

Starting Fall 2014 (or earlier), we are looking for 1-2 potential Post-Doctoral Fellow candidates in the following areas of

i) Dynamics and control of nonlinear systems
ii) Smart materials and structures
iii) FPGA-based electronics design and development for optical systems
iv) Multi-agent system

Candidates holding a Ph.D. degree in Aerospace/Control/Mechanical/Electrical Engineering with a focus on dynamic and control are desired. Our ideal candidate is expected to have a solid knowledge of dynamics modeling and control system design, software and hardware development, and advanced applied mathematics. Strong interest in multi-disciplinary work, theoretical research and applications to practical problems is a plus. Candidate is expected to publish their work and guide students. The position is offered for the initial period of one year, with an option to renew for subsequent years depending on performance.

Interested candidates are asked to send their inquiries (via e-mail) in a single PDF file/document to Prof. Jinjun Shan at jjshan@yorku.ca or jjshan@sdcnlab.esse.yorku.ca, including (but not limited to) the followings:

1. Cover letter explaining candidates fit to the announced position
2. Detailed CV
3. List of publications
4. Two names of references
5. Any other supporting documents that can display the working abilities and experiences of the applicants in related areas.

Review of applicants will begin immediately and will continue until the position is filled.

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### 7.4. Post-Doc: Eindhoven University of Technology, The Netherlands

Contributed by: Maurice Heemels, m.heemels@tue.nl

The Eindhoven University of Technology (TU/e) has the following vacancy: Post-docs on "Networked Control Systems and Beyond" in the section Control Systems Technology of the Department of Mechanical Engineering.
The postdoc projects are financed by the prestigious Innovational Research Incentives Scheme through the

VICI grant "Wireless control systems: A new frontier in automation" awarded by NWO (The Netherlands Organisation for Scientific Research) and STW (Dutch Technology Foundation). It focuses on the development of new fundamental control theories in the broad area of networked, distributed and cooperative control exploiting advanced communication technologies. Currently, already 3 PhD students are working on this VICI project and we are now in the process of hiring 2 Post-docs.

Project description:
The goal of the post-doc projects is to develop new theories in the area of networked, distributed, wireless and/or cooperative control systems. In particular, the interaction between the physics of the plant to be controlled, the control systems, and (unreliable) communication networks causing delays and dropouts and requiring network protocols has to be understood both qualitatively and quantitatively. As such, the projects are at the heart of the current research endeavors in the context of cyber-physical systems. A particular interest lies in the area of resource-aware control strategies such as event-triggered and self-triggered control that aim at using the computational, communication and energy resources of the system only when needed to guarantee certain control properties. One of the post-doc positions can have a more applied flavor by working towards applications in the area of cooperative and autonomous driving (e.g. platooning of cars and trucks) and the control of fleets of drones (quadcopters). Experience in these particular applications domain areas can be a pro for one of the openings.

The post-docs will work in close collaboration with the three PhD students already active on the VICI project. Given that the project is financed by the Innovational Research Incentives Scheme there is lots of freedom in choosing the particular research directions, which is beneficial for carrying out high-risk high-reward research!

Requirements:
A candidate for these challenging positions should have a PhD degree with a background in control theory or possibly communication technology. He/she should have a strong interest and skills in developing new mathematical theories for the analysis and design of resource-aware, networked or distributed control systems. One position can have a more applied nature.

Appointment and Salary
We offer:

* A challenging job at a dynamic and ambitious University
* An appointment for one or two years
* Gross monthly salaries are in accordance with the Collective Labor Agreement of the Dutch Universities (CAO NU), starting salary 2919 euros,- scale 10 step 4 (depending on experience).
* An attractive package of fringe benefits (including excellent work facilities, end of the year and holiday allowances and fantastic sport facilities at our campus)
* If necessary, the TU/e can help you to find housing.

For more information:

* Visit www.wtb.tue.nl for more information about the department of Mechanical Engineering
* Visit www.heemels.tue.nl for more information about the group of people involved in the project
* If you would like to have more information on the position, please contact prof.dr.ir. Maurice Heemels (m.heemels@tue.nl) or Dr. ir. Duarte Antunes (d.antunes@tue.nl).

To apply: Please upload your application here.

The information to be uploaded should include extended curriculum vitae, an explanation of your interest in the proposed research topic, a publication list, your course program and corresponding grades, references and all other information that might help us to select you for the position.

