

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

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Editor:

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

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The next Eletter will be mailed out in the beginning of January 2015.

## **Contents**

### **1. IEEE CSS Headlines**

- 1.1 IEEE CSS Technical Committees Websites: New release
- 1.2 IEEE CSS Video Clip Contest 2015: Early announcement
- 1.3 IEEE Control Systems Society Publications Content Digest
- 1.4 IEEE Transactions on Automatic Control
- 1.5 The Impact of Control Technology

### **2. Misc**

- 2.1 Book: Regularization, Optimization, Kernels, and Support Vector Machines
- 2.2 Course on polynomial and LMI optimization with applications in control

### **3. Journals**

- 3.1 Contents: Mathematics of Control, Signals, and Systems
- 3.2 Contents: Control Engineering Practice
- 3.3 Contents: International Journal of Control, Automation, and Systems
- 3.4 Contents: Asian Journal of Control
- 3.5 CFP: Intelligent Service Robotics

### **4. Conferences**

- 4.1 Chinese Control and Decision Conference
- 4.2 International Conference on Systems and Control
- 4.3 IFAC Symposium on Biological and Medical Systems
- 4.4 IEEE International Conference on Event-based Control, Communication, and Signal Processing
- 4.5 IFAC Conference on Analysis and Design of Hybrid Systems
- 4.6 International Conference on Advanced Robotics
- 4.7 International Conference on Control, Automation and Systems
- 4.8 Iranian Conference on Electrical Engineering
- 4.9 International Conference on System Theory, Control and Computing
- 4.10 International Conference on Unmanned Aircraft Systems
- 4.11 Conference on Modelling, Identification and Control of Nonlinear Systems

## 5. Workshops

- 5.1 Advances and Wish Lists in Control Research
- 5.2 Workshop on Applied Verification for Continuous and Hybrid Systems (ARCH 2015)
- 5.3 International Workshop on Numerical Software Verification
- 5.4 Workshop on Neural Population Dynamics
- 5.5 Workshop GeoLMI

## 6. Positions

- 6.1 PhD: Wichita State University, USA
- 6.2 PhD: University of California, USA
- 6.3 PhD: Luleå University of Technology, Sweden
- 6.4 PhD: University of Oxford, UK
- 6.5 PhD: NYU Polytechnic School of Engineering, USA
- 6.6 PhD/Post-Doc: Technion - Israel Institute of Technology, Israel
- 6.7 PhD/Post-Doc: Clemson University, USA
- 6.8 Post-Doc: Louisiana State University, USA
- 6.9 Post-Doc: University of California, USA
- 6.10 Post-Doc: University of California, USA
- 6.11 Post-Doc: University of California, USA
- 6.12 Post-Doc: Politecnico di Milano, Italy
- 6.13 Post-Doc: University of Michigan, USA
- 6.14 Post-Doc: Nanyang Technological University, Singapore
- 6.15 Post-Doc: KU Leuven, Belgium
- 6.16 Post-Doc: MINES ParisTech, France
- 6.17 Post-Doc: Technion - Israel Institute of Technology, Israel
- 6.18 Post-Doc: NYU Polytechnic School of Engineering, USA
- 6.19 Research Fellow: National University of Singapore, Singapore
- 6.20 Research Fellow: University of Melbourne, Australia
- 6.21 Faculty: Harbin Institute of Technology, Shenzhen Graduate School, China
- 6.22 Faculty: Georgia Institute of Technology, USA
- 6.23 Faculty: University of California, USA
- 6.24 Faculty: Boston University, USA
- 6.25 Faculty: United States Naval Academy, USA
- 6.26 Faculty: Ohio State University, USA
- 6.27 Faculty: University of Waterloo, Canada
- 6.28 Faculty: University of Waterloo, Canada
- 6.29 Faculty: University of Southampton, UK
- 6.30 Faculty: Michigan State University, USA
- 6.31 Faculty: Texas A&M University, USA
- 6.32 Engineer: INRIA, Grenoble, France
- 6.33 Scientist: ABB Corporate Research Centre, Bangalore, India

## 1. IEEE CSS Headlines

### 1.1. IEEE CSS Technical Committees Websites: New release

Contributed by: Frank Allgöwer, [allgower@ist.uni-stuttgart.de](mailto:allgower@ist.uni-stuttgart.de) & Maria Prandini, [prandini@elet.polimi.it](mailto:prandini@elet.polimi.it)

It is with great pleasure that we are announcing the new release of the IEEE CSS Technical Committees websites.

All 19 current TCs did move their individual websites into the CSS website structure with a common technical management, look and feel. Please, visit <http://www.ieeecss.org> from where you can navigate to the new webpages containing a multitude of interesting information.

Thanks very much to all TC chairs, and the many other TC members involved in this project, for their efforts!

Frank Allgöwer, CSS VP Technical Activities

Maria Prandini, CSS electronic publications editor

[Back to the contents](#)

### 1.2. IEEE CSS Video Clip Contest 2015: Early announcement

Contributed by: Frank Allgöwer, [allgower@ist.uni-stuttgart.de](mailto: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.

[Back to the contents](#)

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

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

[Back to the contents](#)

### 1.4. IEEE Transactions on Automatic Control

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

Table of Contents

IEEE Transactions on Automatic Control

Volume 59 (2014), Issue 12 (December)

Cyber-Physical Systems Special Issue Papers

- Goals and Challenges in Cyber-Physical Systems Research Editorial of the Editor in Chief. P. J. Antsaklis p. 3117
- Guest Editorial Special Issue on Control of Cyber-Physical Systems. K. H. Johansson, G. J. Pappas, P. Tabuada, C. J. Tomlin p. 3120
- Finite Bisimulations for Switched Linear Systems. E. A. Gol, X. Ding, M. Lazar, C. Belta p. 3122
- Symbolic Control of Stochastic Systems Via Approximately Bisimilar Finite Abstractions. M. Zamani, P. M. Esfahani, R. Majumdar, A. Abate, J. Lygeros p. 3135
- Towards Robustness for Cyber-Physical Systems. P. Tabuada, S. Y. Caliskan, M. Rungger, R. Majumdar p. 3151
- An Input-Output Construction of Finite State  $\Sigma$ -Approximations for Control Design. D. C. Tarraf P. 3164
- Supporting Heterogeneity in Cyber-Physical Systems Architectures. A. Rajhans, A. Bhave, I. Ruchkin, B. H. Krogh, D. Garlan, A. Platzer, B. Schmerl p. 3178
- Efficient Computations of a Security Index for False Data Attacks in Power Networks. J. M. Hendrickx, K. H. Johansson, R. Jungers, H. Sandberg, K. C. Sou p. 3194
- Detection in Adversarial Environments. K. Vamvoudakis, J. P. Hespanha, B. Sinopoli, Y. Mo p. 3209
- A Passivity Framework for Modeling and Mitigating Wormhole Attacks on Networked Control Systems. P. Lee, A. Clark, L. Bushnell, R. Poovendran p. 3224
- Embedded Online Optimization for Model Predictive Control at Megahertz Rates. J. L. Jerez, P. J. Goulart, S. Richter, G. A. Constantinides, E. C. Kerrigan, M. Morari p. 3238
- Modular Design of Jointly Optimal Controllers and Forwarding Policies for Wireless Control. B. Demirel, Z. Zou, P. Soldati, M. Johansson p. 3252
- Event-Based State Estimation with Variance-Based Triggering. S. Trimpe, R. D'Andrea P. 3266
- Price-based Adaptive Scheduling in Multi-Loop Control Systems with Resource Constraints. A. Molin, S. Hirche P. 3282
- Rollout Event-Triggered Control: Beyond Periodic Control Performance. D. Antunes, W.P.M.H. Heemels p. 3296
- Decentralized Event-Triggering for Control of Nonlinear Systems. P. Tallapragada, N. Chopra p. 3312
- Distributed 3-D Localization of Camera Sensor Networks from 2-D Image Measurements. R. Tron, R. Vidal p. 3325
- An MPC-based Approach to Provable System-wide Safety and Liveness of Autonomous Ground Traffic. K-D. Kim, P. R. Kumar p. 3341
- High Confidence Networked Control for Next Generation Air Transportation Systems. P. Park, H. Khadilkar, H. Balakrishnan, C. J. Tomlin p. 3357
- Stochastic Stability of Event-Triggered Anytime Control. D. E. Quevedo, V. Gupta, W-J. Ma, S. Yuksel p. 3373

[Back to the contents](#)

## 1.5. The Impact of Control Technology

Contributed by: Tariq Samad, [tariq.samad@honeywell.com](mailto:tariq.samad@honeywell.com)

The Impact of Control Technology, 2nd Edition

From automotive systems and biomedical devices and communication networks... to xerography and yield maximization and zinc coating... and much else in between!

We are pleased to announce that an updated edition of The Impact of Control Technology, edited by T. Samad and A. Annaswamy, has been published and can be accessed at [www.ieeecss.org/general/IoCT2-report](http://www.ieeecss.org/general/IoCT2-report)

The report, which comprises 68 two-page full-color flyers that highlight success stories and research challenges in the field, is sponsored by the IEEE Control Systems Society and the American Automatic Control Council.

[Back to the contents](#)

## 2. Misc

### 2.1. Book: Regularization, Optimization, Kernels, and Support Vector Machines

Contributed by: Johan Suykens, [johan.suykens@esat.kuleuven.be](mailto:johan.suykens@esat.kuleuven.be)

Regularization, Optimization, Kernels, and Support Vector Machines

Editors: Johan A.K. Suykens, Marco Signoretto, Andreas Argyriou

Chapman and Hall/CRC, Machine Learning & Pattern Recognition series, Boca Raton, USA, Oct 2014

<http://www.crcpress.com/product/isbn/9781482241396>

Chapter contributions:

1. An Equivalence between the Lasso and Support Vector Machines; Martin Jaggi
2. Regularized Dictionary Learning; Annalisa Barla, Saverio Salzo, and Alessandro Verri
3. Hybrid Conditional Gradient-Smoothing Algorithms with Applications to Sparse and Low Rank Regularization; Andreas Argyriou, Marco Signoretto, and Johan A.K. Suykens
4. Nonconvex Proximal Splitting with Computational Errors; Suvrit Sra
5. Learning Constrained Task Similarities in Graph-Regularized Multi-Task Learning; Remi Flamary, Alain Rakotomamonjy, and Gilles Gasso
6. The Graph-Guided Group Lasso for Genome-Wide Association Studies; Zi Wang and Giovanni Montana
7. On the Convergence Rate of Stochastic Gradient Descent for Strongly Convex Functions; Cheng Tang and Claire Monteleoni
8. Detecting Ineffective Features for Nonparametric Regression; Kris De Brabanter, Paola Gloria Ferrario, and Laszlo Gyorfi
9. Quadratic Basis Pursuit; Henrik Ohlsson, Allen Y. Yang, Roy Dong, Michel Verhaegen, and S. Shankar Sastry
10. Robust Compressive Sensing; Esa Ollila, Hyon-Jung Kim, and Visa Koivunen
11. Regularized Robust Portfolio Estimation; Theodoros Evgeniou, Massimiliano Pontil, Diomidis Spinellis, Rafal Swiderski, and Nick Nassuphis
12. The Why and How of Nonnegative Matrix Factorization; Nicolas Gillis
13. Rank Constrained Optimization Problems in Computer Vision; Ivan Markovskiy
14. Low-Rank Tensor Denoising and Recovery via Convex Optimization; Ryota Tomioka, Taiji Suzuki, Kohei Hayashi, and Hisashi Kashima

15. Learning Sets and Subspaces; Alessandro Rudi, Guillermo D. Canas, Ernesto De Vito, and Lorenzo Rosasco
16. Output Kernel Learning Methods; Francesco Dinuzzo, Cheng Soon Ong, and Kenji Fukumizu
17. Kernel Based Identification of Systems with Multiple Outputs Using Nuclear Norm Regularization; Tillmann Falck, Bart De Moor, and Johan A.K. Suykens
18. Kernel Methods for Image Denoising; Pantelis Bouboulis and Sergios Theodoridis
19. Single-Source Domain Adaptation with Target and Conditional Shift; Kun Zhang, Bernhard Scholkopf, Krikamol Muandet, Zhikun Wang, Zhi-Hua Zhou, and Claudio Persello
20. Multi-Layer Support Vector Machines; Marco A. Wiering and Lambert R.B. Schomaker
21. Online Regression with Kernels; Steven Van Vaerenbergh and Ignacio Santamaria

[Back to the contents](#)

## 2.2. Course on polynomial and LMI optimization with applications in control

Contributed by: Didier Henrion, [henrion@laas.fr](mailto:henrion@laas.fr)

Course on polynomial and LMI optimization with applications in control

Didier Henrion, LAAS-CNRS, Toulouse, France and Czech Technical University in Prague, Czech Republic.

<http://homepages.laas.fr/henrion/courses/lmi15>

Venue and dates:

The course is given at the Charles Square campus of the Czech Technical University, in the historical center of Prague. It consists of six two-hour lectures, given on Monday 16, Thursday 19 and Monday 23 February, 2015, from 10am to noon and from 2pm to 4pm.

Registration:

There is no admission fee, students and researchers from external institutions are particularly welcome, but please send an e-mail to [henrion@laas.fr](mailto:henrion@laas.fr) to register.

Target audience:

This is a course for graduate students or researchers with some background in linear algebra, convex optimization and linear control systems.

