E-LETTER on Systems, Control, and Signal Processing
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Welcome to the 350 issue of the Eletter, available electronically here.
To submit new articles, go "Article Submissions" on the Eletter website
To unsubscribe, please send an email with the subject line "Eletter Unsubscribe".

The next Eletter will be mailed out at the beginning of November 2017.

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1. Editorial

It is with great sadness that we announce the passing of Ernestina Parente on September 22, 2017, at the age of 47. Ernestina was the editorial assistant for the CSS E-letter, from January 1, 2013 to December 31, 2015. She supported Maria Prandini, the previous CSS Electronic Publications editor, in the composition and compilation of E-letters with great enthusiasm, care, and diligence. She was instrumental for the timely publication of E-letters during that time.

Originally from Rapino, a small village in southern Italy, Ernestina held a Laurea degree in economics and management. She had been working in the administrative offices of Politecnico di Milano, lately supporting the administration and finance of international EC funded projects. To everyone around her, Ernestina was always friendly, generous, smiling. She had a good and subtle sense of humor. She was full of curiosity and liked music, sports, reading, and traveling. Even during her last days when she was fighting against cancer, she remained optimistic and was encouraging her family to trust that she was going to make it.

Ernestina will be greatly missed by all of us.

Sincerely,
Maria Prandini and Jianghai Hu

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2. IEEE CSS Headlines

2.1. CFP: CSS Outreach Fund

Contributed by: Daniel E. Rivera, CSS AE Conferences, daniel.rivera@asu.edu

The IEEE Control Systems Society (CSS) Outreach Fund provides financial resources for projects that will benefit CSS and the controls community in general. Since its inception in 2011, the Fund has awarded 54 grants on behalf of a diverse group of CSS member-led activities.

The CSS Outreach Task Force is pleased to announce that the window for proposal submission for its 2017 fall solicitation will be held from November 1 to 24, 2017. Information regarding the program, which includes proposal requirements and descriptions of current and past funded projects, can be found in:

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

Inquiries, notices of intent, and requests for application forms must be made directly to Daniel E. Rivera, Outreach Task Force Chair, at daniel.rivera@asu.edu.

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2.2. CSS Technically Cosponsored Conferences

Contributed by: Luca Zaccarian, CSS AE Conferences, zaccarian@laas.fr

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

- 3rd IEEE Colombian Conference on Automatic Control (CCAC), Cartagena de Indias, Colombia. Oct 18 - Oct 20, 2017. http://www.ieeeccac2017.org/
- 30th Chinese Control and Decision Conference (2018 CCDC), Shenyang, Liaoning Province, China. Jun 9 - Jun 11, 2018. http://www.ccdc.neu.edu.cn/
- 14th Workshop on Discrete Event Systems (WODES'18). Sorrento Coast, Italy. May 30 - Jun 1, 2018. http://wodes2018.unisa.it/

- 2018 International Conference on Unmanned Aircraft Systems (ICUAS 2018). Dallas (TX), United States. Jun 12 - Jun 15, 2018. http://www.uasconferences.com/
- 2018 SICE International Symposium on Control Systems. Tokyo, Japan. Mar 9 - Mar 11, 2018. http://iscs2018.sice-ctrl.jp/

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

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2.3. IEEE Transactions on Automatic Control

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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IEEE Transactions on Automatic Control
Volume 62 (2017), Issue 10 (October)

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

Papers

ities, K-D. Nguyen, Y. Li, H. Dankowicz p. 5485

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2.4. IEEE Transactions on Control of Network Systems

Contributed by: Denise Joseph, dejoseph@bu.edu

The contents of the IEEE-Transactions on Control of Network Systems, with links to the abstracts of the papers are available on
http://sites.bu.edu/tcns/home/sept-2017/

- Controllability of Formations over Directed Time-varying Graphs, Xudong Chen, Mohamed Ali Belabbas, Tamer Basar, p. 407
- Distributed online convex optimization on time-varying directed graphs, Mohammad Akbari, Bahman Gharesifard, Tamas Linder, p. 417
- Translational and Scaling Formation Maneuver Control via a Bearing-Based Approach, Shiyu Zhao, Daniel Zelazo, p. 429
- Channel-Aware Random Access in the Presence of Channel Estimation Errors,, Jeongho Jeon, Anthony Ephremides , p. 439
- Power Allocation in Mobile Cellular Communication under Multiplicative Noise and Interference Uncertainty,, Daniel U. Campos-Delgado, Martin Luna-Rivera, Alejandro J. Rojas, Carlos A. Gutierrez, p. 451
- Robust Adaptive Coverage Control for Robotic Sensor Networks , Mac Schwager, Michael P. Vitus, Samantha Powers, Daniela Rus, Claire J. Tomlin, p. 462
- A Gradient-based Coverage Optimization Strategy for Mobile Sensor Networks, Jalal Habibi, Hamid Mahboubi, Amir G. Aghdam , p. 477
- Performance Analysis of Incremental LMS over Flat Fading Channels, Azam Khalili, Amir Rastegarnia, Saeid Sanei , p. 489
- Communication-Free Distributed Coverage for Networked Systems,, A.Yasin Yazicioglu, Magnus Egerstedt, Jeff S. Shamma , p. 499
- Multi-Dimensional Forward Contracts under Uncertainty for Electricity Markets,, Hamidreza Tavafoghi, Demosthenis Teneketzis, p. 511
- Optimal k-Leader Selection for Coherence and Convergence Rate in One-Dimensional Networks, Stacy Patterson, Neil McGlohon, Kirill Dyagilev , p. 523
- A Hybrid Quasi Steady-State Model for Long-Term Stability Analysis of Electric Power Networks: Model Development and Theoretical Basis,, Xiaozhe Wang, Hsiao-Dong Chiang, p. 533
- Accelerating Consensus by Spectral Clustering and Polynomial Filters, Simon Apers, Alain Sarlette , p. 544
- Team Decision Problems with Convex Quadratic Constraints, Ather Gattami, p. 555
- Distributed Controllers for Multi-Terminal HVDC Transmission Systems, Martin Andreasson, Dimos V. Dimarogonas, Henrik Sandberg, Karl H. Johansson, p. 564
- A Novel Distributed Network Selection Scheme for Heterogeneous Wireless Network Environments, Li Qiang, Jie Li, Eitan Altman, p. 575
- Delay Scheduled Impulsive Control for Networked Control Systems, Chengzhi Yuan, Fen Wu , p. 587
- Distributed Network Design for Laplacian Eigenvalue Placement , Victor M. Preciado, Michael M. Zavlanos , p. 598
- Constraint preconditioned inexact Newton method for hydraulic simulation of large-scale water distribution networks , Edo Abraham, Ivan Stoianov, p.610
- Gramian-based reachability metrics for bilinear networks , Yingbo Zhao, Jorge Cortes , p. 620

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2.5. IEEE CSS Publications Content Digest

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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

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

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3. Award

3.1. Call for Nomination: European Control Award

Contributed by: Paul Goulart, paul.goulart@eng.ox.ac.uk

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

Details of this award and the nomination procedure can be found at http://www.euca-control.org/eca.html.