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### 7.5. Post-Doc: Nanyang Technological University, Singapore

Contributed by: Guoqiang Hu, gqhu@ntu.edu.sg

Several post-doc research fellow positions are available in the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore. Each research fellow will be conducting research and development in one of the following areas:

- Distributed control and optimization of multi-agent systems
- Resilient control algorithms for smart grid under failures and attacks
- Demand response and demand-side management for smart grid
- Optimal economic dispatching control, control strategies for power system stability
- Networked sensing, control, and optimization for cooling and ventilation in smart buildings

Applicants should hold a Ph.D degree in relevant areas, and have a track record of competitive research experience in terms of journal and conference publications. The salary is highly competitive. The School of Electrical and Electronic Engineering at Nanyang Technological University is fast growing. Singapore is also establishing two new universities. Thus, opportunities for future long-term career are available.

Application Procedure:
Interested applicants please email your full CV and supporting documents, if any, to Dr. Guoqiang Hu at gqhu@ntu.edu.sg. The positions will stay open until suitable candidates have been appointed.

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### 7.6. Post-Doc: Cambridge Centre for Advanced Research in Energy Efficiency, Singapore

Contributed by: Keck Voon Ling, ekvling@ntu.edu.sg

Post-Doctoral Research Fellow in Optimization for Model Predictive Control

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

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

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

The successful candidate is expected to have a good degree in Engineering, Mathematics or a related subject, and a PhD in Systems and Control, Numerical optimization, or a closely-related field. Expertise with numerical constrained optimization for convex and/or non-convex problems is required. The successful candidate

will have experience of at least one of the following: implementation under real-time constraints (for example for MPC); implementation on special-purpose processors such as FPGAs or GPUs; distributed/decentralized optimization. The person appointed will work under the supervision of Prof. Jan Maciejowski of the University of Cambridge, and of Prof. Keck-Voon Ling of NTU Singapore.

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

The salary range is SGD 52K – SGD 75K per year; the actual salary will depend on the experience of the successful candidate. The initial tenure of the post is for 2 years, with the possibility of reappointment for up to a further 2 years. The position is available from October 2014.

Application Procedure: Please send (1)CV and publication list, (2) Names and contact details of 3 referees, and (3) a covering letter discussing interest and qualification for the position, to Dr Ewa Bozek, CARES Senior Programme Manager, cares@hermes.cam.ac.uk by Monday 15 September 2014.

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### 7.7. Research Fellow: National University of Singapore, Singapore

Contributed by: Kok Kiong Tan, kktan@nus.edu.sg

The SIMTech-NUS joint Lab on Precision Motion Systems in National University of Singapore is planning to recruit a research fellow for 3 years from 1 Jan. 2015, in the area of precision machine design and control of a handler for thin wafer handling and transfer.

The applicants must hold a PhD degree in mechatronics, automatic control or a closely rated area; with a demonstrated track record/a postdoc experience in the related area is preferred.
The applicants should have a strong background in mechanical design and control as well as a clear interest in the area of precision motion control systems.

Interested researchers should send a resume with evidence of work done related to the area, along with a list of representative relevant publications (if applicable) to:
Associate Prof. Kok Kiong Tan
Department of Electrical and Computer Engineering
National University of Singapore
Singapore
Email: kktan@nus.edu.sg

For additional information about the position, please contact Prof. Kok Kiong Tan.

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### 7.8. Faculty: Harbin Institute of Technology, China

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

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

The Division of Control and Mechatronics Engineering at Harbin Institute of Technology, Shenzhen Graduate School (HITSZ) invites applications for several faculty positions at all ranks. We are seeking candidates with excellent credentials in the areas of systems and control, wind energy, power systems and smart grids.
Applicants must have a Ph.D. or equivalent in electrical, mechanical and power systems engineering and

need to show strong research record and potential.
Successful candidates will be received a joint appointment in the Center of Systems and Control. The Division currently has 11 full-time faculty members, and is expected to grow to 20 faculties in the next few years.