Outline:

Many problems of systems control theory boil down to solving polynomial equations, polynomial inequalities or polynomial differential equations. Recent advances in convex optimization and real algebraic geometry can be combined to generate approximate solutions in floating point arithmetic. In the first part of the course we describe semidefinite programming (SDP) as an extension of linear programming (LP) to the cone of positive semidefinite matrices. We investigate the geometry of spectrahedra, convex sets defined by linear matrix inequalities (LMIs) or affine sections of the SDP cone. We also introduce spectrahedral shadows, or lifted LMIs, obtained by projecting affine sections of the SDP cones. Then we review existing numerical algorithms for solving SDP problems.

In the second part of the course we describe several recent applications of SDP. First, we explain how to solve polynomial optimization problems, where a real multivariate polynomial must be optimized over a (possibly nonconvex) basic semialgebraic set. Second, we extend these techniques to ordinary differential equations (ODEs) with polynomial dynamics, and the problem of trajectory optimization (analysis of stability or performance of solutions of ODEs). Third, we conclude this part with applications to optimal control (design of a trajectory optimal w.r.t. a given functional).

[Back to the contents](#)

### 3. Journals

#### 3.1. Contents: Mathematics of Control, Signals, and Systems

Contributed by: Lars Gruene, [lars.gruene@uni-bayreuth.de](mailto:lars.gruene@uni-bayreuth.de)

Table of Contents

Mathematics of Control, Signals, and Systems (MCSS)

Volume 26, Number 4, December 2014

<http://link.springer.com/journal/498/26/4>

- Universal regular control for generic semilinear systems, Jairo Bochi. Nicolas Gourmelon, 481-518
- Numerical schemes for nonlinear predictor feedback, Iasson Karafyllis. Miroslav Krstic, 519-546
- How mild can slow controls be?. O. Cârjă, A. I. Lazuric, 547-562
- Stabilization of second-order evolution equations with time delay. Serge Nicaise, Cristina Pignotti, 563-588
- Growth rates for persistently excited linear systems, Yacine Chitour. Fritz Colonius, Mario Sigalotti, 589-616

[Back to the contents](#)

#### 3.2. Contents: Control Engineering Practice

Contributed by: Tobias Glück [cep@acin.tuwien.ac.at](mailto:cep@acin.tuwien.ac.at)

Table of Contents

Control Engineering Practice

Volume 32, November 2014

- Vesa-Matti Tikkala, Alexey Zakharov, Sirkka-Liisa Jämsä-Jounela, A method for detecting non-stationary oscillations in process plants, pages 1-8
- Mojtaba Sharifi, Saeed Behzadipour, Gholamreza Vossoughi, Nonlinear model reference adaptive impedance control for human-robot interactions, pages 9-27
- Steven A.P. Quintero, João P. Hespanha, Vision-based target tracking with a small UAV: Optimization-based control strategies, pages 28-42
- V. Romero Segovia, T. Häggglund, K.J. Åström, Measurement noise filtering for common PID tuning rules, pages 43-63
- Zixu Guo, Lei Xie, Taihang Ye, Alexander Horch, Online detection of time-variant oscillations based on improved ITD, pages 64-72
- Alfredo Núñez, Cristián E. Cortés, Doris Sáez, Bart De Schutter, Michel Gendreau, Multiobjective model predictive control for dynamic pickup and delivery problems, pages 73-86
- Riccardo Muradore, Lorenzo Pettazzi, Richard Clare, Enrico Fedrigo, An application of adaptive techniques to vibration rejection in adaptive optics systems, pages 87-95
- Kostas Alexis, Christoph Huerzeler, Roland Siegwart, Hybrid predictive control of a coaxial aerial robot for physical interaction through contact, pages 96-112
- Andreas Thomasson, Lars Eriksson, Co-surge in bi-turbo engines: Measurements, analysis and control, pages 113-122
- Mihaela Sbarciog, Daniel Coutinho, Alain Vande Wouwer, A simple output-feedback strategy for the control of perfused mammalian cell cultures, pages 123-135

- Alfredo Del Sole Lordelo, Heloise Assis Fazzolari, On interval goal programming switching surface robust design for Integral Sliding Mode Control, pages 136-146
- M. Luu, M.D. Martinez-Rodrigo, V. Zabel, C. Könke, Semi-active magnetorheological dampers for reducing response of high-speed railway bridges, pages 147-160
- YuKang Liu, YuMing Zhang, Control of human arm movement in machine-human cooperative welding process, pages 161-171
- Sajid Hussain, Hossam A. Gabbar, Daniel Bondarenko, Farayi Musharavati, Shaligram Pokharel, Comfort-based fuzzy control optimization for energy conservation in HVAC systems, pages 172-182
- Ángel Ruiz, Jorge Eugenio Jiménez, José Sánchez, Sebastián Dormido, Design of event-based PI-P controllers using interactive tools, pages 183-202
- Paolo Castaldi, Radhakant Padhi, Antonio Tsourdos, Houria Siguerdidjane, Special section on aerospace control applications, page 203
- Y. Rochefort, H. Piet-Lahanier, S. Bertrand, D. Beauvois, D. Dumur, Model predictive control of cooperative vehicles using systematic search approach, pages 204-217
- Xian-Zhong Gao, Zhong-Xi Hou, Zheng Guo, Rong-Fei Fan, Xiao-Qian Chen, Analysis and design of guidance-strategy for dynamic soaring with UAVs, pages 218-226
- P. Castaldi, N. Mimmo, S. Simani, Differential geometry based active fault tolerant control for aircraft, pages 227-235
- S. Le Méneç, H.-S. Shin, K. Markham, A. Tsourdos, H. Piet-Lahanier, Cooperative allocation and guidance for air defence application, pages 236-244

#### Table of Contents

Control Engineering Practice

Volume 33, December 2014

- Johanna Wallén Axehill, Isolde Dressler, Svante Gunnarsson, Anders Robertsson, Mikael Norrlöf, Estimation-based ILC applied to a parallel kinematic robot, pages 1-9
- Yasemin Ozkan Aydin, Afsar Saranli, Yigit Yazicioglu, Uluc Saranli, Kemal Leblebicioglu, Optimal control of a half-circular compliant legged monopod, pages 10-21
- Helfried Peyrl, Alessandro Zanarini, Thomas Besselmann, Junyi Liu, Marc-Alexandre Boéchat, Parallel implementations of the fast gradient method for high-speed MPC, pages 22-34
- Seung-Ju Lee, Hyo-Sung Ahn, Controller designs for bilateral teleoperation with input saturation, pages 35-47
- Xuan Wang, Valérie Pommier-Budinger, Aurélien Reysset, Yves Gourinat, Simultaneous compensation of hysteresis and creep in a single piezoelectric actuator by open-loop control for quasi-static space active optics applications, pages 48-62
- Ulf Schaper, Christina Dittrich, Eckhard Arnold, Klaus Schneider, Oliver Sawodny, 2-DOF skew control of boom cranes including state estimation and reference trajectory generation, pages 63-75
- L. van de Ridder, M.A. Beijen, W.B.J. Hakvoort, J. van Dijk, J.C. Lötters, A. de Boer, Active vibration isolation feedback control for Coriolis Mass-Flow Meters, pages 76-83
- Frank Schumacher, Alexander Fay, Formal representation of GRAFCET to automatically generate control code, pages 84-93
- Puneet Mishra, Vineet Kumar, K.P.S. Rana, A novel intelligent controller for combating stiction in pneumatic control valves, pages 94-104

- H.M. Morishita, C.E.S. Souza, Modified observer backstepping controller for a dynamic positioning system, pages 105-114
- Mikael Thor, Bo Egardt, Tomas McKelvey, Ingemar Andersson, Closed-loop diesel engine combustion phasing control based on crankshaft torque measurements, pages 115-124
- Christian H. Mayr, Nikolaus Euler-Rolle, Martin Kozek, Christoph Hametner, Stefan Jakubek, Engine control unit PID controller calibration by means of local model networks, pages 125-135
- Meaghan Charest, Rickey Dubay, MPC enhancement for tracking of complex profiles - The basic technique, pages 136-147
- Zhi Li, Chun-Yi Su, Xinkai Chen, Modeling and inverse adaptive control of asymmetric hysteresis systems with applications to magnetostrictive actuator, pages 148-160
- Sunil Deshpande, Naresh N. Nandola, Daniel E. Rivera, Jarred W. Younger, Optimized treatment of fibromyalgia using system identification and hybrid model predictive control, pages 161-173

[Back to the contents](#)

### **3.3. Contents: International Journal of Control, Automation, and Systems**

Contributed by: Young-Hoon Joo, Editor-in-Chief, [journal@ijcas.com](mailto:journal@ijcas.com)

Table of contents

International Journal of Control, Automation, and Systems (IJCAS)

Vol. 12, No. 6, December 2014

<http://www.springer.com/engineering/robotics/journal/12555>

- Accommodation of Actuator Fault using Local Diagnosis and IMC-PID. Donggil Kim, Dongik Lee, and Kalyana C. Veluvolu pp.1139-1149
- Finite-time  $H_\infty$  Control for Switched Systems with Time-varying Delay using Delta Operator Approach. Chen Qin, Zhengrong Xiang, and Hamid Reza Karimi pp.1150-1159
- New Forms of Riccati Equations and the Further Results of the Optimal Control for Linear Discrete-Time Systems. Hongli Liu and Qixin Zhu pp.1160-1166
- Robust Output Observer-Based Guaranteed Cost Control of a Class of Uncertain Switched Neutral Systems with Interval Time-Varying Mixed Delays. Hamid Ghadiri, Mohammad Reza Jahed-Motlagh, and Mojtaba Barkhordari Yazdi pp.1167-1179
- A Rational Approximate Method to Fractional Order Systems. Yiheng Wei, Qing Gao, Cheng Peng, and Yong Wang pp.1180-1186
- Over Networks  $H_\infty$  Filtering for Discrete Singular Jump Systems with Interval Time-varying Delay. Yongbo Lai and Guoping Lu pp.1187-1196
- Proportional-Integral Controller for Stabilization of Second-Order Delay Processes. Honghai Wang, Jianchang Liu, Feisheng Yang, and Yu Zhang pp.1197-1206
- $H_\infty$  Control of LPV Systems with Randomly Multi-Step Sensor Delays. Yilian Zhang, Fuwen Yang, and Qing-Long Han pp.1207-1215
- Robust Stabilization for a Class of Dynamic Feedback Uncertain Nonholonomic Mobile Robots with Input Saturation. Hua Chen pp.1216-1224
- Modeling and Implementation of Fixed Switching Frequency Sliding Mode Control to Two-Stage DC-DC Converter. Changhao Piao, Chao Jiang, Hongtao Qiao, Chongdu Cho, and Sheng Lu pp.1225-1233

- Partial Stability of Some Guidance Dynamic Systems with Delayed Line-of-Sight Angular Rate. Chunming Fu and Wanbiao Ma pp.1234-1244
- Abnormal Data Refinement and Error Percentage Correction Methods for Effective Short-term Hourly Water Demand Forecasting. Joon-Hong Seok, Jeong-Jung Kim, Joon-Yong Lee, Ju-Jang Lee, Young-Joo Song, and Gang-Wook Shin pp.1245-1256
- Actuator Controller based on Fuzzy Sliding Mode Control of Tilt Rotor Unmanned Aerial Vehicle. Chang-Sun Yoo, Si-Dae Ryu, Bum-Jin Park, Young-Shin Kang, and Soon-Bae Jung pp.1257-1265
- Nonlinear Disturbance Observer based Robust Attitude Tracking Controller for Quadrotor UAVs. Kook-sun Lee, Juhoon Back, and Ick Choy pp.1266-1275
- Reaching a Nonlinear Consensus: Polynomial Stochastic Operators. Mansoor Saburov and Khikmat Saburov pp.1276-1282
- Miniature Impact Actuator for Haptic Interaction with Mobile Devices. Sang-Youn Kim and Tae-Heon Yang pp.1283-1288
- Experimental Constrained Optimal Attitude Control of a Quadrotor Subject to Wind Disturbances. Kostas Alexis, George Nikolakopoulos, and Anthony Tzes pp.1289-1302
- Lane Detection and Tracking based on Annealed Particle Filter. Hongying Zhao, Onecue Kim, Jong-Seob Won, and Dong-Joong Kang pp.1303-1312
- Indoor Localization for Mobile Robots using Lampshade Corners as Landmarks: Visual System Calibration, Feature Extraction and Experiments. Xiaohan Chen and Yingmin Jia pp.1313-1322
- Impedance Control of a Small Treadmill with Sonar Sensors for Automatic Speed Adaptation. Jungwon Yoon, Auralius Manurung, and Gap-Soon Kim pp.1323-1335
- Quasi-synchronization of Markovian Jump Complex Heterogeneous Networks with Partly Unknown Transition Rates. Xinghua Liu and Hongsheng Xi pp.1336-1344
- Networked Control for Delta Operator Systems Subject to Actuator Saturation. Ling Zhao, Zhiwei Li, Hongjiu Yang, and Zhixin Liu pp.1345-1351
- A comment on “Exponential Stability of Nonlinear Delay Equation with Constant Decay Rate via Perturbed System Method”. Abdellatif Ben Makhlouf and Mohamed Ali Hammami pp.1352-1357
- Digital Implementation of Nonlinear Autopilot for STT Missiles. Ki Hong Im pp.1358-1361
- Extending the GPBiCG Algorithm for Solving the Generalized Sylvester-transpose Matrix Equation. Masoud Hajarian pp.1362-1365
- A Controllability Synthesis Problem for Dynamic Multi-Agent Systems with Linear High-Order Protocol. Ning Cai, Junwei Cao, and M. Junaid Khan pp.1366-1371

[Back to the contents](#)

### 3.4. Contents: Asian Journal of Control

Contributed by: Fu Li-Chen [lichen@ntu.edu.tw](mailto:lichen@ntu.edu.tw)