We encourage you to identify and to promote potential candidates for the European Control Award 2018, before November 15th 2017.

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4. MISC

4.1. Summer School: 10th Elgersburg School on Mathematical Systems Theory

Contributed by: Fabian Wirth, fabian.wirth@uni-passau.de

1st Announcement of Summer School: 10th Elgersburg School on Mathematical Systems Theory

10th Elgersburg School on Mathematical Systems Theory
"Time-delay systems: Lyapunov functionals and matrices" and "Imput-to-state stability and interconnected systems"

Location and Date: Elgersburg, Thuringia (Germany), March 4 - 10, 2018

Organizers:
Achim Ilchmann (TU Ilmenau), Timo Reis (U Hamburg), Fabian Wirth (U Passau)
https://www.tu-ilmenau.de/de/math/forschung/tagungen/elgersburg-schools/elgersburg-school-2018/
Support by the Ernst-Abbe-Foundation is gratefully acknowledged.

Invitation: The organizers have the pleasure to announce the 10th Elgersburg School.

The topics and lecturers are:

"Time-delay systems: Lyapunov functionals and matrices"
Professor Vladimir Kharitonov
Saint-Petersburg State University, Russia
http://www.apmath.spbu.ru/en/staff/kharitonov/index.html
"Input-to-state stability and interconnected systems"

Professor Sergey Dashkovskiy
Universität Würzburg, Germany
https://www.mathematik.uni-wuerzburg.de/personal/dashkovskiy.html
See the website for the complete programme.

Registration
The school is addressed to postgraduate students and postdocs in control, either in mathematics or engineering, very good graduate students are also welcome. We would be grateful if you could pass on this information to any potential candidates.
The location has a capacity for 40 participants.
The cost for the hotel including full board per person is: EUR 520,- for a single and EUR 420,- for a double room.

Due to the limited number of places there will be an application procedure for participation at the school. Applicants are asked to provide their CV and a letter of reference from their supervisor. The deadline for applications is November 30, 2017. The organizers will then rank the applications according to excellence and suitability. A list of all participants will be available on the web site by January 15, 2018.

Additionally, there are stipends for travel support, accommodation and subsistence for 10 participants.

As the email list is not complete, please feel free to pass on this information to anybody who may be interested.

For further information please refer to the website or send an email to one of the organizers
https://www.tu-ilmenau.de/de/math/forschung/tagungen/elgersburg-schools/elgersburg-school-2018/

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4.2. International Graduate School on Control

Contributed by: Francoise Lamnabhi-Lagarrigue, lamnabhi@l2s.centralesupelec.fr

2018 International Graduate School on Control
http://www.eeci-igsc.eu
Advance registration deadline: 31 December 2017

M01 – PARIS-SACLAY
15/01/2018-19/01/2018
Nonlinear Model Predictive Control
by Frank Allgöwer, Matthias A. Müller, University of Stuttgart, Germany

M02 – PARIS-SACLAY
22/01/2018-26/01/2018
Stability of switched linear systems: finite and infinite dimension
by Yacine Chitour, Univ. Paris-Sud, Paris-Saclay, France
& Mario Sigalotti, Ecole Polytechnique, France

M03 – PARIS-SACLAY
29/01/2018-02/02/2018
The scenario approach for systems, control and machine learning
by Marco C. Campi, University of Brescia, Italy
& Simone Garatti, Politecnico di Milano, Italy

M04 – L'AQUILA
05/02/2018-09/02/2018
Time-delay and sampled-data systems
by Emilia Fridman, Tel Aviv University, Israel
& Pierdomenico Pepe, University of L'Aquila, Italy

M05 – PARIS-SACLAY
12/02/2018-16/02/2018
Modeling and Control of Distributed Parameter Systems: the Port Hamiltonian Approach
by Yann Le Gorrec, ENS2M, Besançon, France
& Hans Zwart, University of Twente, The Netherlands

M06 – PARIS-SACLAY
19/02/2018-23/02/2018
Adaptive extremum-seeking control
by Denis Dochain, Univ. Catholique de Louvain, Belgium
& Martin Guay, Queen's University, Canada

M07 – PARIS-SACLAY
26/02/2018-02/03/2018
Game theory and distributed control
by Jeff S. Shamma, KAUST, Kingdom of Saudi Arabia
& Jason R. Marden, Univ. of California, Santa Barbara, USA

M08 – PARIS-SACLAY
05/03/2018-09/03/2018
Introduction to Nonlinear Systems & Control
by Hassan K. Khalil, Michigan State University, USA

M09 – PADOVA
12/03/2018-16/03/2018
Computational Issues in Nonlinear Control and Estimation
by Arthur Krener, Naval Postgraduate School, Monterey CA, USA

M10 – PARIS-SACLAY
19/03/2018-23/03/2018

Model-Based Fault Diagnosis - a Linear Synthesis Framework using MATLAB
Andreas Varga, Gilching - Former Senior Scientist at the German Aerospace Center, Germany

M11 – BERLIN
19/03/2018-23/03/2018
Control of Timed and Untimed Discrete Event Systems
by Joerg Raisch, Technical University of Berlin, Germany
& Laurent Hardouin, University of Angers, France

M12 –PARIS-SACLAY
26/03/2018-30/03/2018
Sliding mode control and observation
by Christopher Edwards, University of Exeter, UK

M13 –PARIS SACLAY
26/03/2018-30/03/2018
Cyber-Physical systems control: Algebraic and Optimization techniques
by Raphaël Jungers, Univ. Catholique de Louvain, Belgium

M14 – PARIS-SACLAY
09/04/2018-13/04/2018
Modeling, analysis and design of wireless sensor and actuator networks
by Alessandro D'Innocenzo, University of L'Aquila
& Carlo Fischione, KTH Royal Inst. Tech., Sweden

M15 –L'AQUILA
09/04/2018-13/04/2018
Nonlinear control design via Lyapunov functions and positivity-based techniques
by Frédéric Mazenc, INRIA, Paris-Saclay, France

M16 – PADOVA
16/04/2018-20/04/2018
Lyapunov stability and stabilisation without Lyapunov functions
by Elena Panteley & Antonio Loria, CNRS-L2S, Paris-Saclay, France

M17 – PARIS-SACLAY
16/04/2018-20/04/2018
Time-delay systems: Lyapunov functional and matrices
by Vladimir Kharitonov, RAS, Saint-Peterburg, Russia