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

Interested candidates can send detailed CV, list of publications, statement of research (no more than 3 pages), teaching interests (no more than 2 pages), and a cover letter including contact information of three references to:
Ms. Zhao
School of Mechanical Engineering and Automation
HIT Campus Shenzhen University Town
Xili, Shenzhen
Guangdong
P. R. China 518055
or email the documents to scc.hitsz@gmail.com

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### 7.9. Engineer: GE Global Research, Munich, Germany

Contributed by: Martina Weber, martina.weber@ge.com

GE Global Research:
Senior Engineer/Principal Engineer Formal Methods (m/f)– 1983133 (Garching bei München)

Responsibilities

- Provide technical leadership and guidance to a global team of researchers, and interact with GE business units
- Provide though leadership to innovate and apply new technologies, tools and processes in the development and certification of safety-critical systems
- Propose new concepts to develop requirements, behavioral models and formal properties from text-based requirements
- Lead the generation of intellectual property in your area
- Interact with standardization and certification bodies
- Interact with government agencies and help influence and shape their vision around formal methods
- Acquire funding for R&D programs from GE business units and from government agencies (e.g. EU Commission)
- Keep abreast of advances on formal methods in industry and in the scientific community
- Document and communicate your results in reports, conference papers, and presentations to all levels of management

Qualifications

- Ph.D. in Computer Science, Computer Engineering or a related discipline with at least 5 years of relevant work experience (or Master's degree with at least 10 years relevant work experience)

- Core technical expertise and demonstrated thought leadership with applying formal methods to the analysis, verification and validation of safety critical software and systems
- Proven ability to secure funding for R&D projects (internal or external)
- Proficiency in real-time software development and state-of-the-art model checking tools (e.g. YICES, Z3, ACL2, SPIN, UPPAAL) and static analysis software tools (e.g. Polyspace, Coverity).
- Expertise in DO-178C and the Formal Methods and Model Based Development supplements (or comparable standards or guidelines from other industries)
- Excellent academic track record (please submit publication list with your resume)
- Willingness to travel internationally to meet with GE businesses and with government and certification agencies
- Strong interpersonal and leadership skills in a team-oriented, international environment
- Self-starter able to work with minimal supervision, open, creative and flexible
- Global mindset and customer focus
- Strong analytical skills
- Can-do attitude and fluency in English

Desired Characteristics

- Experience in applying formal methods in an industrial setting, e.g. in the aerospace, rail, or automotive industry
- Experience in working with certification and standardization bodies and government agencies (e.g. EASA, EU Commission)
- Experience in developing flight certified applications, verification and validation tools
- Expertise in complex system composition, architecture and analysis
- Basic knowledge of German is an advantage, but not required

GE Global Research:
Europe employs approximately 200 engineers and scientists from more than 40 different countries. Our scientists and technologists come from a variety of disciplines and backgrounds, including chemistry, physics, mathematics, engineering, sciences and materials research.
Located in the heart of southern Germany, Global Research - Europe sits on the Garching campus of the Technical University of Munich. This creates a unique blend for our scientists to be in a university setting, while performing research in a world-class industrial lab that is dedicated to bringing new technologies to market. The facility also operates closely with technology teams at GE businesses across the globe, ensuring effective transition of breakthrough innovations from the lab into advanced products and services. Within the R&D community, the center maintains close partnerships with numerous universities, research institutions and technology companies in Germany and abroad.

If you have any further requests, please contact Martina Weber, Senior Recruiter, at Tel. 49 (0)172 4719584.

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### 7.10. Engineer: United Technologies Research Center, Shanghai, China

Contributed by: Zhen Jia, jiaz@utrc.utc.com

Job Opportunity
Controls System Engineer/Scientist
United Technologies Research Center (China) - Shanghai

United Technologies Research Center (China) Ltd. invites qualified individuals to apply for the following position in the Shanghai office. This position will compensate the chosen candidate at competitive local Shanghai market wage rate, and benefits will be administered based on local Shanghai benefit practices.

Senior Research Engineer: Electronic Controls

Job Description:

- Develop and implement novel control system architecture and algorithms for Heating, Ventilation, and Air-Conditioning (HVAC), security and building related applications.
- Team up with modeling engineers to perform simulation analysis using physics-based and data-driven models as well as design experiments to calibrate physics-based models and verify control performance.
- Interact with UTRC customers for requirements definition, controllers design and implementation for different UTC applications and system solutions.
- Define control algorithms and tuning rules based on system stability analyses, control objectives, sound theoretical principles for both MIMO and SISO control systems.
- Lead and participate in multidisciplinary projects, ensuring high quality deliverables and seamless integration with other UTRC and UTC business unit teams, as well as university partners.
- Enhance UTRC's recognition through the writing of technical papers and support the recruitment of world-class talent to UTRC.

Minimum Qualifications Required:

- Master with 5+ years experience or Ph.D with 3+ years experience in controls engineering, electrical engineering, applied mathematics, or a closely related field.
- Strong experience in system identification, control system architecture, and algorithm development and implementation.
- Experience in system modeling and identification with data-driven or physics-based models and sensor networks and optimization. Windows or Linux OS based software design.
- Experience in integration solution development in C/C++ and Matlab / Simulink / Stateflow.
- Fluent English (both written and spoken) and excellent communication skills.