Table of contents

Asian Journal of Control

Vol.16, No.6 November, 2014

- Unfalsifying Pole Locations Using a Fading Memory Cost Function. Authors: Huiyu Jin, Michael W. Chang and Michael G. Safonov

- Output-Feedback Control for Continuous-time Interval Positive Systems under L1 Performance. Authors: Xiaoming Chen, James Lam, Ping Li and Zhan Shu
- Linear Model-based Feedforward Control for Improving Tracking-performance of Linear Motors. Authors: Yan-Jang Li and Szu-Chi Tien
- Active Disturbance Rejection Control for Piezoelectric Beam. Authors: Qinling Zheng, Hanz Richter and Zhiqiang Gao
- Force Control of a Cellular Tensegrity Structure with Model Uncertainties and Partial State Measurability. Authors: Shengfeng Zhou, Peter C. Y. Chen and Chong-Jin Ong
- The Structural Robustness of the Induction Motor Stator Currents Subsystem. Authors: Luis Amezcuita-Brooks, Eduardo Liceaga-Castro and Jesús Liceaga-Castro
- Maximally Permissive Petri Net Supervisors for Flexible Manufacturing Systems with Uncontrollable and Unobservable Transitions. Authors: YuFeng Chen and Kamel Barkaou
- Synchronization of Interconnected Multi-valued Logical Networks. Authors: Min Meng, Jun-e Feng and Zhongsheng Hou
- Fault Prediction and Maintenance of Non-Periodic Incipient Fault for Hydraulic Tube Tester. Authors: Zhen Zhao, Jun Zhang, Shu Wang, Yuqing Chang and Mingxing Jia
- Output feedback stabilization for stochastic nonholonomic systems with nonlinear drifts and Markovian switching. Authors: Dongkai Zhang, Chaoli Wang, Guoliang Wei and Hua Chen
- Optimized-Based Stabilization of Constrained Nonlinear Systems: A Receding Horizon Approach. Authors: 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. Authors: Tao Zhao, Jian Xiao, Lu Han, Cunyong Qiu and Jingchun Huang
- Fault Diagnosis of hydraulic servo system using the unscented Kalman filter. Authors: 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. Authors: Dan Peng and Changchun Hua
- Policy Gradient Approach of Event-Based Optimization and Its Online Implementation. Authors: Li Xia
- QC Characterizations for the Closed-loop Stability of Time-varying Linear Systems. Authors: Liu Liu and Yufeng Lu
- $L_2$ - $L_\infty$  Consensus Control for High-Order Multi-Agent Systems with Nonuniform Time-Varying Delays. Authors: Yan Cui
- Programmable-logical-controllers Synthesis for Automated-guided-vehicle Systems Using Ordinary Petri Nets. Authors: Jiliang Luo and Huijuan Ni
- Flocking of Multi-Agents Following a Leader with Adaptive Protocol in a Noisy Environment. Authors: Shukai Li, Xinzhi Liu, Wansheng Tang and Jianxiong Zhang
- Sliding Mode Control for Uncertain Switched Systems with Partial Actuator Faults. Authors: Yonghui Liu, Yugang Niu, James Lam and Baoyong Zhang
- Extended Elementary Siphons and Their Application to Liveness-Enforcement of Generalized Petri Nets. Authors: 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. Authors: Lijun Long and Jun Zhao

- Robust Exponential Stability Analysis of Uncertain Discrete Time-Varying Linear Systems. Authors: 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. Authors: Fangzheng Gao, Fushun Yuan and Yuqiang Wu
- A Discrete-Time Global Quasi-Sliding Mode Control Scheme with Bounded External Disturbance Rejection. Authors: M. Wu and J. S. Chen
- Trajectory Tracking Control of a PVTOL Aircraft Based on Linear Algebra Theory. Authors: D. Gandolfo, C. Rosales, D. Patiño, G. Scaglia and M. Jordan
- Fixed-Structure  $H_\infty$  Controller Design for Systems with Polytopic Uncertainty: An LMI Solution. Authors: Arash Sadeghzadeh
- Almost Asymptotic Regulation of Markovian Jumping Linear Systems in Discrete Time. Authors: Shuping He, Zheng-tao Ding and Fei Liu

#### Brief Paper

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

[Back to the contents](#)

### 3.5. CFP: Intelligent Service Robotics

Contributed by: Hyungpil Moon [hyungpil@me.skku.ac.kr](mailto:hyungpil@me.skku.ac.kr)

Call for Papers: Intelligent Service Robotics

Special Issue on Multi-scale Manipulation Toward Robotic Manufacturing Technologies

Micro-nanorobotics for robotic manufacturing faces tough challenges from uncertain interaction forces, environmental complexities and variability, to potential operational failures. These challenges render current efforts based on automatic control ineffective, and the level of automation is so far rather limited, not much beyond telemanipulation and basic visual servoing. Machine learning has been proven very promising in increasing the autonomy of macro robotic systems. Due to the low reliability of models at micro-nanoscale, machine learning becomes an especially attractive approach. Nano/micro manipulation can be benefited from recent developments in macro-scale manipulation. At the same time, handling problems in nano/micro scale particles would inspire researchers in macro-manipulation for further innovation in their methodologies. This issue will be unique in bringing new ideas in both micro and macro scale manipulation and build original cooperation between micro-nanorobotics and manufacturing or machine learning fields. The central theme of the Special Issue is on recent advances in Multi-scale Manipulation Toward Robotic Manufacturing Technologies and will capture the surge of interest in the application of machine learning technologies to manipulation in multi-scale. We plan to welcome original, significant and visionary papers describing scientific methods and technologies that improve the efficiency of manipulation in multi-scale. The content could also present surveys and reviews that summarize state-of-the-art practices in this arena. Special attention will be paid to papers focusing on microassembly of microdevices, contactless manipulation, nanoparticle applications, dexterous handling in multiple scales, machine learning for manipulation, active touch, micro-manipulation: transportation and assembly, intention prediction approaches to interact naturally with the

microworld. Submissions of scientific results from experts in academia and industry worldwide will be strongly encouraged.

Topics to be covered include, but are not limited to: Micro-nanorobotics, Nano/micro particle manufacturing, Machine learning for manipulation, Micro/macro manipulation, Sensing for manipulation in multiple scales, Microdevices for microassembly, Contactless manipulation, Haptic issues in micro/meso/macro part handling.

#### Important Dates

- February 15, 2015: Paper submission deadline.
- March 15, 2015: Completion of the first round paper review.
- April 15, 2015: Completion of the second round paper review.
- May 1, 2015: Final manuscripts due.
- July 1, 2015: Tentative publication date.

#### Guest Editors

- Hyungpil Moon (hyungpil@me.skku.ac.kr), Associate Professor, Sungkyunkwan University, Korea
- Michael Gauthier (Michael.gauthier@femto-st.fr), Head of the AS2M department, FEMTO-ST Institute, France

#### Paper Submission

All papers are to be submitted through the journal, Intelligent Service Robotics submission site at <http://www.editorialmanager.com/jist>. Please select "S.I.: MMRMT" in the article type menu of your submission. All manuscripts must be prepared according to the JISR publication guidelines. Please address all inquiries via e-mail to [hyungpil@me.skku.ac.kr](mailto:hyungpil@me.skku.ac.kr).

[Back to the contents](#)

## 4. Conferences

### 4.1. Chinese Control and Decision Conference

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

27th Chinese Control and Decision Conference (2015CCDC)

<http://www.ccdc.neu.edu.cn>

Per the requests of numerous authors, the organizing committee has decided a final extension of the deadline for 2015CCDC paper submission to 30 December 2014, after taking every factor into account.

Chinese Control and Decision Conference (CCDC) is an annual international conference. The 27th Chinese Control and Decision Conference (2015CCDC) will be held in Qingdao, China, during May 23 - 25, 2015.

Its purpose is to create a forum for scientists, engineers and practitioners from all over the world to present the latest advancement in Control, Decision, Automation, Robotics and Emerging Technologies. A special session on Intelligent Building Control and Management is also organized with details available in the conference website.

Conference content will be submitted for inclusion into IEEE Xplore as well as other Abstracting and Indexing (A&I) databases. Note that conference content of 2014 CCDC has been indexed by EI Compendex. High-quality papers in 2015 CCDC will be recommended for submission to the Journal of Control and Decision published quarterly by Taylor & Francis group.

There will be keynote addresses and distinguished lectures covering the State-of-the-Art in both theory and applications of Systems, Control and Decision.

Invited Keynote Addresses will be delivered by

- Prof. Weihua Gui, Central South University, China;
- Prof. K. J. Ray Liu, University of Maryland, USA;
- Prof. Iven Mareels, The University of Melbourne, Australia;
- Prof. Maria Elena Valcher, Università di Padova, Italy.

Invited Distinguished Lectures will be delivered by

- Prof. Shyh-Leh Chen, National Chung Cheng University, Taiwan;
- Prof. Zhisheng Duan, Peking University, China;
- Prof. Huijun Gao, Harbin Institute of Technology, China;
- Prof. Xiaoming Hu, Royal Institute of Technology, Sweden;
- Prof. Derong Liu, University of Illinois at Chicago, USA;
- Prof. Xinzhi Liu, University of Waterloo, Canada;
- Prof. Max Meng, Chinese University of Hong Kong, Hong Kong, China;
- Prof. Yuan Wang, Florida Atlantic University, USA.

Important Dates:

Deadline for Full Paper Submission 30 December 2014

Deadline for Invited Session Proposals 30 December 2014

Notification of Acceptance/Rejection 10 February 2015

Deadline for Camera Ready Manuscript Submission 10 March 2015

Deadline for Advance Registration 10 March 2015

Highlight of Qingdao Attractions

Apart from participating in 2015 CCDC, you may also visit the numerous attractions of Qingdao, Shandong Province, China. Qingdao is changing every minute. The former Germany colony has developed to a charming seafront metropolis. Qingdao is called as “China’s Switzerland” because of its Bavarian appearance. With its cool sea breezes, clear air and excellent sea food. Qingdao is where china’s rich businessmen come to build sand villas. Qingdao is to hold the sailing events of the 2008 Olympic, which will allow more west people to learn this picturesque city. The most noted sights in Qingdao are various sea beaches, ocean park and the colonial-era buildings dotted around the urban landscape.

For further information, please refer to Website

<http://www.ccdc.neu.edu.cn>, E-mail [secretary\\_ccdc@ise.neu.edu.cn](mailto:secretary_ccdc@ise.neu.edu.cn).

The Call for Papers of 2015CCDC can be downloaded from the website

<http://www.ccdc.neu.edu.cn/pdf/2015%20CCDC%20Call%20for%20Papers.pdf> The Call for Paper of the special session on Intelligent Building Control and Management can be downloaded from the website

<http://www.ccdc.neu.edu.cn/pdf/2015%20CCDC%20Special%20Session%20-%20Call%20for%20Papers.pdf>

We are looking forward to receiving your submissions

[Back to the contents](#)

#### 4.2. International Conference on Systems and Control

Contributed by: Driss Mehdi, [driss.mehdi@univ-poitiers.fr](mailto:driss.mehdi@univ-poitiers.fr)

The 4th International Conference on Systems and Control (ICSC'15)

April 28-30, 2015, Hammamet, Tunisia

Deadlines

Initial Paper Submission due : December 14, 2014.

Paper decision notification : February 8, 2015.

Final Paper Submission due : March 9, 2015.

Registration : February 16, 2015.

Congress : opening : April 28, 2015. closing : April 30, 2015.

The Program Chairs are soliciting contributed technical papers for presentation at the Conference and publication in the Conference Proceedings, as well as proposals for invited sessions/papers/talks by topic of interest.

For more information please visit the website of the conference <http://lias.labo.univ-poitiers.fr/icsc/icsc2015>

Two plenary sessions are on the program:

- Disturbance rejection: A central issue in process control by Prof Pedro Albertos from Universidad Polit3cnica de Valencia, Spain
- Toward nonlinear tracking and rejection using LPV control, by Prof. G3rard SCORLETI from Ecole Centrale de Lyon, France

[Back to the contents](#)

#### 4.3. IFAC Symposium on Biological and Medical Systems

Contributed by: Berno Misgeld, [misgeld@hia.rwth-aachen.de](mailto:misgeld@hia.rwth-aachen.de)

August 31 - September 2, 2015

Berlin, Germany

<http://www.bms2015.org/>

IFAC BMS 2015 is the ninth IFAC symposium on Biological and Medical Systems. The symposium will provide a forum for the presentation of new developments in the important interdisciplinary field of biological and medical systems. This involves the development and application of concepts, methods and techniques of modelling, informatics and control of complex biomedical and biological systems, as well as advances in medical technology.

Important dates:

December 01, 2014: Deadline for invited session proposals

February 02, 2015: Paper submission deadline

May 11, 2015: Notification of acceptance

June 8, 2015: Final paper submission

June 8, 2015: Early bird registration deadline

All papers must be submitted through the conference submission website PaperPlaza:

<https://ifac.papercept.net/conferences/scripts/start.pl>

[Back to the contents](#)

#### 4.4. IEEE International Conference on Event-based Control, Communication, and Signal Processing

Contributed by: Sebastian Trimpe, [strimpe@tuebingen.mpg.de](mailto:strimpe@tuebingen.mpg.de)

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

June 17-19, 2015

Krakow, Poland

[www.ebccsp2015.org](http://www.ebccsp2015.org)

Call for papers

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

Topics within the scope of the conference include: Event-based control & systems; Event-based communication, computing & systems; Event-based signal processing & systems.