M18 – PARIS-SACLAY
23/04/2018-27/04/2018
Model Predictive Control
by Jan Maciejowski, University of Cambridge, UK

M19 – ST PETERSBURG
23/04/2018-27/04/2018
Convergence theory for observers
by Laurent Praly, CAS - École des Mines de Paris, France

M20 – ZURICH
07/05/2018-11/05/2018
Distributed Computation and Control
by A. Stephen Morse, Yale University, USA

M21 – PARIS-SACLAY
14/05/2018-19/05/2018
Sparsity and Big Data in Control, Systems Identification and Machine Learning by Mario Sznaier, Northeastern Univ, MA, USA

M22 – PARIS-SACLAY
14/05/2018-19/05/2018
Formal Methods for Discrete-Time Dynamical Systems
by Calin A. Belta, Boston University, USA

M23 – ISTANBUL
21/05/2018-25/05/2018
Control-oriented modeling and system identification
by Emmanuel Witrant, Univ. Grenoble Alpes, GIPSA, Grenoble, France

M24 – PARIS-SACLAY
28/05/2018-01/06/2018
Switched systems and control
by Daniel M. Liberzon, University of Illinois, USA

M25 – BERLIN
04/06/2018-08/06/2018
Distributed Coordination of Multi-agent Systems
by Wei Ren, University of California, Riverside, USA

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4.3. Software Release: MORLAB 3.0

Contributed by: Steffen W. R. Werner, werner@mpi-magdeburg.mpg.de

Software Release: MORLAB 3.0

Version 3.0 of the MORLAB (Model Order Reduction LABoratory) toolbox has been released. The toolbox is a collection of MATLAB/OCTAVE routines for model order reduction of linear dynamical systems based on the solution of matrix equations. The implementation is based on spectral projection methods, e.g., methods based on the matrix sign function and the matrix disk function.

The toolbox contains implementations for standard and descriptor systems:
- Modal truncation
- Balanced truncation
- Bounded-real balanced truncation
- Positive-real balanced truncation
- Balanced stochastic truncation
- Linear-quadratic-Gaussian balanced truncation
- H-infinity balanced truncation
- Hankel-norm approximation

Also, matrix equation solvers based on the matrix sign function as well as further subroutines for linear dynamical systems can be found in the MORLAB toolbox.

For more details on this software, see:
http://www.mpi-magdeburg.mpg.de/projects/morlab

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5. Books

5.1. Model Predictive Control of High Power Converters and Industrial Drives

Contributed by: Tobias Geyer, t.geyer@ieee.org

Model Predictive Control of High Power Converters and Industrial Drives
by Tobias Geyer
November 2016, Wiley
Hardcover, 576 pages, EURO 84.50 / £101.40

http://eu.wiley.com/WileyCDA/WileyTitle/productCd-111901090X.html

Traditionally, power converters have been controlled by linear SISO control loops. Particularly for high power converters with multiple coupled dynamics and tight operating constraints, model predictive control (MPC) is expected to evolve into the control method of choice. MPC allows one to increase the power capability of the converter, lower the current distortions, reduce the converter hardware, achieve very fast transient responses and ensure the reliable operation within safe operating area constraints.

Consisting of two main parts, the first part of the book offers a detailed review of three-phase power electronics, electrical machines, carrier-based pulse width modulation, optimized pulse patterns, state-of-the art converter control methods and the principle of MPC. The second part is an in-depth treatment of MPC methods that fully exploit the performance potential of high-power converters. These control methods combine the fast control responses of deadbeat control with the optimal steady-state performance of optimized pulse patterns by resolving the antagonism between the two.

This book is targeted at control engineers with an interest in power electronics as well as power electronic practitioners working on control-related aspects. Readers benefit from a concise and comprehensive treatment of MPC for industrial power electronics, enabling them to understand, implement and advance the field of high-performance MPC schemes. A companion website with video animations augments the book.

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5.2. Global Formulations of Lagrangian and Hamiltonian Dynamics on Manifolds

Contributed by: Taeyoung Lee, tylee@gwu.edu

Global Formulations of Lagrangian and Hamiltonian Dynamics on Manifolds
by Taeyoung Lee, Melvin Leok, and N. Harris McClamroch
2018, Springer
Softcover, 539 pages, $89.99/£59.99

http://www.springer.com/gb/book/9783319569512

This book provides an accessible introduction to the variational formulation of Lagrangian and Hamiltonian mechanics, with a novel emphasis on global descriptions of the dynamics, which is a significant conceptual departure from more traditional approaches based on the use of local coordinates on the configuration manifold. In particular, we introduce a general methodology for obtaining globally valid equations of motion on configuration manifolds that are Lie groups, homogeneous spaces, and embedded manifolds, thereby avoiding the difficulties associated with coordinate singularities.

The material is presented in an approachable fashion by considering concrete configuration manifolds of increasing complexity, which then motivates and naturally leads to the more general formulation that follows. Understanding of the material is enhanced by numerous in-depth examples throughout the book, culminating in non-trivial applications involving multi-body systems.

This book is written for a general audience of mathematicians, engineers, and physicists with a basic knowledge of mechanics. Some basic background in differential geometry is helpful, but not essential, as the relevant concepts are introduced in the book, thereby making the material accessible to a broad audience, and suitable for either self-study or as the basis for a graduate course in applied mathematics, engineering, or physics.

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5.3. Robust Adaptive Dynamic Programming

Contributed by: Yu Jiang, yu.jiang@nyu.edu

Robust Adaptive Dynamic Programming
Authors: Yu Jiang and Zhong-Ping Jiang
ISBN: 978-1-119-13264-6
http://www.wiley.com/WileyCDA/WileyTitle/productCd-1119132649.html

This book fills a gap in the literature by providing a theoretical framework for integrating techniques from adaptive dynamic programming (ADP) and modern nonlinear control to address data-driven optimal control design challenges arising from both parametric and dynamic uncertainties.

Traditional model-based approaches leave much to be desired when addressing the challenges posed by the ever-increasing complexity of real-world engineering systems. An alternative which has received much interest in recent years are biologically-inspired approaches, primarily RADP. Despite their growing popularity worldwide, until now books on ADP have focused nearly exclusively on analysis and design, with scant consideration given to how it can be applied to address robustness issues, a new challenge arising from dynamic uncertainties encountered in common engineering problems.