Preferred Qualifications:

- Expert knowledge with 10+ years experience in controls technology and implementation, and system optimization.
- Strong experience with model-based control development, including rapid prototyping implementation.
- Demonstrated ability to work effectively with multi-disciplinary teams in dispersed locations.
- Solid technical writing, presentation, project management, and communication skills. Record of technical contributions including patents and publications.
- Strong leadership skills and entrepreneurial attitude towards innovation.

United Technologies Research Center (UTRC) is an internationally recognized corporate research organization of United Technologies Corporation (UTC) that conducts research and development across a range of technology areas to drive its mission of "growth through innovation". UTRC partners with UTC business units and renowned external research organizations to impact organic growth of the Corporation through new product and process innovations. The operating units of UTC include: Pratt & Whitney (aircraft engines), Sikorsky (helicopters), Otis (elevators and escalators), UTC Climate Controls & Security (HVAC,

building controls and security solutions), UTC Aerospace Systems (aerospace products), and UTC Power (environmentally advanced power solutions). Our headquarters is in East Hartford, USA with partnerships worldwide and a research and development center in Shanghai, China.
United Technologies Research Center (China) Ltd. was established in Shanghai in 1997 to provide a technology base for UTC business units via partnerships and collaborative R&D (universities and government institutes). Our engineers and scientists work on global projects in conjunction with other UTC business units and renowned research organizations to bring product and process innovation to enhance UTC products competitiveness in Asia and world-wide. We are a world-class research center advancing technologies that serve energy, environment, controls, security, and embedded systems.
For further information or to submit credential please contact: jiaz@utrc.utc.com

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### 7.11. Researcher: General Motors R&D, Warren, Michigan, USA

Contributed by: Yilu Zhang, yilu.zhang@gm.com

General Motors R&D has one opening in the vehicle health management area for automotive powertrain systems.
Depending on the background and experience, the successful candidate may qualify for either one of the two job levels.

Interested candidates are encouraged to apply through the following links:
http://jobs.gm.com/job/Warren-Staff-Researcher-Diagnosis-and-Prognosis-Job-MI-48088/72432100/
http://jobs.gm.com/job/Warren-Senior-Researcher-Diagnosis-and-Prognosis-Job-MI-48088/72432200/

* Staff Researcher - Diagnosis and Prognosis-RES0000409

Major Duties and Responsibilities:

- Lead the development of next-generation technologies for vehicle powertrain system diagnosis, prognosis, and fault-tolerant controls as well as integration.
- Lead the development and execution of technical plans, including concept generation, development, implementation, and evaluation.
- Set research and development strategy, generate innovative ideas, and establish new research areas
- Lead technical discussions and reviews as an expert in related areas of responsibility.
- Maintain state-of-the-art knowledge in related areas of responsibility.
- Communicate ideas, plans and results effectively via presentations and written reports.
- Work effectively with peers, management, operations groups, and outside organizations.

Qualifications Basic Required Skills:

- PhD in Electrical, Controls, Mechanical, or Aerospace Engineering with demonstrated research capability or equivalent experience
- 5-10 years of industry experience
- Strong background in vehicle powertrain control, diagnosis, and prognosis systems analysis and synthesis.
- Strong background in system diagnosis and prognosis algorithm development and integration.
- Effective verbal and written communication skills.
- Excellent interpersonal and communication skills to work effectively with GM internal and external customers.

Basic Preferred Skills:

- 10+ years of industry experience
- Track record of developing and deploying new technology
- Experience of project management
- Experience in remote and on-board diagnosis and prognosis
- Experience in Matlab/Simulink, dSpace rapid prototyping, ETAS tools, hardware and software development.

Location: Warren, MI

* Senior Researcher - Diagnosis and Prognosis-RES0000408

Major Duties and Responsibilities:

- Develop next-generation technologies for vehicle powertrain system diagnosis, prognosis, and fault-tolerant controls as well as integration.
- Develop and execute technical plans, including concept generation, development, implementation, and evaluation.
- Generate innovative ideas and establish new research areas.
- Lead technical discussions and reviews as an expert in related areas of responsibility.
- Maintain state-of-the-art knowledge in related areas of responsibility.
- Communicate ideas, plans and results effectively via presentations and written reports.
- Work effectively with peers, management, operations groups, and outside organizations.