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

Keynote and plenary presentations:

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

Please consult the conference web page for more details: [www.ebccsp2015.org](http://www.ebccsp2015.org)

Important dates for authors:

Deadline for submission of regular and special session papers: January 15, 2015

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

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

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

Final manuscripts due: May 1, 2015

[Back to the contents](#)

#### 4.5. IFAC Conference on Analysis and Design of Hybrid Systems

Contributed by: Magnus Egerstedt, [magnus@gatech.edu](mailto: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

[Back to the contents](#)

#### **4.6. International Conference on Advanced Robotics**

Contributed by: Veysel Gazi, [veysel.gazi@kemerburgaz.edu.tr](mailto:veysel.gazi@kemerburgaz.edu.tr)

17th International Conference on Advanced Robotics, ICAR 2015

27-31 July, 2015, Istanbul, Turkey

<http://www.icar2015.org/>

Call for papers

The 17th International Conference on Advanced Robotics, ICAR 2015 is organized by Middle East Technical University in collaboration with Kadir Has University. The conference will take place in Kadir Has University campus in Istanbul, Turkey, on July 27-31, 2015.

Keeping up with the same spirit of innovation, ICAR wants to bring high quality papers, workshops and tutorials to the geographical areas where the larger robotics conferences have not been organized yet. After the successful conference last year in Montevideo, Uruguay ([www.icar2013.org](http://www.icar2013.org)), next year, the 17th ICAR will be held in Istanbul, Turkey where “the east meets the west”. The conference is organized by Middle East Technical University (METU) in collaboration with Kadir Has University.

The venue is Kadir Has Campus situated on the historic peninsula along Halic bay ([www.icar2015.org](http://www.icar2015.org)).

ICAR 2015 will be technically co-sponsored by the IEEE Robotics and Automation Society. The technical program of ICAR 2015 will consist of plenary talks, workshops and oral presentations. Submitted papers should describe original work in the form of theoretical modelling, design, experimental validation, or case studies from all areas of robotics, focusing on emerging paradigms and application areas including but not limited to: Robotics Vision, Adversarial Planning, Cognitive Robotics, Robot Operating Systems, Robotics Architectures, Simulation and Visualization, Mobile Robots, Robot Swarms, Humanoid Robots Biologically-Inspired Robots, Self-Localization and Navigation, Embedded and Mobile Hardware, Spatial Cognition,

Robotic Entertainment, Human-Robot Interaction, Robot Competitions, Multi-Robot Systems, Unmanned Aerial Robots, Search and Rescue Robots, Underwater Robotic Systems, Learning and Adaptation, Educational Robotics, Cooperation and Competition, Rehabilitation Robotics, Dynamics and Control, Immersive Robotics.

Keynote speakers

- Danica Kragic, Royal Institute of Technology (KTH), Sweden, <http://www.csc.kth.se/~danik/>
- Oussama Khatib, Stanford University, USA, <http://cs.stanford.edu/groups/manips/ok.html>
- Todd P. Coleman, University of California, San Diego, USA, <http://coleman.ucsd.edu/>
- Noah J. Cowan, Johns Hopkins University, USA, <http://limbs.lcsr.jhu.edu/people/cowan/>

Important dates

Paper submission February 1, 2015

Workshop and tutorial proposals February 1, 2015

Notification of paper acceptance April 15, 2015

Camera-ready papers May 15, 2015

ICAR 2015 Conference July 27-31, 2015

Paper submission

Original technical paper contributions are solicited for presentation at ICAR 2015. Accepted papers will be published in IEEE Xplore conference proceedings.

Submissions should be 6-8 pages following the IEEE Xplore format available at:

[http://www.ieee.org/conferences\\_events/conferences/publishing/templates.html](http://www.ieee.org/conferences_events/conferences/publishing/templates.html)

Papers will be submitted online via EasyChair:

<https://www.easychair.org/conferences/?conf=icar2015> For more information <http://www.icar2015.org/>

[Back to the contents](#)

#### **4.7. International Conference on Control, Automation and Systems**

Contributed by: Jae Weon Choi, [conference@icross.org](mailto:conference@icross.org)

2015 15th International Conference on Control, Automation and Systems (ICCAS 2015)

October 13(TUE)-16(FRI), 2015

BEXCO, Busan, Korea

Email: [conference@icross.org](mailto:conference@icross.org)

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

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

Important Dates

April 10, 2015: Submission of organized session proposals

April 17, 2015: Submission of full papers

June 19, 2015: Notification of paper acceptance

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

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

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

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

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

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

ICCAS 2015 CFP: [http://icross.org/data/download/ICCAS2015/ICCAS2015\\_1st\\_CFP.pdf](http://icross.org/data/download/ICCAS2015/ICCAS2015_1st_CFP.pdf)

[Back to the contents](#)

#### **4.8. Iranian Conference on Electrical Engineering**

Contributed by: Amin Nobakhti, [nobakhti@shairf.ir](mailto:nobakhti@shairf.ir)

##### CALL FOR PAPERS

23rd Iranian Conference on Electrical Engineering (ICEE 2015)

Sharif University of Technology, Tehran, Iran

May 10-14, 2015

<http://icee2015.conf.sharif.ir/EN/>

The 23rd Iranian Conference on Electrical Engineering (ICEE 2015) will take place at Sharif University of Technology, Tehran, Iran from Sunday May 10th to Thursday May 14th, 2015. The ICEE gathers annually researchers and practitioners in all fields of Electrical and Computer Engineering to discuss the latest developments and exchange their research results and novel accomplishments.

Prospective authors are invited to submit high-quality, original, and unpublished contributions to ICEE 2015. All submitted papers will be subject to peer review. In addition to oral presentation of contributed papers, the 23rd ICEE will feature workshops, panel discussions, keynote speeches and exhibitions.

The scope of the conference includes the following topics: Biomedical Eng., Communication, Computer, Control, Electronic, Power.

Paper submission:

- Paper submissions should demonstrate original unpublished research in the scope of the conference.
- All submitted papers must be prepared based on the given format in the conference website.
- Paper submission is only available via the conference website.
- All accepted papers will be submitted for publication in IEEE Xplore.
- Oral presentation is mandatory for publication of the paper in the Proceedings and IEEE Xplore.

Important dates:

Extended Paper submission deadline: December 6th, 2014

Workshop proposal deadline: January 5th, 2015

Notification of acceptance: February 20th, 2015

Camera ready submission: March 9th, 2015

Exhibitions & special events:

Exhibition of products, equipment and software related to the ECE field is planned. Companies and manufacturers are invited to submit proposal for participating in the exhibition. Special events, tours, sightseeing of historical places are also planned for the participants. Further details will be announced at the conference.

VISA:

Special assistance will be provided for foreign participants through the Iranian Consulate offices.

Contacts:

Address: Secretariat of ICEE 2015, Room 505, Dept. of Electrical Engineering, Sharif University of Technology, Tehran, Iran.

Tel: +98 21 66165913

E-mail: [icee2015@sharif.ir](mailto:icee2015@sharif.ir)

Website: <http://icee2015.conf.sharif.ir/EN/>

Organizing committee:

Dr. Mahmud Fotuhi Conference and Sharif University Chair

Dr. Masoud Shafiee Permanent Committee Chair

Dr. Massoud Babaie-Zadeh Program Chair

[Back to the contents](#)

#### **4.9. International Conference on System Theory, Control and Computing**

Contributed by: Sergiu Caraman, [Sergiu.Caraman@ugal.ro](mailto:Sergiu.Caraman@ugal.ro)

19th International Conference on System Theory, Control and Computing - ICSTCC 2015

October 14-16, 2015, Cheile Gradistei - Fundata Resort, Romania

Website: <http://www.aie.ugal.ro/icstcc2015>

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

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

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

Important dates:

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

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

All papers should be submitted via the online submission system at

<http://controls.papercept.net/conferences/scripts/start.pl#STCC15>

For further information please contact the organizing committee at: [icstcc2015@ugal.ro](mailto:icstcc2015@ugal.ro)

[Back to the contents](#)

#### **4.10. International Conference on Unmanned Aircraft Systems**

Contributed by: Youmin Zhang, [Youmin.Zhang@concordia.ca](mailto:Youmin.Zhang@concordia.ca)

2nd Call for Papers: 2015 International Conference on Unmanned Aircraft Systems (ICUAS'15)

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

Denver is a metropolitan city with major attractions, and Colorado is the second in Aerospace Industry companies in the U.S. June 9 will be a Workshop/Tutorial day, followed by a three-day technical Conference. Judging from the interest ICUAS has drawn over the past seven years and its growth, ICUAS'15 is expected

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

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

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

Important dates:

February 6, 2015: Full Papers/Tutorial Proposals Due

April 24, 2015: Acceptance/Rejection Notification

May 11, 2015: Upload Final, Camera Ready Papers

April 24 - May 11, 2015: Early Registration

June 9-12, 2015: Conference Period

Paper submission:

Papers must be submitted electronically through [controls.papercept.net](http://controls.papercept.net). Go to <http://controls.papercept.net/>. Click on the link "Submit a Contribution to ICUAS'15" and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 12 point fonts, Times New Roman. The maximum number of pages per paper is 10. Illustrations and references are included in the page count. Submitted papers will undergo a peer review process coordinated by the Program Chairs, the ICUAS Advisory Committee Members, the IPC and qualified reviewers. Authors will be notified of acceptance at the latest by April 24, 2015. Accepted papers must be uploaded electronically no later than May 11, 2015. Authors are encouraged to accompany their presentations with multimedia material (i.e., videos), which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.

General chairs:

Fulvia Quagliotti, Politecnico di Torino, [fulvia.quagliotti@polito.it](mailto:fulvia.quagliotti@polito.it)

Youmin Zhang, Concordia University, [yumin.zhang@concordia.ca](mailto:yumin.zhang@concordia.ca)

Kimon Valavanis, University of Denver, [kimon.valavanis@du.edu](mailto:kimon.valavanis@du.edu)

Program chairs:

Didier Theilliol, Univ. of Lorraine, [Didier.Theilliol@univ-lorraine.fr](mailto:Didier.Theilliol@univ-lorraine.fr)

Roberto Sabatini, RMIT Univ. AU, [roberto.sabatini@rmit.edu.au](mailto:roberto.sabatini@rmit.edu.au)

Srikanth Saripalli, Arizona State U., [Srikanth.Saripalli@asu.edu](mailto:Srikanth.Saripalli@asu.edu)

[Back to the contents](#)

#### 4.11. Conference on Modelling, Identification and Control of Nonlinear Systems

Contributed by: Frank Allgöwer, [frank.allgower@ist.uni-stuttgart.de](mailto: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.

[Back to the contents](#)

## 5. Workshops

### 5.1. Advances and Wish Lists in Control Research

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

[Back to the contents](#)

## 5.2. Workshop on Applied Verification for Continuous and Hybrid Systems (ARCH 2015)

Contributed by: Matthias Althoff, [althoff@in.tum.de](mailto:althoff@in.tum.de)

2nd International Workshop on Applied Verification for Continuous and Hybrid Systems (ARCH 2015)

April 13, 2015, Seattle, USA

<http://cps-vo.org/group/ARCH>

Verification of continuous and hybrid systems is increasing in importance due to new cyber-physical systems that are safety- or operation-critical. This workshop addresses verification techniques for continuous and hybrid systems with a special focus on the transfer from theory to practice.

Topics include, but are not limited to: Proposals for new benchmark problems (not necessarily yet solvable); Tool presentations; Tool executions and evaluations based on ARCH benchmarks; Experience reports including open issues for industrial success.

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

Submission deadline: February 12, 2015

Notification of acceptance: March 9, 2015

Final version: March 31, 2015

Workshop: April 13, 2015

[Back to the contents](#)

## 5.3. International Workshop on Numerical Software Verification

Contributed by: Sergiy Bogomolov, [bogom@informatik.uni-freiburg.de](mailto:bogom@informatik.uni-freiburg.de)

8th International Workshop on Numerical Software Verification (NSV 2015)

April 13, 2015

Cyber-Physical Week 2015

Seattle, WA, USA

Web Page: <http://nsv2015.informatik.uni-freiburg.de/>

Important dates

Submissions deadline: January 30, 2015

Notification: Feb 27, 2015

Final version: March 8, 2015

Workshop: April 13, 2015

Description of the workshop

Numerical computations are ubiquitous in digital systems: supervision, prediction, simulation and signal processing rely heavily on numerical calculus to achieve desired goals. Design and verification of numerical algorithms has a unique set of challenges, which set it apart from rest of software verification.

To achieve the verification and validation of global properties, numerical techniques need to precisely represent local behaviors of each component.

The implementation of numerical techniques on modern hardware adds another layer of approximation because of the use of finite representations of infinite precision numbers that usually lack basic arithmetic properties such as commutativity and associativity. Finally, the development and analysis of cyber-physical systems (CPS) which involve the interacting continuous and discrete components pose a further challenge. It is hence imperative to develop logical and mathematical techniques for the reasoning about programmability and reliability.

The NSV workshop is dedicated to the development of such techniques.

## Topics

The scope of the workshop includes, but is not restricted to, the following topics: Quantitative and qualitative analysis of hybrid systems; Models and abstraction techniques; Optimal control of dynamical systems; Parameter identification for hybrid systems; Numerical optimization methods; Hybrid systems verification; Applications of hybrid systems to systems biology; Propagation of uncertainties, deterministic and probabilistic models; Specifications of correctness for numerical programs; Formal specification and verification of numerical programs; Quality of finite precision implementations; Numerical properties of control software; Validation for space, avionics, automotive and real-time applications; Validation for scientific computing programs

## Submission information

We solicit regular and short papers. Paper submission must be performed via the EasyChair system: <http://easychair.org/conference>

Regular papers must describe original work, be written and presented in English, and must not substantially overlap with papers that have been published or that are simultaneously submitted to a journal or a conference with refereed proceedings. Submitted papers will be judged on the basis of significance, relevance, correctness, originality, and clarity. They should clearly identify what has been accomplished and why it is significant.