Robust Adaptive Dynamic Programming zeros in on the practical concerns of engineers. The authors develop RADP theory from linear systems to partially-linear, large-scale, and completely nonlinear systems. They provide in-depth coverage of state-of-the-art applications in power systems, supplemented with numerous real-world examples implemented in MATLAB. They also explore fascinating reverse engineering topics, such how ADP theory can be applied to the study of the human brain and cognition. In addition, the book:

* Covers the latest developments in RADP theory and applications for solving a range of systems' complexity problems
* Explores multiple real-world implementations in power systems with illustrative examples backed up by reusable MATLAB code and Simulink block sets
* Provides an overview of nonlinear control, machine learning, and dynamic control
* Features discussions of novel applications for RADP theory, including an entire chapter on how it can be used as a computational mechanism of human movement control

Robust Adaptive Dynamic Programming is both a valuable working resource and an intriguing exploration of contemporary ADP theory and applications for practicing engineers and advanced students in systems theory, control engineering, computer science, and applied mathematics.
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5.4. Aerial Manipulation

Contributed by: Yasmin Brookes, yazziebrookes@msn.com

Aerial Manipulation
by Matko Orsag, Christopher Korpela, Paul Oh and Stjepan Bogdan
ISBN: 978-3-319-61020-7

October 2017, Springer
Hardcover, 235 pages, $129.00/EURO 114,99

https://www.springer.com/gb/book/9783319610207

This text is a thorough treatment of the rapidly growing area of aerial manipulation. It details all the design steps required for the modeling and control of unmanned aerial vehicles (UAV) equipped with robotic manipulators. Starting with the physical basics of rigid-body kinematics, the book gives an in-depth presentation of local and global coordinates, together with the representation of orientation and motion in fixed- and moving-coordinate systems. Coverage of the kinematics and dynamics of unmanned aerial vehicles is developed in a succession of popular UAV configurations for multirotor systems. Such an arrangement, supported by frequent examples and end-of-chapter exercises, leads the reader from simple to more complex UAV configurations. Propulsion-system aerodynamics, essential in UAV design, is analyzed through blade-element and momentum theories, analysis which is followed by a description of drag and ground-aerodynamic effects.

The central part of the book is dedicated to aerial-manipulator kinematics, dynamics, and control. Based on foundations laid in the opening chapters, this portion of the book is a structured presentation of Newton–Euler dynamic modeling that results in forward and backward equations in both fixed- and moving-coordinate systems. The Lagrange–Euler approach is applied to expand the model further, providing formalisms to model the variable moment of inertia later used to analyze the dynamics of aerial manipulators in contact with the environment. Using knowledge from sensor data, insights are presented into the ways in which linear, robust, and adaptive control techniques can be applied in aerial manipulation so as to tackle the real-world problems faced by scholars and engineers in the design and implementation of aerial robotics systems. The book is completed by path and trajectory planning with vision-based examples for tracking and manipulation.

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5.5. Saturated Control of Linear Systems

Contributed by: Yasmin Brookes, yazziebrookes@msn.com

Saturated Control of Linear Systems
by Abdellah Benzaouia, Fouad Mesquine and Mohamed Benhayoun
ISBN: 978-3-319-65989-3
September 2017, Springer
Hardcover, 226 pages, $129.00/EURO 114,99

http://www.springer.com/gb/book/9783319659893

This book deals with a combination of two main problems for the first time. They are saturation on control and on the rate (or increment) of the control, and the solution of unsymmetrical saturation on the

control by LMIs. It treats linear systems in state space form, in both the continuous- and discrete-time domains. Necessary and sufficient conditions are derived for autonomous linear systems with constrained state increment or rate, such that the system evolves respecting incremental or rate constraints if any. A pole assignment technique is then used to solve the problem, giving stabilizing state feedback controllers that respect non-symmetrical constraints on control alone or on both control and its increment or rate. Illustrative examples show the application of these methods on academic examples or on such real plant models as the double integrator system. This problem is then extended to various others including:

- systems with constraints and perturbations;
- singular systems with constrained control;
- systems with unsymmetrical saturations;
- saturated systems with delay, and
- 2-D systems with saturations.

The solutions obtained are of two types:

- necessary and sufficient conditions solved with linear programming techniques; and
- sufficient conditions under LMIs.

A new approach extends existing techniques for dealing with symmetrical saturations to take direct account of unsymmetrical saturations into account with LMIs. This tool enables the authors to obtain new results on continuous- and discrete-time systems. The book uses illustrative examples and figures and provides many comparisons with existing results.

Systems theoreticians interested in multidimensional systems and practitioners working with saturated and constrained controllers will find the research and background presented in Saturated Control of Linear Systems to be of considerable interest in helping them overcome problems with their plant and in stimulating further research.

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6. Journals

6.1. Contents: Automatica

Contributed by: John Coca, j.coca@elsevier.com

Automatica
Vol. 84

October 2017

- S. Sepehr Tabatabaei, Heidar Ali Talebi, Mahdi Tavakoli, An adaptive order/state estimator for linear systems with non-integer time-varying order, Pages 1-9
- Jinling Liang, Hongwei Chen, Yang Liu, On algorithms for state feedback stabilization of Boolean control networks, Pages 10-16
- Kim Batselier, Zhongming Chen, Ngai Wong, A Tensor Network Kalman filter with an application in recursive MIMO Volterra system identification, Pages 17-25
- Kim Batselier, Zhongming Chen, Ngai Wong, Tensor Network alternating linear scheme for MIMO Volterra system identification, Pages 26-35
- Yang Liu, Bowen Li, Hongwei Chen, Jinde Cao, Function perturbations on singular Boolean networks, Pages 36-42
- Anton A. Stoorvogel, Ali Saberi, Meirong Zhang, Solvability conditions and design for state synchronization of multi-agent systems, Pages 43-47
- Dario Bauso, Adaptation, coordination, and local interactions via distributed approachability, Pages 48-55
- Dmitry V. Balandin, Mark M. Kogan, Pareto suboptimal controllers in multi-objective disturbance attenuation problems, Pages 56-61
- Mohammad Soltani, Abhyudai Singh, Moment-based analysis of stochastic hybrid systems with renewal transitions, Pages 62-69
- Chirayu D. Athalye, Debasattam Pal, Harish K. Pillai, -stability: The cases of infinite dimensional discrete autonomous systems and 2-D autonomous systems, Pages 70-78
- Maria Elena Valcher, Irene Zorzan, On the consensus of homogeneous multi-agent systems with arbitrarily switching topology, Pages 79-85
- Bahare Kiumarsi, Frank L. Lewis, Output synchronization of heterogeneous discrete-time systems: A model-free optimal approach, Pages 86-94
- Jean-Michel Coron, Long Hu, Guillaume Olive, Finite-time boundary stabilization of general linear hyperbolic balance laws via Fredholm backstepping transformation, Pages 95-100
- Zahra Gallehdari, Nader Meskin, Khashayar Khorasani, An cooperative fault recovery control of multi-agent systems, Pages 101-108
- Ziyang Meng, Tao Yang, Guodong Shi, Dimos V. Dimarogonas, Yiguang Hong, Karl Henrik Johansson, Targeted agreement of multiple Lagrangian systems, Pages 109-116
- Hui Xiao, Siyang Gao, Loo Hay Lee, Simulation budget allocation for simultaneously selecting the best and worst subsets, Pages 117-127
- Valery Ugrinovskii, Cedric Langbort, Controller–jammer game models of Denial of Service in control systems operating over packet-dropping links, Pages 128-141
- Jie Zhong, Daniel W.C. Ho, Jianquan Lu, Wenying Xu, Global robust stability and stabilization of Boolean network with disturbances, Pages 142-148
- Alessandro Falsone, Kostas Margellos, Simone Garatti, Maria Prandini, Dual decomposition for multi-agent distributed optimization with coupling constraints, Pages 149-158
- Antonio Pietrabissa, Vincenzo Suraci, Wardrop equilibrium on time-varying graphs, Pages 159-165
- Mihály Petreczky, Sergiy Zhuk, Solutions of differential–algebraic equations as outputs of LTI systems: Application to LQ control problems, Pages 166-173
- Adrian-Mihail Stoica, Isaac Yaesh, A bounded real lemma type-result with respect to the anisotropic norm setup for stochastic systems with multiplicative noise, Pages 174-180
- Mahyar Fazlyab, Florian Dörfler, Victor M. Preciado, Optimal network design for synchronization of coupled oscillators, Pages 181-189