Qualifications Basic Required Skills:

- PhD in Electrical, Controls, Mechanical, Aerospace Engineering with demonstrated research capability or equivalent experience
- 3-5 years of industry experience
- Strong background in vehicle powertrain control, diagnosis, and prognosis systems analysis and synthesis.
- Strong background in system diagnosis and prognosis algorithm development and integration.
- Effective verbal and written communication skills.
- Excellent interpersonal and communication skills to work effectively with GM internal and external customers.

Basic Preferred Skills:

- 5+ years of industry experience
- Track record of developing and deploying new technology
- Experience of project management
- Experience in remote and on-board diagnosis and prognosis
- Experience in Matlab/Simulink, dSpace rapid prototyping, ETAS tools, hardware and software development.

Location: Warren, MI

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### 7.12. Technical Expert: Volvo Car Group, Göteborg, Sweden

Contributed by: Erik Coelingh, erik.coelingh@volvocars.com

Technical Expert – Autonomous Driving
http://www.volvocars.com/intl/top/corporate/career/Pages/search-for-a-job.aspx?jobid=r_7436411

At Research & Development you will be a key contributor to the next generation outstanding luxury cars from Volvo. Together with other engineers around the world, you and your team will create innovative human-centric car technology that makes life less complicated and more enjoyable for people.

The group Automated Drive within the unit Active safety & Chassis is responsible for function and SW development within the area of automated drive. Current Volvo Car products offer Automated Drive functions such as Adaptive Cruise control that supports drivers with distance keeping to vehicles in front, but in the future we will add steering support and use autonomous steering interventions as well.

We are now looking for a Technical Expert to hold the overall responsibility for the strategies and development in the area Autonomous Driving. Your work will be supporting how the vehicles of today will evolve into the autonomous vehicles of the future; covering safety rating, competitors, academics in the field of autonomous vehicles etc. The role requires a demonstrated in-depth technical knowledge from the area to provide technical leadership to peers and assure the delivery of product programs. You have high level of communication and teamwork capability as well as experience to lead, teach, coach and mentor internal teams in the delivery of technical objectives. Are you our next strong team member?

Main responsibilities:
Deliver Autonomous drive functionality to all customer functions in the area of active safety and driver support
Secure technology readiness for industrialisation by initiating and supervising advanced engineering and research projects (internal and co-financed by the authorities)
Advice management in technical matters from a Volvo Cars perspective
Support the organisation in contacts with suppliers and proactively contact potential suppliers
Secure competence development within the area, by proactively provide education, mentoring and coaching on technical matters (including review of technical deliveries)
Maintain personal expertise in the area of autonomous driving; follow the research frontier and write patents and publications
Develop and maintain external relations with universities and authorities and on request support PR on press events, interviews etc

Required qualifications:
University degree, minimum Master of Science degree or equivalent in Control Theory, Electrical Engineering
Demonstrated in-depth technical knowledge from Autonomous driving, and/or Active Safety
Comprehensive experience from Research and Development (Requirement/Methods, Concept development, Engineering or Analysis & Verification), Authorities and Industry
Extensive experience from innovation on functionality
Experience from model based development and Simulink modelling
Excellent English skills, verbally and in writing
Licentiate of Engineering degree or Ph.D. in the field of active safety, autonomous driving is meritorious
Documented publication record in relevant technical area (paper, patents, reports etc) is meritorious
Experience from embedded SW development is meritorious

Personal qualities:
Holistic view and conceptual thinking

High level of communication and teamwork capability
Experience to lead an internal team in the delivery of technical objectives
Demonstrated capability and willingness to teach, coach and mentor
Business and performance driven

About Volvo Car Group:
The future belongs to those who are empowered by a great idea and have the ability to carry it out. At Volvo Car Group, our vision is clear: "To be the world's most progressive and desired luxury car brand" by simplifying people's lives. We have bold targets when it comes to innovation, sales and customer satisfaction and to make this happen, we need talented people onboard. People with passion, energy, business sense and the drive to innovate. People that want to create the next generation Volvo cars in a global, dynamic and respectful environment. We will support you to reach your full potential. Join us on this exciting journey into the future.

Contact:
In this recruitment process we are collaborating with Randstad Professionals. If you have any questions regarding the position you are welcome to contact the responsible recruitment consultant Nadja Bergman at +46 729 889828 or by e-mail nadja.bergman@randstad.se.

Interviews will be held in the beginning of September. To apply, please register your profile and attach your application documents via the link below as soon as possible but no later then 31st of August 2014.

Contact:
Nadja Bergman, nadja.bergman@randstad.se
Last application date: 2014-08-31

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