Regular paper submissions should not exceed 15 pages in ENTCS style, including bibliography and well-marked appendices: <http://www.entcs.org/prelim.html>

Program committee members are not required to read the appendices, and thus papers must be intelligible without them.

Short papers are also welcomed, they should present tools, benchmarks, case-studies or be extended abstracts of ongoing research. Short papers should not exceed 6 pages.

Accepted papers will be published electronically by Elsevier in the Electronic Notes in Theoretical Computer Science series (ENTCS).

## Chairs

Sergiy Bogomolov (University of Freiburg, Germany)

Matthieu Martel (Université de Perpignan, France)

[Back to the contents](#)

## 5.4. Workshop on Neural Population Dynamics

Contributed by: Antoine Chaillet, [antoine.chaillet@supelec.fr](mailto:antoine.chaillet@supelec.fr)

We are pleased to announce the Workshop on Neural Population Dynamics, to be held in Supélec (Gif sur Yvette) on February, 4th 2015: <http://neural-pops.sciencesconf.org>

This workshop aims at gathering neuroscientists and control theoreticians around the dynamics of neural populations. Its topics cover: Modeling; Identification of parameters based on experimental data; Link between models; Mathematical analysis; Feedback control.

The list of confirmed speakers is:

- Bruno Cessac, INRIA
- David Hansel, Univ. Paris 5
- Axel Hutt, INRIA
- Dimitris Pinotsis, UCL
- Peter Wellstead, Hamilton Institute.

Registration is free but mandatory. Posters are welcomed. See website for details.

The workshop is organized in the framework of the Research Initiative “Control and Neuroscience” of the iCODE institute of Paris-Saclay and the ANR project SynchNeuro.

We look forward to seeing you there!

The organizers,

Georgios Detorakis and Antoine Chaillet

<http://neural-pops.sciencesconf.org>

[Back to the contents](#)

## 5.5. Workshop GeoLMI

Contributed by: Didier Henrion, [henrion@laas.fr](mailto:henrion@laas.fr)

Workshop GeoLMI 2015

22-24 June 2015, Paris

<http://homepages.laas.fr/henrion/geolmi15>

This is a workshop organized by Didier Henrion and Mohab Safey El Din as a closing event for the GeoLMI project funded by the French National Research Agency. The project deals with the following research topics: geometry of determinantal varieties; positive polynomials; computational algebraic geometry; semidefinite programming; systems control applications.

The workshop takes place from Monday 22 to Wednesday 24 June 2015 in the Durand lecture hall of the Esclançon building on the Jussieu Campus of Université Pierre et Marie Curie in Paris, France.

Confirmed invited speakers:

Erwan Brugalle, Ecole Polytechnique, Paris

Stephane Gaubert, INRIA Saclay and Ecole Polytechnique, Paris

Eric Goubault, CEA Saclay and Ecole Polytechnique, Paris

Ilya Itenberg, Université Pierre et Marie Curie, Paris

Alain Jacquemard, Université de Bourgogne, Dijon

Jean-Philippe Monnier, Université d'Angers

Alban Quadrat, INRIA Saclay

Marie-Francoise Roy, Université de Rennes

[Back to the contents](#)

## 6. Positions

### 6.1. PhD: Wichita State University, USA

Contributed by: Zheng Chen, [zheng.chen@wichita.edu](mailto:zheng.chen@wichita.edu)

The Bio-inspired Robotics and Control Lab in the Department of Electrical Engineering and Computer Science at Wichita State University, which is located in Wichita, KS, USA, has available funding to support one PhD student in the general area of Bio-inspired Robotics, Smart Sensors and Actuators, Bio-mechanics, and Dynamics and Control. The successful candidate is expected to have a strong background in control theory, modeling of complex dynamic systems, real-time control system design, system identification, micro/nano fabrication. Good programming skills and experience with C/C++, MATLAB/Simulink is an asset. A background in smart materials and structures as well as prior working experience with underwater robot design will be an advantage. Applicant to this position should already have completed (or will soon complete) a Master degree in systems and controls, electrical engineering, and/or mechanical engineering. The funding covers the cost of full tuition and stipends at a competitive rate and can start as early as Fall

2015. The position will remain open until filled. Interested individuals should send their detailed curriculum vitae, copies of their recent transcripts, personal statement, a copy of their best publication in English, and if applicable GRE/TOFEL test scores to Dr. Zheng Chen ([zheng.chen@wichita.edu](mailto:zheng.chen@wichita.edu)).

[Back to the contents](#)

## **6.2. PhD: University of California, USA**

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

PhD position available in Dynamical Systems and Control with Prof. Ricardo Sanfelice at the Computer Engineering Department at the University of California, Santa Cruz, USA

Research in Prof. Sanfelice's group is focused on the analysis of hybrid dynamical and cyber-physical systems, as well as on the design of hybrid feedback algorithms for estimation and control. Particular emphasis is given to dynamical systems and algorithms featuring nonsmooth and continuous/discrete dynamics due to the combination of physics, computer systems, and networks emerging in the areas of robotics, aerospace, power systems, and biology. For more information, visit <https://hybrid.soe.ucsc.edu>

The Computer Engineering program at UCSC benefits from a close relationship with other graduate programs in the School of Engineering and UCSC as a whole. It maintains strong ties to local industry in the Silicon Valley and Monterey Bay areas. The major areas of research concentration in Computer Engineering are computer networks; embedded and autonomous systems; computer systems design; robotics and control, mobile and pervasive computing; computer-aided design; and sensing and interaction.

Applications for the 2015-16 academic year are due January 3, 2015.

For more details on the application procedure, visit <http://ga.soe.ucsc.edu/admissions/faq> and <http://graddiv.ucsc.edu/prospective-students/index.html>

[Back to the contents](#)

## **6.3. PhD: Luleå University of Technology, Sweden**

Contributed by: George Nikolakopoulos, [geonik@ltu.se](mailto:geonik@ltu.se)

The Control Engineering Group (CEG) group at the Department of Computer Science, Electrical and Space Engineering at Luleå University of Technology ([www.ltu.se](http://www.ltu.se)) has a focus on analysis, estimation, and control of complex dynamical systems with applications in the process industry, field robotics, medicine and health sciences.

The group is leading and participating in several large European research projects and has well-established relationships with both academia and industry.

A new state of the art lab with unique equipment for motion analysis is used for analysis in areas as diverse as autonomous mobile robots and balance and stability in humans.

The Control Engineering Group (CEG) group is having the following opening positions, the full advertise can be located here: <http://www.ltu.se/ltu/Lediga-jobb?rmjobb=1370&l=en>

- an opening for a PhD position in the area of Stochastic Model Predictive Control Algorithms for data driven integrated process control, as part of the European Horizon 2020 research project "Integrated Process Control based on Distributed In-Situ Sensors into Raw Material and Energy Feedstock - DISIRE". When applying please mark your application with the keyword [DISIRE]; application deadline is on the 18th of December 2014.
- two openings for PhD positions in the area of autonomous aerial collaborative manipulation and inspection by unmanned aerial vehicles, as part of the European Horizon 2020 Research Project "Collaborative

Aerial Robotic Workers - AEROWORKS". When applying please mark your application with the keyword [AEROWORKS]; application deadline is on the 18th of December 2014.

- an opening for a PhD position in the area of autonomous unmanned ground vehicles and especially in the area of search and rescue using real life full scale vehicles in unstructured and unknown territory as a part of the EU-project "Reconfigurable ROS-based Resilient Reasoning Robotic Cooperating Systems" (R5-COP). The position includes software design and implementation in Robotic Operation System (ROS) as well as extended hands on field experimentations. When applying please mark your application with the keyword [R5-COP]; application deadline is on the 18th of December 2014.
- an opening for a PhD position in the area of modelling and replication of human motion and fall accidents by novel postural sway analysis, robotics and mathematical modeling. The position is in cooperation with researchers in Physiotherapy, as a part of a research project funded by the Swedish Research Council (VR). The position will also include research in the area of Pneumatic Muscle Actuators and in the design, modeling and implementation of a balancing lower part humanoid. When applying please mark your application with the keyword [BART]; application deadline is on the 18th of December 2014.

For further information please contact Prof. George Nikolakopoulos DISIRE and AEROWORKS Coordinator, LTU Project Manager for R5-COP, (Email: [geonik@ltu.se](mailto:geonik@ltu.se)) or the Automatic Control Chair, Professor Thomas Gustafsson (Email: [tgu@ltu.se](mailto:tgu@ltu.se)).

[Back to the contents](#)

#### **6.4. PhD: University of Oxford, UK**

Contributed by: Alessandro Abate, [aabate@cs.ox.ac.uk](mailto:aabate@cs.ox.ac.uk)

EPSRC Centre for Doctoral Training In Autonomous Intelligent Machines and Systems (AIMS)

4-Year PhD (DPhil) Programme

Up to 10 fully-funded studentships for Doctoral Research

Candidates are invited to apply to the University of Oxford's 4-year Autonomous Intelligent Machines and Systems (AIMS) PhD (DPhil) programme. This new and exciting programme provides a completely new perspective to solving the issues of intelligent, autonomous systems by adopting an inter-disciplinary approach.

In the next decade our society will be revolutionised by Autonomous, Intelligent Machines and Systems, which can learn, adapt and act independently of human control.

The UK has the opportunity to become a world-leader in developing these technologies for sectors as diverse as energy, transport, environment, manufacturing and aerospace. Our CDT will deliver highly-trained individuals versed in the underpinning sciences of robotics, computer vision, wireless embedded systems, machine learning, control and verification. The CDT will advance practical models and techniques to enable computers and robots to make decisions under uncertainty, scale to large problem domains and be verified and validated. Holding one of these studentships will allow you to study the problems and opportunities in Autonomous, Intelligent Systems from many different perspectives, to understand the real-world challenges, and to make a contribution to solving some of the most significant problems society faces today. Applications will be considered from those with degrees at undergraduate (1st or 2:1) and master's level (distinction).

The application deadlines are 23rd January 2015 and 13th March 2015.

For more details, to ask questions, or to learn how to apply, please contact the CDT administrator at [wendy.adams@eng.ox.ac.uk](mailto:wendy.adams@eng.ox.ac.uk), or visit <http://aims.robots.ox.ac.uk>

[Back to the contents](#)

## 6.5. PhD: NYU Polytechnic School of Engineering, USA

Contributed by: Vikram Kapila, [vkapila@nyu.edu](mailto:vkapila@nyu.edu)

Positions Available: Two Doctoral Research Assistants in Robotics and Engineering Education  
Mechanical Engineering Department, NYU Polytechnic School of Engineering

We are seeking to recruit two doctoral research assistants, with a start date of January 2015, under an externally funded project. The project will research, identify, and build an effective model of teacher education and associated curriculum to facilitate the integration of robotics in science and math learning in middle school classrooms. Applicants must have a B.S. and an M.S. degree in mechanical engineering or a closely related field with research experience in robotics. They should have a strong aptitude in mathematics and engineering as well as interests in engineering education and learning science. The following areas of academic expertise are essential: i) robotics, ii) mechatronics, iii) system dynamics, and iv) automatic control. The research assistants are expected to excel in their academic work. Their dissertation research will focus on robotics and STEM education. The project begins in January 2015 and requires highly motivated and dedicated individuals who are self-driven to excel in education and research. For further information, please contact Prof. Vikram Kapila, [vkapila@nyu.edu](mailto:vkapila@nyu.edu). Applicants can send a single pdf file containing a letter of interest, curriculum vitae, and statement of research interest to Prof. Kapila

[Back to the contents](#)

## 6.6. PhD/Post-Doc: Technion - Israel Institute of Technology, Israel

Contributed by: Daniel Zelazo, [dzelazo@technion.ac.il](mailto:dzelazo@technion.ac.il)

Postdoctoral Research Associate and PhD Positions

Positions for postdoctoral and PhD students are currently available with the Faculty of Aerospace Engineering at the Technion - Israel Institute of Technology (Haifa, Israel, <http://aerospace.technion.ac.il/>).

Postdoctoral Researcher:

Funding for a postdoctoral candidate is available for projects related to the analysis and synthesis of networked dynamic and multi-agent systems. The scope of this project is broad, and thus has potential to explore many topics based on the expertise of the candidate.

Topics include

- analysis of uncertain multi-agent systems; robustness and  $H_\infty$  methods
- fault detection and isolation methods for networked systems
- synthesis strategies of network and controller design in uncertain networks
- passivity-based frameworks for multi-agent systems
- network optimization theory for multi-agent systems
- distributed optimization

Successful candidates should have a Ph.D. (or will graduate soon) in Electrical, Aerospace, or Mechanical engineering (or related discipline) with a strong foundation in systems & control theory, optimization theory, and familiarity with the broad area of multi-agent networked dynamical systems.

PhD Position:

We are eager to recruit exceptional PhD students with a strong interest and background in systems and control theory, robotics, and optimization. Students will be expected to perform research on topics related to multi-agent and multi-robot systems.

Interested applicants for both positions should submit a detailed CV with a list of publications and a research

statement to:

Asst. Prof. Daniel Zelazo

e-mail: [dzelazo@technion.ac.il](mailto:dzelazo@technion.ac.il)

[Back to the contents](#)

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

Contributed by: Yongqiang Wang, [yongqi@clmson.edu](mailto:yongqi@clmson.edu)

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

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

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

[Back to the contents](#)

### **6.8. Post-Doc: Louisiana State University, USA**

Contributed by: Michael Malisoff, [malisoff@lsu.edu](mailto:malisoff@lsu.edu)

One or more Postdoctoral Researcher positions are available in the Louisiana State University Department of Mathematics, starting in January or August 2015.