- Chang Tan, Gang Tao, Ruiyun Qi, Hui Yang, A direct MRAC based multivariable multiple-model switching control scheme, Pages 190-198
- Lijun Zhu, Zhiyong Chen, Robust input-to-output stabilization of nonlinear systems with a specified gain, Pages 199-204
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Dedicated to the occasion of Prof. Ian Petersen's 60th birthday

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Contributed by: Charis Edworthy, charis.edworthy@oup.com

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- Juan Zhang, Jianzhou Liu, and Quanbing Li, Lower bounds on eigenvalue summation for the solution of the Lyapunov matrix differential equation
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- Xue-Li Tan and Yong Li, The null controllability of nonlinear discrete control systems with degeneracy
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- Shuyi Shao, Mou Chen, and Qingxian Wu, Tracking control for uncertain fractional-order chaotic systems based on disturbance observer and neural network
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6.14. Contents: IEEE/CAA Journal of Automatica Sinica

Contributed by: Yan Ou, yan.ou@ia.ac.cn

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http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6570654

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6.15. Contents: Control Engineering Practice

Contributed by: Martin Böck, cep@acin.tuwien.ac.at

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6.16. Contents: TWMS Journal of Pure and Applied Mathematics

Contributed by: TWMS Journal of Pure and Applied Mathematics, f_aliev@hotmail.com

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6.17. CFP: IEEE Transactions on Control Systems Technology

Contributed by: Guillaume Mercère, guillaume.mercere@univ-poitiers.fr

CFP: Special Issue on System identification and control in biomedical applications in IEEE Transactions on Control Systems Technology

Contributions are invited for a special issue of the IEEE Transactions on Control Systems Technology devoted to the subject of System Identification and Control in Biomedical Applications. The purpose of this special issue is to document the current status of research in this field through an original collection of diverse, high-quality papers. The emphasis is on the role control systems technology plays in advancing the state of the art in the challenges of applying feedback control in living organisms, with emphasis on biomedicine. Specifically, we aim at (i) pointing out theoretical and practical issues specific to bio-medical systems, (ii) bringing together solutions developed under different settings with specific attention to the validation of these tools in bio-medical settings using real-life datasets and experiments, and (iii) introducing significant case studies. Topics of common interests include (but are not limited to) the following:
- theoretical and implementation challenges which arise in medical systems,
- control engineering tools for solving specific system design problems in medical technology,
- novel data-driven modeling techniques capturing the dynamics of biomedical systems, and accounting for intra- and inter-individual variability,
- evidence of successful projects in biomedicine enabled by system identification and control, such as the artificial pancreas and closed-loop anesthesia.
- application areas in healthcare and medical systems, such as assistive devices and therapeutics in medical rehabilitation, and mathematical models of infectious disease spread.
- prevention and treatment of chronic, relapsing disorders and illnesses such as cancer, diabetes, obesity, and HIV.

Only contributions that include significant results based on analysis of real data or experimental validation will be included. Papers must contain high-quality original contributions and be prepared in accordance with the IEEE Transactions on Control Systems Technology standards. Prospective authors should state in their cover letter and in the notes section of the submission site that their manuscript is intended for the special issue on “system identification and control in biomedical applications.” Submitted manuscripts must

not have been previously published or be under review for possible publication elsewhere.

Time line:
Manuscripts Due: November 1, 2017
Notification to authors (after the first round of reviews): March 1, 2018
Notification of final decision: June 1, 2018
Publication Date: January 2019

Authors can submit their manuscripts via https://mc.manuscriptcentral.com/tcst

Information for Authors prior to submitting a paper is available via
http://www.ieeecss.org/publications/tcst/information-authors

All inquiries should be directed to G. Mercère you can contact via his email address: guillaume.mercere@univ-poitiers.fr

Guest Editors:
Guillaume Mercere, Universitede Poitiers, France (LEAD)
Bayu Jayawardhana, University of Groningen, The Netherlands
Alexander Medvedev, Uppsala University, Sweden
Daniel E. Rivera, Arizona State University, Tempe, Arizona, USA
Caterina Scoglio, Kansas State University, Manhattan, Kansas, USA

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7. Conferences

7.1. IFAC Workshop on Lagrangian and Hamiltonian Methods for Non Linear Control

Contributed by: Juan I. Yuz, juan.yuz@usm.cl

6th IFAC Workshop on Lagrangian and Hamiltonian Methods for Non Linear Control

LHMNLC18, 1-4 May 2018, Valparaíso, Chile

Hosting Institution: Universidad Técnica Federico Santa María - UTFSM, Valparaíso, Chile
Sponsored by: IFAC International Federation of Automatic Control, IFAC TC Non Linear Control Systems
Co-sponsored by: IFAC TC Distributed Parameter Systems, IFAC TC Control Design, IEEE CSS TC on DPS

Topics: This workshop will cover new developments in modelling nonlinear distributed parameters control theory and applications that have been recently developed to take advantage of and to exploit the mathematical structures common to the multi-physical systems. The workshop program will include both regular papers and posters. The format of the workshop will encourage in-depth and fruitful discussion between all the participants.

Location: The workshop will be held at Universidad Técnica Federico Santa Maria (www.usm.cl) in Valparaiso, one of the most prestigious engineering universities of Latin America. Built upon dozens of steep hillsides overlooking the Pacific Ocean, Valparaiso, also known as the Jewel of the Pacific, boasts a labyrinth of graffiti filled streets and cobblestone alleyways, embodying a rich architectural and cultural legacy and hosting one of Pablo Neruda's houses. Valparaiso's historic quarter is an UNESCO World Heritage Site since 2003, thanks to its historical importance, natural beauty and unique architecture.