Applications are welcomed in any area of interest to the departmental faculty, including the areas of control and optimization. A required qualification for the positions is a Ph.D or equivalent degree in mathematics or a related area. The department seeks candidates who have potential for research excellence as well as a commitment to graduate and undergraduate education. Minorities and women are strongly encouraged to apply. Application review will begin upon receipt and applications will be accepted until candidates are selected. To apply, please go to <https://www.mathjobs.org/jobs/jobs/6609>.

[Back to the contents](#)

### **6.9. Post-Doc: University of California, USA**

Contributed by: Bassam Bamieh, [bamieh@engineering.ucsb.edu](mailto:bamieh@engineering.ucsb.edu)

Post-Doc: University of California at Santa Barbara

Applicants are sought for a two-year post-doc position with the Department of Mechanical Engineering (with an affiliation with the Center for Control, Dynamical Systems and Computation (CCDC: <http://www.ccdc.ucsb.edu>)) at the University of California at Santa Barbara.

The postdoctoral fellow will join in an exciting interdisciplinary effort exploring the interface between Distributed Control Theory and Statistical Physics. Recent research advances have shown that many-body phenomena such as phase transitions appear in the design and analysis of distributed control systems, with implications for the engineering of distributed networks as well as for the analysis of biological neural networks. The goal of this research effort is to advance this relatively new area of research.

This position requires a sound theoretical background, and the ability to carry out both analytical calculations and numerical simulations. The candidate should have experience with doing calculations in statistical field theory using approximate techniques (mean field theory, diagrammatic perturbation theory, renormalization group) in theoretical Condensed Matter Physics/Particle Physics or String Theory. Ideally, the candidate should also have some experience in Robust and Optimal Control theory and a strong interest in this interdisciplinary area.

The successful candidate will be located primarily at UCSB working with Prof. Bassam Bamieh (<http://engineering.ucsb.edu/>) in collaboration with Prof. Partha Mitra of the Cold Spring Harbor Laboratory (<http://mouse.brainarchitecture.org>).

The application by email (to [bamieh@engr.ucsb.edu](mailto:bamieh@engr.ucsb.edu)) should include the following documents (in a single PDF file):

1. A complete curriculum vitae.
2. A one-page summary of past research accomplishments and current research interests.
3. A list with the names of at least 3 references.
4. A selection of (no more than five) publications (published, accepted, or in-preparation).

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or any other characteristic protected by law including protected Veterans and individuals with disabilities.

[Back to the contents](#)

## **6.10. Post-Doc: University of California, USA**

Contributed by: Frank Doyle, [doyle@engr.ucsb.edu](mailto:doyle@engr.ucsb.edu)

### POSTDOCTORAL POSITIONS - UC, SANTA BARBARA

There are 2 immediate openings in the Department of Chemical Engineering and Institute for Collaborative Biotechnologies at the University of California, Santa Barbara. The Postdoctoral Fellows will join the artificial pancreas design team (<http://thedoylegroup.org/>) and will engage in groundbreaking design and control of an automated glucose control system for people with type 1 diabetes mellitus. This project is in cooperation with lead clinical partners and will result with a unique opportunity to implement advanced control design in human clinical trials.

Candidates should have a Ph.D. Degree in Chemical Engineering, Electrical Engineering, Bioengineering, or related disciplines with experience or extensive exposure to mathematical modeling, medical systems, control and dynamics. Strong oral and written communication skills are a requisite.

UCSB offers competitive salary and benefits. Applicants should send a CV, a statement of their professional interests (not longer than 1 page)

and the names and e-mail addresses of at least three technical references to:

Professor Francis J. Doyle III

Department of Chemical Engineering

University of California, Santa Barbara  
Santa Barbara, CA 93106-5080  
[frank.doyle@icb.ucsb.edu](mailto:frank.doyle@icb.ucsb.edu)

Submission of application material by e-mail is strongly encouraged.

[Back to the contents](#)

### **6.11. Post-Doc: University of California, USA**

Contributed by: Ali Mesbah, [mesbah@berkeley.edu](mailto:mesbah@berkeley.edu)

Multiple Postdoctoral Openings in the Process Systems and Control Lab at the University of California Berkeley

There are multiple postdoctoral openings in the Process Systems and Control Lab at the University of California, Berkeley. The positions are in the broad area of dynamic modeling and control of nonlinear, uncertain systems. The specific systems under study include 1) continuous ABE fermentation processes for biofuel production (in collaboration with the Energy Biosciences Institute), and 2) active regulation of cell-signaling pathways in living cells (in collaboration with the Department of Bioengineering).

The candidates are expected to hold a doctoral degree in Chemical Engineering (or related disciplines). Strong background in dynamic modeling, advanced control, and uncertainty analysis is required. Prior experience with biomass conversion processes and biological systems will be preferred.

Interested candidates should submit a cover letter (clearly indicating the project of interest), CV, and the contact details of three references to Dr. Ali Mesbah at [mesbah@berkeley.edu](mailto:mesbah@berkeley.edu). The positions are available starting immediately and will be open until filled. An initial appointment will be made for one year, and will be renewable contingent on performance and availability of funding.

[Back to the contents](#)

### **6.12. Post-Doc: Politecnico di Milano, Italy**

Contributed by: Alessandro Colombo, [alessandro.colombo@polimi.it](mailto:alessandro.colombo@polimi.it)

One postdoctoral position is available for an 18-month project in cooperative vehicle collision avoidance at Politecnico di Milano (Italy).

The candidate will be designing control algorithms for cooperative collision avoidance and running full scale tests on real vehicles. The candidate should have a strong background in nonlinear dynamics and control, hybrid systems dynamics, discrete optimization, and be comfortable with algorithm writing and coding. The position is for 18 months starting at the beginning of 2015.

To apply, please send me an email ([alessandro.colombo@polimi.it](mailto:alessandro.colombo@polimi.it)) with your CV, publications list, and list of at least three references.

[Back to the contents](#)

### **6.13. Post-Doc: University of Michigan, USA**

Contributed by: Dawn Tilbury, [tilbury@umich.edu](mailto:tilbury@umich.edu)

Physiological Signal Modeling Postdoctoral Fellow  
University of Michigan, Ann Arbor

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 science, technology, engineering or mathematical discipline in the three years prior to the application date.

Responsibilities:

Formulates experimental hypotheses leading to design and implementation of experimental protocols related to computational models.

Develops necessary new technologies and protocols

Develops and creates models from data sets collected by the medical collaborators.

Collects, processes and interprets experimental data and model outputs.

Trains, and in some instances supervises, graduate and undergraduate students.

Collaborates with other scientists and computational staff on research projects and development of new approaches to existing research problems.

Prepares research proposals, progress reports, and manuscripts for submission to scientific journals.

Presents research methods and findings at appropriate scientific conferences.

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 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](mailto:rsatyak@med.umich.edu) and Prof. Dawn Tilbury [tilbury@umich.edu](mailto:tilbury@umich.edu) Applications received by January 15 will receive full consideration, although the position will remain open until filled.

[Back to the contents](#)

#### **6.14. Post-Doc: Nanyang Technological University, Singapore**

Contributed by: Guoqiang Hu, [gqhu@ntu.edu.sg](mailto:gqhu@ntu.edu.sg)

Post-doc positions in “Control, Optimization, and Management of Smart Grid” at Nanyang Technological University, Singapore.

Several post-doc positions are available at Nanyang Technological University, Singapore, for a three-year project “Hub-wide Grid Planning and Management System for Industrial Hubs”. The positions can start immediately. The scope of the positions cover:

- Modeling, control, and stability analysis of microgrid for industrial hubs
- Planning, operations, and control of hub-wide grid
- Demand response and demand-side management
- Resilient control algorithms for smart grid under failure and attack
- Distributed control and optimization of multi-agent systems
- Software design and analysis of hub-wide grid for industrial hubs

Applicants should hold Ph.D degrees in control systems or power/energy systems and have strong track records of competitive research experience. Salaries are highly competitive depending on qualifications and experience.

Application Procedure:

Interested applicants can email full CVs and supporting documents (e.g., description of previous related experiences and achievements, pdf files of representative publications) to Prof. Guoqiang Hu (<http://ntu.edu.sg/home/gqhu/>) via [gqhu@ntu.edu.sg](mailto:gqhu@ntu.edu.sg).

The positions will stay open until suitable candidates have been appointed.

[Back to the contents](#)

### **6.15. Post-Doc: KU Leuven, Belgium**

Contributed by: Johan Suykens, [johan.suykens@esat.kuleuven.be](mailto:johan.suykens@esat.kuleuven.be)

Postdoc positions ERC Advanced Grant A-DATADRIVE-B

The research group KU Leuven ESAT-STADIUS is currently offering 2 Postdoc positions (1-year, extendable) within the framework of the ERC Advanced Grant A-DATADRIVE-B

(PI: Johan Suykens) <http://www.esat.kuleuven.be/stadius/ADB> on Advanced Data-Driven Black-box modelling.

The research positions relate to the following possible topics:

1. Prior knowledge incorporation
2. Kernels and tensors
3. Modelling structured dynamical systems
4. Sparsity
5. Optimization algorithms
6. Core models and mathematical foundations
7. Next generation software tool

The research group ESAT-STADIUS <http://www.esat.kuleuven.be/stadius> at the university KU Leuven Belgium provides an excellent research environment being active in the broad area of mathematical engineering, including systems and control theory, neural networks and machine learning, nonlinear systems and complex networks, optimization, signal processing, bioinformatics and biomedicine.

The research will be conducted under the supervision of Prof. Johan Suykens. Interested candidates having a solid mathematical background and PhD degree can on-line apply at the website <https://icts.kuleuven.be/apps/jobsite/vacatures/53177117?lang=en> by including CV and motivation letter. For further information on these positions you may contact [johan.suykens@esat.kuleuven.be](mailto:johan.suykens@esat.kuleuven.be).

[Back to the contents](#)

#### **6.16. Post-Doc: MINES ParisTech, France**

Contributed by: Philippe Martin, [philippe.martin@mines-paristech.fr](mailto:philippe.martin@mines-paristech.fr)

Post-Doc position at Centre Automatique, MINES ParisTech, FRANCE

The “Centre Automatique et Systèmes”, MINES ParisTech, PSL Research University, invites applications for a post-doctoral position in Control Theory/Robotics for a duration of 12 months. The net salary is about 25000 euros a year, depending on work experience, including health insurance. Starting date no later than March 2015.

The lab is located in the center of Paris, in the Latin Quarter.

This position is connected with a research project on methods for estimating position/velocity/attitude of flying robots for the purpose of closed-loop control.

The goal is to design real-time algorithms (so-called “observers”) fusing the measurements of various sensors (inertial sensors, cameras, range sensors, etc.) with some guaranteed convergence properties. Up to now the design methods used in the project have been relying on the geometric structure of the system (see e.g. [BMR2008,EMMH2013]), but any other efficient approach is conceivable. Also are investigated observers based either on a generic model (i.e. a generic rigid body) or an a dedicated model (e.g. using a force model for a quadrotor as in [MS2010]). The project is part of a collaboration with ISIR (Institut des Systèmes Intelligents et de Robotique”), which is located within walking distance of MINES ParisTech.

The candidate must have a PhD or equivalent in Control theory, robotics, or applied mathematics. A knowledge of inertial sensors and/or computer vision will be appreciated. As the content of the work is relatively open, candidates with various backgrounds and tastes (theory- and/or application-inclined) will be considered.

Non French-speaking candidates are welcome, provided they have a good command of English.

For applications or further inquiries about the project, please contact Philippe Martin [philippe.martin@mines-paristech.fr](mailto:philippe.martin@mines-paristech.fr). The application should comprise a letter outlining past research and future projects, a CV, and 2-3 recommendation letters.

Bibliography:

[BMR2008]Bonnabel, S., Martin, P., & Rouchon, P. (2008). Symmetry-preserving observers. *IEEE Transactions on Automatic Control*, 53(11), 2514-2526.

[EMMH2013]Eudes, A., Morin, P., Mahony, R., & Hamel, T. (2013). Visuo-inertial fusion for homography-based filtering and estimation. Paper presented at the IEEE International Conference on Intelligent Robots and Systems, 5186-5192.

Address:

Centre Automatique et Systèmes, MINES ParisTech, 60 boulevard Saint-Michel, 75006 Paris, FRANCE

[Back to the contents](#)

#### **6.17. Post-Doc: Technion - Israel Institute of Technology, Israel**

Contributed by: Vadim Indelman, [vadim.indelman@technion.ac.il](mailto:vadim.indelman@technion.ac.il)

Post-doc Position in Autonomous Navigation and Perception at the Technion, Israel

The department of Aerospace Engineering at the Technion - Israel Institute of Technology invites applications for a postdoctoral research position in the area of single- and multi-robot autonomous navigation under uncertainty, including visual SLAM, planning under uncertainty, probabilistic perception, joint inference and control, and sensor fusion.

The successful candidate will work with Assist. Prof. Vadim Indelman and will have the opportunity to contribute to ongoing multi-disciplinary research efforts while also developing his/her own research line.

Applicants should have a Ph.D. (or about to graduate) in Electrical, Aerospace or Mechanical Engineering, Computer Science or Applied Mathematics. A strong background in at least one of the areas mentioned above is required. Hands on experience and programming skills are an advantage.

This is a full-time, one-year, non-tenure-track appointment with possibility of extension subject to available funding and satisfactory performance. Funds for some conference travel and research expenses will also be provided.