Important dates:
Submission of draft papers, invited sessions proposal, and abstracts for poster session: October 15, 2017

Author notification: January 14, 2018
Final paper due: February 28, 2018

For more information: www.lhmnlc18.org

International Program Committee (IPC) co-chairs
Yann Le Gorrec, FEMTO-ST, UBFC, France E-mail: legorrec@femto-st.fr
Martin Guay, Queen's University, Canada, E-mail: martin.guay@chee.queensu.ca

National Organizing Committee (NOC) co-chairs
Juan I. Yuz, UTFSM, Valparaiso, Chile, E-mail: juan.yuz@usm.cl
Juan C. Agüero UTFSM, Valparaiso, Chile, E-mail: juan.aguero@usm.cl

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7.2. ASCC 2017 Workshops: Advances in Distributed Control and Formation Control Systems

Contributed by: Zhiyong Sun, zhiyong.sun@anu.edu.au

ASCC 2017 Workshops: Advances in distributed control and formation control systems

Website: https://sites.google.com/view/zhiyong-sun/ascc2017-workshop

Workshop duration: Full day (10:00 – 17:00)
Time and venue: December 17, 2017, at Gold Coast, Australia

Workshop speakers:
- Brian D. O. Anderson, Research School of Engineering, Australian National University, Australia
- Hyo-Sung Ahn, School of Mechanical Engineering, Gwangju Institute of Science and Technology, South Korea
- Shaoshuai Mou, College of Engineering, Purdue University, USA
- Daniel Zelazo, Faculty of Aerospace Engineering, Israel Institute of Technology, Israel
- Minh Hoang Trinh, School of Mechanical Engineering, Gwangju Institute of Science and Technology, South Korea
- Zhiyong Sun, Research School of Engineering, Australian National University, Australia
- Hector Garcia de Marina, Ecole Nationale de l'Aviation Civile (ENAC), Toulouse, France
- Zhiyun Lin, Hangzhou Dianzi University, Hangzhou, China

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7.3. World Congress: Mathematical Problems in Engineering, Aerospace and Sciences

Contributed by: Seenith Sivasundaram, seenithi@gmail.com

World Congress: Mathematical Problems in Engineering, Aerospace and Sciences
WHEN: July 3, 2018 – July 6, 2018
WHERE: American University of Armenia, Yerevan
Website: http://www.icnpaa.com
http://www.internationalmathematics.com/icnpaa/
ICNPAA's AIM
Mathematical Problems in Engineering, Aerospace and Science have stimulated cooperation among scientists from a variety of disciplines. Developments in computer technology have additionally allowed for solutions of mathematical problems. This international forum will extend scholarly cooperation and collaboration, encouraging the dissemination of ideas and information.
The conference will have a pool of active researchers, with a proper balance between academia and industry,

as well as between senior and junior researchers, including graduate students and post-doctoral fellows. It is anticipated that such a balance will provide both senior and junior researchers an opportunity to interact and to have a wider picture of recent advances in their respective fields. The conference, especially, enables the setting up of new interdisciplinary research directions among its participants by establishing links with world renowned researchers, making possible joint international projects that will no doubt bring about fresh and innovative ideas and technologies in engineering, aerospace and sciences

Co-Sponsored by: AIAA: American Institute of Aeronautics and Astronautics
IFIP: International Federation of Information Processing
American University of Armenia, Yerevan

The proceedings will be published by the American Institute of Physics.
AIP Conference Proceedings are indexed in:

- Astrophysics Data System(ADS)
- Chemical Abstracts Service (CAS)
- Crossref
- EBSCO Publishing
- Electronic Library Information Navigator (ELIN), Sweden
- Elsevier – SCOPUS
- International Atomic Energy Agency (IAEA)
- Thomson Reuters (ISI)

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7.4. IFAC Conference on Modelling Identification and Control of Nonlinear Systems

Contributed by: Alma Y. Alanis, almayalanis@gmail.com

Second IFAC Conference on Modelling Identification and Control of Nonlinear Systems, IFAC MICNON 2018
June 20-22, 2018
Guadalajara, Mexico
https://www.micnon2018.org/

On behalf of the Program Committee, it is our pleasure to welcome you to the Second IFAC Conference on Modelling Identification and Control of Nonlinear Systems (IFAC MICNON 2018). MICNON 2018 will be held in Guadalajara, Mexico during June 20-22, 2018, as a sequence to MICNON 2015 (Saint-Petersburg, Russia). This conference series that is organized by the IFAC Technical Committee on Nonlinear Systems (that is also in charge of the NOLCOS series).

The MICNON 2018 will cover all areas of nonlinear systems theory and applications, including control and analysis of nonlinear systems, modelling and identification of nonlinear systems and all types of applications in connection to nonlinear systems. The organization of MICNON 2018 in Guadalajara-Mexico will be a catalyzer to increase the research interest in nonlinear systems as well as a great opportunity to explore the research advances in the Automatic Control community.

The MICNON 2018 program will consist of plenary lectures, parallel and panel sessions, invited talks, industrial exhibitions and more. MICNON 2018 will be accompanied by a pre-conference day of workshops and tutorials. Besides, the MICNON 2018 is complemented with a social and cultural program to enjoy Guadalajara and Mexico.

We invite you to participate in different ways with: Contributed papers, Invited Sessions, Tutorial Sessions, Panel Sessions, Special Sessions, Workshops, Exhibits and more. Papers, session and workshop propos-

als must be submitted through the submission website. Submissions must conform to policies given on the conference website https://www.micnon2018.org/, for the rest of proposals, please contact us at: contact@micnon.org, and looking forward to welcoming you in Guadalajara!

Important Dates
Deadline for submission: December 23, 2017
Notification of acceptance: March 16, 2018
Final paper submission: April 30, 2018
Preconference activities: June 19, 2018
Conference dates: June 20-22, 2018

Lorenzo Marconi and Jaime A. Moreno, IPC Chairs
Alma Y. Alanis and Marco A. Perez-Cisneros, NPC Chairs
Edgar N. Sanchez and Esteban A. Hernandez-Vargas, Editors

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7.5. World Congress on Intelligent Control and Automation

Contributed by: Zhiqiang Miao, miaozhiqianghnu@gmail.com

[Call for Paper for the 13th World Congress on Intelligent Control and Automation (WCICA 2018)]

Dear Colleagues,
The 13th World Congress on Intelligent Control and Automation (WCICA 2018) will be held in Changsha China, July 4-8, 2018. WCICA 2018 is technically sponsored by IEEE Control Systems Society, IEEE Robotics and Automation Society, National Natural Science Foundation of China, the Chinese Association of Automation, and the Institute of Automation, Chinese Academy of Sciences. WCICA 2018 features plenary lectures and panel discussion sessions by the world leading researchers as well as awards to honor outstanding papers presented at this Congress. The awards include Best Paper on Theory, Best Paper on Applications, Best Student Paper, Best Poster Paper, Best Paper on Biomedical & Biosystem Related Areas, and AIAG Best Paper on Supply Chain Related Topics.