Applicants should submit a cover letter that briefly describes their background and career plans, CV (with a full list of publications) and three professional references. Please send all application materials to post-docs@technion.ac.il and Cc [vadim.indelman@technion.ac.il](mailto:vadim.indelman@technion.ac.il).

For more information please visit <http://vindelman.technion.ac.il> or contact Assist. Prof. Vadim Indelman via email ([vadim.indelman@technion.ac.il](mailto:vadim.indelman@technion.ac.il))

[Back to the contents](#)

#### **6.18. Post-Doc: NYU Polytechnic School of Engineering, USA**

Contributed by: Vikram Kapila, [vkapila@nyu.edu](mailto:vkapila@nyu.edu)

Postdoctoral Research Associate Positions Available: Robotics Research and Curriculum Design  
Mechanical Engineering Department, NYU Polytechnic School of Engineering

We are seeking to recruit two postdoctoral research associates, with a start date of January 2015, under an externally funded project.

The project will research, identify, and build an effective model of teacher education and associated curriculum to facilitate the integration of robotics in science and math learning in middle school classrooms.

Applicants must have a Ph.D. degree in mechanical engineering, electrical engineering, or a closely related field (robotics research) or in STEM education (curriculum design). They should have a strong aptitude in their disciplinary specializations as well as interests in STEM education and learning science.

The research engineer and curriculum designer are expected to conduct scholarly research in robotics and STEM education. They will have opportunities for broad training including graduate student mentoring.

The project begins in January 2015 and requires highly motivated and dedicated individuals who are self-driven to excel in education and research.

For further information, please contact Prof. Vikram Kapila, [vkapila@nyu.edu](mailto:vkapila@nyu.edu).

Applicants can send a single pdf file containing a letter of interest, curriculum vitae, statement of research interest, and a list of three references to Prof. Kapila.

[Back to the contents](#)

#### **6.19. Research Fellow: National University of Singapore, Singapore**

Contributed by: Chee Khiang Pang (Justin), [justinpang@nus.edu.sg](mailto:justinpang@nus.edu.sg)

Research Fellow/Senior Research Fellow

Company Name: National University of Singapore

Job Description:

As part of the NUS Aerospace Systems Initiative, the Candidate will be hired under the project titled “Energy-Efficient Flight Control Strategies and Multi-Agent Treatment for Nano-Satellites”. The Candidate will be responsible to conduct systems-level research on the control aspects of a swarm of nano-satellites.

Requirements:

We are looking for an intelligent, hardworking, and motivated post-doctoral researcher who is interested in doing high-quality and high-impact research to join our research group. The Candidate should possess a Ph.D. degree from a renowned university (or submitted his/her Ph.D. dissertation) with a strong publication record. The Candidate should also have a good mastery of control theory and mathematics, particularly in areas of graph theory and multi-agent systems.

The Candidate will work closely with the PI to develop the essential high-endurance control and mathematical machineries in path-planning and collision avoidance, which are fully justified with mathematical rigour.

Remuneration & Benefits:

Remuneration will be based on qualifications and experience. Leave, medical, and dental benefits will be provided based on NUS guidelines.

Term of Appointment:

The initial appointment is one year with a possible extension.

Contact Person:

Interested candidates shall send their detailed curriculum vitae to Prof. Pang ([justinpang@nus.edu.sg](mailto:justinpang@nus.edu.sg)).

Application Deadline:

Open till filled.

[Back to the contents](#)

## 6.20. Research Fellow: University of Melbourne, Australia

Contributed by: Peter Dower, [pdower@unimelb.edu.au](mailto:pdower@unimelb.edu.au)

### RESEARCH FELLOW-MAX-PLUS METHODS FOR OPTIMAL CONTROL

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

A post-doctoral research fellow with an outstanding research background in applied mathematics (or equivalent) is sought to conduct mathematical systems theory research with emphasis on the development of new theory, tools and efficient numerical algorithms for the solution of nonlinear optimal control problems, integro-differential differential equations, and two-point boundary value problems via max-plus / idempotent methods. The successful applicant must have a PhD in Applied Mathematics, Electrical Engineering, or equivalent qualification. Candidates with experience in optimal control theory, dissipative systems theory, max-plus / idempotent methods, or infinite dimensional systems theory are strongly encouraged to apply. For further details, see the position description at <http://www.jobs.unimelb.edu.au> (search for position no. 0028405).

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

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

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

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

Applications must be submitted to <http://www.jobs.unimelb.edu.au>

Closing date: 25 January 2015

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

Contributed by: Ms. Zhao, [scc.hitsz@gmail.com](mailto: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](mailto:scc.hitsz@gmail.com)

**6.22. Faculty: Georgia Institute of Technology, USA**

Contributed by: Mark Costello, [mark.costello@ae.gatech.edu](mailto:mark.costello@ae.gatech.edu)

Open Faculty Positions in Aerospace Engineering at Georgia Tech: The Daniel Guggenheim School of Aerospace Engineering at the Georgia Institute of Technology in Atlanta, GA, invites nominations and applications for five tenure-track faculty positions. Applications are sought from candidates with expertise in the traditional aerospace disciplines, promising new research areas, and cross-cutting interdisciplinary fields. Areas of interest may include, but are not limited to, aerodynamics, design and manufacturing, structures and solid mechanics, and autonomy for aerospace systems. Preference is given for candidates seeking tenure-track Assistant Professor appointments, but exceptional candidates at all ranks will be considered.

Successful candidates will be expected to teach graduate and undergraduate courses; supervise graduate students; interact collaboratively with faculty in teaching, research, and service; and develop a strong, independent, externally funded research program. An earned doctorate in aerospace engineering or a related

field is required at the time of hire, and successful candidates will have outstanding records of research accomplishments.

Applicants should submit a cover letter, curriculum vitae, statements of research and teaching interests, and contact information for four professional references to Prof. Mark Costello, Faculty Search Committee Chair, at [ae-faculty-search@aerospace.gatech.edu](mailto:ae-faculty-search@aerospace.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, more than 800 undergraduate students, and over 500 graduate students. Its undergraduate and graduate programs are ranked among the top aerospace engineering programs in the nation.

Information about the School can be found at [www.ae.gatech.edu](http://www.ae.gatech.edu).

[Back to the contents](#)

### **6.23. Faculty: University of California, USA**

Contributed by: Kelsey Ibach, [kelsey.ibach@ece.ucsb.edu](mailto:kelsey.ibach@ece.ucsb.edu)

The Electrical and Computer Engineering Department in the College of Engineering at the University of California, Santa Barbara invites applications for a tenure-track faculty position in control and dynamical systems, with an effective appointment date of July 1, 2015. Expertise is sought to complement existing strengths in the College's Center for Control, Dynamical Systems, and Computation.

Responsibilities include teaching at both the undergraduate and graduate levels, recruitment and supervision of graduate students, and the development of an actively funded research program of the highest quality. A Ph.D. or equivalent degree and a demonstrated potential for excellence in teaching and research are required. Screening will begin December 15, 2014 and will continue until the position is filled.

The department is especially interested in candidates who can contribute to the diversity and excellence of the academic community through research, teaching and service.

Applicants should send a resume containing teaching and research accomplishments and contact information for three references to: <http://www.ece.ucsb.edu/employment/>

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or any other characteristic protected by law including protected Veterans and individuals with disabilities.

[Back to the contents](#)

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

Contributed by: Cheryl Stewart, [cstewart@bu.edu](mailto:cstewart@bu.edu)

Faculty Search - Professor or Associate Professor, Division of Systems Engineering

The Division of Systems Engineering (SE) at Boston University (BU) is seeking candidates for a tenured faculty position at the rank of Professor or Associate Professor in the area of Network Systems. The Division of Systems Engineering is seeking a proven accomplished researcher to provide leadership in the area of network systems and to develop a research program that enhances and complements a number of existing activities that span the ECE and ME Departments. The Division, in conjunction with the Center for Information and Systems Engineering (CISE), has established widely recognized research excellence in areas such as Sensor Networks, Multi-Agent Systems, and Mobile Robotics. These and other areas where Division faculty are active represent instances of a broader emerging class of network systems. Beyond traditional computer and communication networks, this new class is characterized by network structures whose nodes are complex dynamic systems in themselves (wireless physical devices, robots, power supply

centers in a smart grid, vehicles in smart cities, factories/warehouse in supply chains, etc). Candidates with research interests that transcend the traditional boundaries of SE are strongly encouraged to apply. The successful candidate will be given a primary appointment in our Mechanical Engineering or Electrical and Computer Engineering departments as applicable. Additional appointments with other BU departments and the Division of Materials Science and Engineering are available for candidates with appropriate experience and interests.

To apply and for further details, please visit and follow application instructions online at <https://academicjobsonline.org/ajo/jobs/4665>.

Applications will be accepted until the position is filled. Preferred deadline for full consideration is December 31, 2014. Therefore, applicants are encouraged to apply early.

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

[Back to the contents](#)

#### **6.25. Faculty: United States Naval Academy, USA**

Contributed by: Joel Esposito, [esposito@usna.edu](mailto:esposito@usna.edu)

The Naval Academy's Systems Engineering Department (<http://www.usna.edu/WSE/>) invites applications for multiple tenure track faculty positions. Appointments at all ranks will be considered, but the preference is for junior faculty at the rank of Assistant Professor. This position may begin as early as the fall of 2015. A Ph.D. in electrical, mechanical, or closely related engineering field is required.

The Systems Engineering major seeks candidates that can contribute to a broad field of study including dynamics and control, mechatronics, robotics, and embedded computers. The successful candidate is expected to teach and, eventually, develop course material in one or more of these areas, to advise student projects, and to maintain a research program and a technical publication record. Additional technical expertise and/or previous technical research in areas of bioengineering, cyber-physical systems, human machine interface, engineering management, or military technology is highly desirable. The Systems Engineering curriculum (accredited by ABET) is laboratory intensive and emphasizes design for autonomy.

Class sizes are small and laboratories are state-of-the-art.

Applications should consist of a cover letter and CV accompanied by teaching and research statements, and sent to Search Committee, c/o Prof. Joel Esposito, [esposito@usna.edu](mailto:esposito@usna.edu). We will begin reviewing applications on December 1st 2014 and continue until the position is filled.

The United States Naval Academy (USNA) is a four year undergraduate institution with a mission to prepare midshipmen morally, mentally, and physically for commissioning as officers in the naval services and is located in Annapolis, MD, within the Baltimore Washington Metropolitan area, known for its top-rated schools and range of amenities. The United States Naval Academy is an equal opportunity employer.

See <https://www.usna.edu/HRO/jobinfo/WSEAsstProf%20-%202014.php> for more details.

[Back to the contents](#)

#### **6.26. Faculty: Ohio State University, USA**

Contributed by: Wei Zhang, [zhang.491@osu.edu](mailto:zhang.491@osu.edu)

The Ohio State University invites applications from outstanding candidates for multiple tenure track faculty positions in the Department of Electrical and Computer Engineering. All areas and ranks in electrical and

computer engineering will be considered. We are especially interested in the areas of (i) control systems, (ii) biomedical applications including cancer detection and imaging, (iii) cloud computing, machine learning, and data analytics, and (iv) senior candidates in electromagnetics, microwave theory, RF systems, or remote sensing; all positions may involve joint appointments with other engineering departments. Applicants must have a Ph.D. degree and outstanding academic credentials. Successful candidates will be expected to develop a vigorous externally-funded research program, show excellence and leadership in academic and scholarly activities, and demonstrate outstanding teaching at the undergraduate and graduate levels.

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

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

[Back to the contents](#)

### **6.27. Faculty: University of Waterloo, Canada**

Contributed by: Daniel Miller, [miller@uwaterloo.ca](mailto:miller@uwaterloo.ca)

Faculty Position in Mechatronics and Systems Control at the University of Waterloo

The Department of Electrical and Computer Engineering at the University of Waterloo is seeking an exceptional candidate for a tenure-track/tenured position at the rank of Assistant, Associate, or Full Professor, in the broad area of mechatronics and systems control beginning May 2015. The applicant should have a strong record of high quality research, and, ideally, expertise in a significant application area.

The applicant should have earned a doctoral degree in electrical and computer engineering or a closely related discipline, and should have expertise in mechatronics and systems control. Duties include research, teaching at the undergraduate and graduate level, and supervision of graduate students. Based on qualifications and the rank hired at, an annual salary will range from \$100,000 to \$150,000. For exceptionally qualified candidates a higher annual salary will be considered.

The Department currently has more than 85 faculty members and is in the process of expanding to more than 90 faculty members, making it one of the largest ECE departments in Canada. The graduate programs of the Department attract outstanding Canadian and international applicants, with an enrolment of more than 600 graduate students. The undergraduate programs in computer engineering, electrical engineering, software engineering (offered jointly with the David R. Cheriton School of Computer Science), mechatronics engineering (offered jointly with the Departments of Mechanical & Mechatronics Engineering and Systems Design Engineering), and nanotechnology engineering (offered jointly with the Departments of Chemistry and Chemical Engineering) draw the top students from across Canada.

The University of Waterloo has been named the “Best Overall” university by reputation in Canada; researchers benefit from close connections with many high-technology companies in the Waterloo area and from the very generous intellectual property policy of the University, which vests the rights with the inventor. The University is located in the attractive two-university community of the Region of Waterloo (population of 450,000) in southwestern Ontario. The city of Toronto is within easy driving distance, as are the many recreational opportunities offered by the Great Lakes and numerous provincial and national parks. Interested candidates should send a curriculum vitae, statements of teaching and research interests, and the names of at least three references to the Faculty Search Coordinator via the online system at

<https://eceadmin.uwaterloo.ca/DACA/php/>

Applications will be accepted until the position is filled. All qualified candidates are encouraged to apply;

however, Canadians and permanent residents will be given priority. The University of Waterloo encourages applications from all qualified individuals, members of visible minorities, native peoples, and persons with disabilities. Only candidates licensed as a P.Eng. in the Province of Ontario, or eligible to be licensed as a P.Eng. in the Province of Ontario within the first 3 years of employment, will be considered.