Contributed Papers: Original papers are solicited in all related areas of Intelligent Control and Automation. Full papers must be submitted in PDF format prepared strictly following the Requirements for Creating PDF Documents. For detailed format information, please visit the conference website. All accepted papers will be included in the IEEE Xplore database and indexed by EI.

Tutorials & Workshops: Proposals for tutorials and workshops addressing new topics in Intelligent Autonomous Systems are invited for submission to the T/W chair.

Journal Publications: Expanded versions of the accepted and presented papers with high quality will be invited for publication in the WCICA 2018 special issues in the selected leading international journals.

Areas and topics of contributed papers include but are not limited to the following:
A Control Theory and Control Engineering
A1. Systems and Control Theory and Applications
A2. Intelligent Control Theory and Applications
A3. Multi-agent Systems and Distributed Control
A4. Networked Control Systems
A5. Advanced Control Algorithms and Applications
B. Robotics and Intelligent Systems
B1. Industrial Robots and Intelligent Manufacturing

B2. Service Robots and Intelligent Society
B3. Autonomous Vehicles and Intelligent Drive
B4. Unmanned Aerial Vehicles & Unmanned Systems
B5. Field Robotics and Applications
B6. Medical Robots and Biomedical Engineering
B7. Networked Robots and Cloud Robotics
B8. Human-Robot Interaction & Collaboration
B9. Intelligent Transportation Systems
B10. Cyber Physical Systems
C. Big Data and Artificial Intelligence
C1. Big Data Analysis, Compressed, Sampling and Visualization
C2. Data-driven Modeling, Identification and Control
C3. Data-driven Optimization, Scheduling, and Decision Making
C4. Cloud Computing Techniques for Big Data
C5. Artificial Intelligence and Knowledge Engineering
C6. Computational Intelligence and Applications
C7. Swarm Intelligence and Bio-Inspired Computation
C8. Brain-like Intelligence
C9. Deep Learning for Control and Automation
C10. Pattern Recognition and Machine Learning
D. Systems Engineering and Management
D1. System Modelling, Identification and Simulation
D2. System Monitoring and Fault Diagnosis
D3. Healthcare and Biomedical Systems
D4. Logistics and Supply Chain Management
D5. Optimization Theory and Operations Research

Important Dates:

•Jan. 10, 2018 Submission of original PDF full papers
•Jan. 10, 2018 Submission of organized session proposals
•Feb. 20, 2018 Notification of paper and organized session acceptance
•Mar. 20, 2018 Submission of final papers and advance registration

General Chair:
Yunhui Liu The Chinese University of Hong Kong, China
Program Chair:
Yaonan Wang Hunan University, China

For more information, please visit the conference website
www.wcica2018.org

Zhiqiang Miao, Ph.D,
The Chinese University of Hong Kong, HK

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7.6. IFAC Conference on Analysis and Design of Hybrid Systems

Contributed by: Daniele Magazzeni, daniele.magazzeni@kcl.ac.uk

ADHS 2018 Call for Papers
The 6th IFAC Conference on Analysis and Design of Hybrid Systems
Oxford University, UK, July 11-13, 2018.
Website: http://www.cs.ox.ac.uk/conferences/ADHS18/

* Papers and Invited Session Proposals due: December 2017
* Author notification: February 2018

The Organising Committee has the pleasure of inviting you to participate in the 6th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS 18) to be held at Oxford University, UK, July 11-13, 2018.

ADHS 2018 takes place as a workshop of the Conference on Computer Aided Verification (CAV 2018), and within FLOC 2018. The conference happens under the auspices of IFAC and is sponsored by the IFAC Technical Committee on Discrete Event and Hybrid Systems.

Contributions are invited in all areas pertaining to the engineering of hybrid systems including: modelling, specification, verification, analysis, control synthesis, simulation, validation, and implementation. We solicit papers and invited session proposals describing theoretical or applied research in the area. We also welcome papers describing tools, reporting case studies or connecting the cognate fields of control theory and formal verification.

Contributions are encouraged on applications of hybrid methods in various fields, such as automotive, avionics, energy and power, mobile and autonomous robotics, the process and manufacture industry, transportation and infrastructure networks, communication networks and networked control systems, cyber-physical systems, safety-critical systems, systems and synthetic biology.

Author Guidelines
* Regular papers: Regular papers can have a length of up to 8 pages at submission. Accepted papers are limited to 6 pages in the conference preprints and on-line proceedings.
* Invited session proposals: Invited sessions consist of 4 to 6 papers related to a common theme that fits within the scope of ADHS. An invited session proposal should contain a short description of the common theme as well as the list of papers in the session and their abstracts.
The invited session organiser first has to submit the pdf file of the session proposal (without participating papers). The IFAC Conference Manuscript Management System then returns an acknowledgment that contains an alpha-numeric code for the proposed session. Subsequently, the organiser has to notify the contributing authors of their invited session code. The corresponding author of each paper then submits the paper on-line as an invited paper.
* Invited session papers: Invited session papers can have a length of up to 8 pages at submission. Invited session papers go through the same review process as regular papers. Accepted papers are limited to 6 pages in the conference preprints and on-line proceedings. Submission as an invited session paper requires the invited session code, which can be obtained from the session organiser.

Submission Instructions
* All papers submitted to ADHS 18 must be written in English and formatted in the standard IFAC 2-column format provided on the IFAC Conference Management System website (see the item "Support for Authors" above).
* For initial submissions, all regular and invited session papers are limited to eight (8) pages. The submission website will not permit longer papers to be uploaded.
* For the final upload all accepted and invited papers are limited to six (6) pages.
* For each accepted paper at least one of the authors should have a full registration in order to have the paper included in the preprints and the post-conference on-line proceedings at IFAC-PapersOnLine.

* Author's kits with style (.cls) files for LaTeX are available from the submission website. Go to http://ifac.papercept.net and select "Support" for these files and example files, or directly go to the support page. Please do not change the formatting in any way.

Important Dates
Papers and Invited Session Proposals due: December 2017
Author notification: February 2018
Final papers due: TBA
Early registration: TBA
Conference: Jul. 11-13, 2018

The reference timezone for all deadlines is UTC-12.