[Back to the contents](#)

## **6.28. Faculty: University of Waterloo, Canada**

Contributed by: Daniel Miller, [miller@uwaterloo.ca](mailto:miller@uwaterloo.ca)

Lecturer Position in Mechatronics at the University of Waterloo

The Department of Electrical and Computer Engineering at the University of Waterloo seeks applications for a three-year definite-term faculty position at the rank of Lecturer beginning May 2015. Candidates should possess a graduate degree in electrical engineering, computer engineering, mechatronics engineering, or a closely related discipline, and be licensed or eligible to be licensed as a P.Eng. in the Province of Ontario. Based on qualifications and experience, an annual salary will range from \$85,000 to \$100,000. Negotiations beyond this salary range will be considered for exceptionally qualified candidates.

The successful candidate will teach and mentor students in the mechatronics engineering program. The successful candidate must have a strong understanding of electro-magnetics, electric circuits, digital design, bus interfaces, real-time system design/development, and embedded software development for micro-controllers and micro-processors. Preference will be given to candidates who have exceptional teaching skills and a demonstrated ability to teach large engineering courses effectively.

This position also requires a willingness to explore and be conversant in the many sub-disciplines of mechatronics engineering and the opportunities for students provided through the department, faculty, university, and community at large. Examples include involvement with undergraduate engineering student teams, fourth year design projects and student entrepreneurship programs. The successful candidate should seek involvement in student outreach activities, and have a strong interest in knowing and engaging students so as to guide them to realize their full potential. The successful candidate should have a positive outlook and be committed to professional development and community building.

There are regular non-teaching terms of four-month duration every two years for scholarly rejuvenation and development activities. Over time, there may exist opportunities to serve in other capacities, teach other subjects in our academic programs, or supervise undergraduate student projects.

The university is a vibrant community built around teaching excellence and scholarship in teaching, with direct and active institutional support through its Centre for Teaching Excellence and resources deployed in the faculties and departments. There is a strategic commitment to research-enhanced, technology-enhanced, and entrepreneurship-enhanced learning. Waterloo excels at experiential learning via the world's largest post-secondary co-operative education program. For the past two decades, the University of Waterloo has been recognized in a national reputation survey of universities as 'best overall', 'most innovative', and producing 'leaders of tomorrow'. A recent survey of business leaders ranked Waterloo Engineering as number one in Canada.

The department currently has more than 85 faculty members and is one of the largest engineering departments in Canada. The undergraduate programs in Computer Engineering, Electrical Engineering, Software Engineering (offered jointly with the David R. Cheriton School of Computer Science), Mechatronics Engineering (offered jointly with the Departments of Mechanical and Mechatronics Engineering and Systems Design Engineering), and Nanotechnology Engineering (offered jointly with the Departments of Chemistry and Chemical Engineering) attract outstanding students, both domestic and international.

Interested candidates should send a curriculum vita, a statement of teaching philosophy, and the names of

at least three references to the Faculty Search Coordinator via the online system at <https://eceadmin.uwaterloo.ca/DACA/php/>

Applications will be considered as they are received. All qualified candidates are encouraged to apply; however Canadian citizens and permanent residents will be given priority. The University of Waterloo encourages applications from all qualified individuals, members of visible minorities, native people and persons with disabilities. Only candidates licensed as a P.Eng. in the Province of Ontario, or eligible to be licensed as a P.Eng. in the Province of Ontario within the first 3 years of employment, will be considered.

[Back to the contents](#)

### **6.29. Faculty: University of Southampton, UK**

Contributed by: Ati Sharma, [a.sharma@soton.ac.uk](mailto:a.sharma@soton.ac.uk)

Lecturer / Associate Professor in Fluid Dynamics  
Aerodynamics & Flight Mechanics Research Group

Location: Highfield Campus

Salary: £36,309 to £59,486 - Dependent on job level

Full Time - Permanent

Closing Date: Saturday 31 January 2015

Reference: 489514AK

Faculty of Engineering and the Environment

Aerodynamics and Flight Mechanics Research Group

Lecturer in Fluid Dynamics

Salary range: £36,309 - £45,954 per annum

Associate Professor in Fluid Dynamics

Salary range: £47,328 - £59,486 per annum

The Faculty of Engineering and the Environment at the University of Southampton is seeking outstanding candidates in the area of fluid dynamics for multiple academic positions. We invite applicants with research interests in all areas of fluid dynamics including propulsion, heat- and mass-transfer, multi-phase flows, flow control and unsteady aerodynamics. Candidates with expertise in the development and application of high-fidelity experimental and/or computational techniques to problems in these areas are particularly encouraged to apply. You will have a PhD (or equivalent) in an appropriate field and will be expected to establish an externally funded research program as well as contribute fully to both undergraduate and graduate teaching across the faculty.

You will join the Aerodynamics and Flight Mechanics research group that has world-leading expertise in transition and turbulence, aeroacoustics, atmospheric flows, multi-phase flows and combustion. We are based within the Faculty of Engineering and the Environment at the University of Southampton, which is in the top 1% of Universities in the world and is one of UK's top 15 research-intensive universities. We have an international reputation for research, teaching and enterprise activities. The University and Faculty are dedicated to maintaining world-leading expertise in fluid dynamics and have recently invested in computational and experimental resources. We have upgraded our high-performance computing infrastructure to a 12,200 core supercomputer (IRIDIS-4). In addition, the Faculty has invested £25m in a state-of-the-art Experimental Fluid Mechanics Complex that includes a 140m long towing tank, an anechoic wind tunnel, a Refractive Index Matched Facility, a boundary layer wind tunnel as well as a range of other unique facilities. In September 2013 we were awarded with an Athena SWAN bronze award in recognition of our continued commitment to improving equality for women in science and engineering.

Informal enquiries are encouraged; please contact Professor Bharath Ganapathisubramani via email at [g.bharath@soton.ac.uk](mailto:g.bharath@soton.ac.uk)

Application Procedure:

You should submit your completed application form online at [www.jobs.soton.ac.uk](http://www.jobs.soton.ac.uk). The application deadline will be midnight on the closing date stated above. References are requested along with your application, so please allow time for these to be received prior to the close date, to assist the department with shortlisting. If you need any assistance, please call Geraldine Lewis (Recruitment Team) on +44 (0) 23 8059 2507. Please quote vacancy reference number 489514AK on all correspondence.

<https://jobs.soton.ac.uk/Vacancy.aspx?ref=489514AK>

[Back to the contents](#)

### **6.30. Faculty: Michigan State University, USA**

Contributed by: Xiaobo Tan, [xbtan@egr.msu.edu](mailto:xbtan@egr.msu.edu)

Michigan State University Department Chair Electrical and Computer Engineering

Michigan State University invites nominations and applications for the position of Chair of the Department of Electrical and Computer Engineering in the College of Engineering, with a preferred starting date of August 15, 2015.

The Electrical and Computer Engineering faculty has a strong interdisciplinary research and educational program built on a foundation of core electrical and computer engineering disciplines and provides first-class education while engaging in research at the frontiers of knowledge. The Chair of the Department of Electrical and Computer Engineering will promote the development of this departmental vision of academic leadership and excellence and represent the Department to the academic community, industry, and government. The Chair will actively work with faculty in the Department and across the University to identify and pursue innovations in research, education, and service. This individual will lead the Department and the College in strategic planning in the above context. The Chair is also responsible for promoting cultural diversity throughout the University.

The Department has 48 tenure system faculty members, including two National Academy of Engineering members, 17 IEEE Fellows, and 13 NSF CAREER awardees. The Department has strong research programs in all major areas of electrical and computer engineering, with annual research expenditure of over \$14M. Faculty in the Department are leading several federal and industry-supported centers, including the NSF Science and Technology Center BEACON, and the Fraunhofer Center for Coatings and Laser Applications. The Department has accredited B.S. degree programs in both Electrical Engineering and Computer Engineering. The current enrollment is approximately 260 full-time graduate students and 770 undergraduate students.

MSU enjoys a park-like campus with outlying research facilities and natural areas. The campus is adjacent to the city of East Lansing and the capital city of Lansing.

The Lansing metropolitan area has a diverse population of approximately 450,000. Local communities have excellent school systems and place a high value on education. Michigan State University is pro-active in exploring opportunities for employment for dual career couples, both inside and outside the University. Information about MSU's dual career support can be found at <http://miwin.msu.edu/>. Information about WorkLife at MSU and the College of Engineering can be found at <http://www.egr.msu.edu/WE>.

The successful candidate must have an earned PhD in Electrical or Computer Engineering or a closely related field and be qualified to receive an annual appointment at the rank of Full Professor with tenure. The candidate must provide evidence of scientific and organizational leadership and educational innovation.

He/she should have outstanding communication and interpersonal skills, and a distinguished track record of research and funding from diverse sources.

Interested individuals should submit an application for this position through: <http://jobs.msu.edu/> and refer to position #0441 <http://jobs.msu.edu/>. Applicants must submit a detailed resume, a cover letter summarizing qualifications and leadership approach, and the names and contact information for five references. Applications will be reviewed on a continuing basis until the position is filled. For full consideration, applications should be received before February 1st, 2015. Nominations or questions are welcome by contacting the search committee chair through email at [ece-chair-search@egr.msu.edu](mailto:ece-chair-search@egr.msu.edu).

MSU is an affirmative-action, equal opportunity employer. MSU is committed to achieving excellence through a diverse workforce and inclusive culture that encourages all people to reach their full potential. The university actively encourages applications and/or nominations of women, persons of color, veterans, and persons with disabilities.

[Back to the contents](#)

### **6.31. Faculty: Texas A&M University, USA**

Contributed by: Reza Langari, [rlangari@tamu.edu](mailto:rlangari@tamu.edu)

Two faculty positions are currently open in Engineering Technology and Industrial Distribution (ETID) Department at Texas A&M:

1. Mechatronics, electromechanical systems design, as well as development of products and processes especially in one of the following areas: oil/gas, manufacturing, robotics and automation, healthcare or energy.
2. Embedded systems hardware and software engineering, electronic-based product and systems design, and mobile device software development.

The application process is through [www.tamengineeringjobs.com](http://www.tamengineeringjobs.com). These positions are primarily focused on undergraduate education. For reference, however, the Department faculty do conduct scholarly research by supervising graduate students in traditional engineering departments in the Dwight Look College of Engineering at TAMU, where the ETID Department is also housed. This is usually accomplished via joint (typically courtesy) appointments in these departments although the ETID faculty can serve as co-chairs of graduate (thesis/dissertation) committees in other department without such affiliations. Furthermore, tenured and tenure-track faculty in the ETID Department are expected to be engaged in teaching, scholarly research/industry outreach/educational development as well as service activities as part of their regular duties as College of Engineering faculty members while the distribution of their workload among these activities may differ from those of the traditional engineering faculty in the College.

For further information please contact me directly at [rlangari@tamu.edu](mailto:rlangari@tamu.edu) or by phone at +1-979-845-4949 during normal business hours.

Reza Langari, Ph.D., Professor and JR Thompson Department Head Chair

Engineering Technology and Industrial Distribution (ETID)

Texas A&M University

College Station, TX 77843-3367

979-845-4949

979-847-9396 (fax)

[rlangari@tamu.edu](mailto:rlangari@tamu.edu)

[Back to the contents](#)

### **6.32. Engineer: INRIA, Grenoble, France**

Contributed by: Hassen Fourati, [hassen.fourati@gipsa-lab.fr](mailto:hassen.fourati@gipsa-lab.fr)

The NeCS team (INRIA, Grenoble, France) open an Engineer position for 2 years. More details about the position in the following link:

<http://necs.inrialpes.fr/media/documents/openings/Engineers/2014-GTL-engineer-en.pdf>

[Back to the contents](#)

### **6.33. Scientist: ABB Corporate Research Centre, Bangalore, India**

Contributed by: Vinay Kariwala, [vinay.kariwala@in.abb.com](mailto:vinay.kariwala@in.abb.com)

Scientist/Senior Scientist at ABB Corporate Research Centre, Bangalore, India in Data Analytics

Description:

You as a Scientist will be part of ABB Corporate Research, working in close collaboration with ABB business units. Corporate Research develops the foundations for the next generation of ABB products. As a part of Control & Optimization Group at ABB Corporate Research Centre in Bangalore, you will work in a dynamic, motivating and creative team with a wide range of experience and expertise. Your opportunities for career growth will be excellent, both nationally and internationally. The Control & Optimization (C&O) group focuses on the application of control, optimization, data analytics, process design and modelling techniques for solving problems of business interest.

Tasks:

As a Scientist in C&O Group, you will be responsible for development of Condition and Performance Monitoring techniques and their application to both process (e.g., chemicals, oil and gas, metals, pulp and paper and cement) and power plants (including Renewables). The work would require analyzing large structured/unstructured data sets using data analytics and machine learning algorithms to discover hidden trends. Appropriate visualization techniques would need to be developed to display the findings to operators and engineers.

Requirements:

Candidate with a PhD/MS/MTech degree in an Engineering discipline, including (but not restricted to) Chemical Engineering, Mechanical Engineering, Electrical Engineering and Control Engineering is desirable. Experience with engineering software like R and Matlab, and platforms like Hadoop will be considered to be an advantage.

Interested candidates can mail their CVs to Vinay Kariwala at [vinay.kariwala@in.abb.com](mailto:vinay.kariwala@in.abb.com)

[Back to the contents](#)