Committees

General Chair
* Alessandro Abate (U. Oxford, UK)

Program Chairs
* Maurice Heemels (TU Eindhoven, NL)
* Antoine Girard (CNRS, FR)

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7.7. IFAC Symposium on Control in Transportation Systems

Contributed by: Silvia Siri, silvia.siri@unige.it

15th IFAC Symposium on Control in Transportation Systems (CTS 2018)

DATES AND VENUE:
June 6-8, 2018
Savona University Campus, Italy

IMPORTANT DATES:
- Paper submission deadline: October 10, 2017
- Notification of acceptance: December 31, 2017
- Final paper submission and early registration deadline: February 28, 2018

SYMPOSIUM SCOPE:
The Symposium will provide an interesting opportunity for the academic and industrial communities to investigate new ideas, to share innovative solutions, and to discuss future research directions in the area of control in transportation systems. The main scope of the Symposium refers to the development of automatic control methods and tools for the analysis, supervision and management of transportation systems.

SYMPOSIUM TOPICS:
Technical topics of the conference include (but are not limited to):
- Modelling and control of road traffic networks
- Urban mobility systems
- Planning and management of ports and terminals
- Planning and control problems in freight transportation networks
- Maritime transportation planning and control
- Control of connected and automated vehicles
- Rail transportation modelling and control systems
- Technologies for control in transportation

- Cooperative logistics
- Planning and management of public transportation
- Safety and security in transportation systems
- Human factors in traffic and transportation control
- Control and scheduling of air transportation
- Multimodal transport modelling, monitoring and control
- Simulation tools and commercial software

SPECIAL TRACKS:

The Symposium program will also include Special Tracks on specific topics:
- Freeway Traffic Control (Track Editor: Claudio Roncoli, Aalto University, Finland)
- Urban Traffic Control (Track Editor: Jack Haddad, Israel Institute of Technology, Israel)
- Connected and Automated Vehicles (Track Editor: Dan Work, University of Illinois, USA)
- Automotive Control (Track Editor: Simona Onori, Clemson University, USA)
- Road Traffic Modelling (Track Editor: Paola Goatin, INRIA, Sophia Antipolis, France)
- Ports, Terminals and Logistic Networks (Track Editor: Mariagrazia Dotoli, Polytechnic University of Bari, Italy)
- Decision and Control in Railways (Track Editor: Alfredo Nuñez, Delft University of Technology, The Netherlands)
- Air Traffic Management and Control (Track Editor: Gokhan Inalhan, Istanbul Technical University, Turkey)

COMMITTEES:

National Organization Committee Chair: Simona Sacone (University of Genova, Italy)
National Organization Committee Co-Chair: Silvia Siri (University of Genova, Italy)
National Organization Committee Vice-Chair Industry: Nadia Mazzino (Ansaldo STS, Hitachi Group, Italy)
International Program Committee Chair: Bart De Schutter (Technical University of Delft, The Netherlands)
Editor: Antonella Ferrara (University of Pavia, Italy)

SUBMISSION INSTRUCTIONS:

Authors are invited to submit draft papers with original results, either on theoretical approaches or on applied research. Guidelines for the preparation of manuscripts are provided on the IFAC website (https://www.ifac-control.org/events/author-guide). All manuscripts will be electronically submitted through the PaperPlaza Conference Manuscript Management System (https://ifac.papercept.net/conferences/scripts/start.pl).
Final manuscripts will be limited to six double-column pages.

IFAC YOUNG AUTHOR AWARD

The best paper award will be granted to a young researcher who presents the paper at the conference as the first author. The author of the paper must be max 30 years old at the time of the event.

For more information visit the website http://www.cts2018.unige.it or contact the symposium organisers at cts2018@unige.it

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7.8. IFAC Conference on Cyber-Physical & Human Systems

Contributed by: Yue Wang, yue6@clemson.edu

CALL FOR PAPERS

The 2nd IFAC Conference on Cyber-Physical & Human Systems
December 14-15, 2018, Miami, USA

Submission Deadline: April 15, 2018
Acceptance notification: September 1, 2018
Final Submission Deadline: October 1, 2018

The field of Cyber-Physical Systems (CPS) has evolved due to the growing intersection of controls, communications, networks and computing with domain expertise in biology, chemistry, aerospace, electrical, and mechanical engineering. Specific application areas of CPS include transportation energy, robotics, healthcare, and manufacturing. Of late, the relationship between CPS and humans is taking center stage, with roles of humans in technical systems becoming more complex, beyond users and consumers, as active agents, operators, decision-makers and enablers of efficient and resilient infrastructures. This relationship and its underpinnings must be studied both from an engineering perspective and from the perspective of social sciences. This is the focus of this conference series on Cyber-Physical & Human Systems (CPHS).

The second IFAC conference on CPHS is intended to bring together researchers and practitioners in related fields from academia and industry to share revolutionary advances, and explore a deeper understanding of the interactions between cyber-physical systems & humans. We are interested not only in the potential impact of control systems, including new solutions and theoretical developments, but also the study of ethics, public policies and negative impacts that may result as a consequence of this emerging interaction between humans and CPS.

The aim of CPHS 2018 is to follow the success of CPHS 2016 and H-CPS-I in 2014 through multidisciplinary exchanges. Indeed, we believe that removing the barriers between the different disciplines and application domains is essential to identify new open problems and to discuss the actual challenges to be overcome by scientific investigation.
To achieve this goal, we invite submissions in the following categories:

• Full conference papers (6-8 pages) addressing topics of interest, to be carefully reviewed, presented at the conference (if accepted). Review, Tutorial and Vision papers are also welcome.
• Extended abstracts (a minimum of 500 words) addressing topics of interest, subject to the same review process as full papers, and invited to present at the conference (if accepted). Abstracts will be included on the conference "preprints" (USB drive) but not published on-line.
• Invited sessions, consisting of 6 full papers and/or short abstracts, to fill a two-hour block.
• Tutorials and/or workshops, a half-day or full-day event either before or after the conference (please contact the organizers for guidance and details)

We encourage submissions on human-centered technologies in a wide-range of applications including transportation (ground, air, and space), energy, robotics, manufacturing, and health-care. Example of topics include the following:

1. Human-Machine Symbiosis
o Control of smart prosthetics
o Neurostimulation
o Exoskeletons
o Biomedical implants
o Augmented Human
2. Humans as supervisors/operators of complex engineering systems
o Human-Machine interaction in flight control
o Cooperative control in Automotive systems (ex. ADAS)
o Process plant operation
o Robotic surgery

o Spacecraft control
o Control in hazardous environments
o Automated or semi-automated trains
o Remote operation of robotic teams (ex. in rescue scenarios)
3. Humans as agents in multi-agent systems
o Intelligent road transportation
o Next-generation air traffic management
o Flexible manufacturing
o Assistive robotics
o Smart Grid and Demand Response
o Urban mobility
4. Humans as elements in controlled systems
o Comfort control in homes
o Smart cities
o Rescue robotics
o Assistive devices
o Smart infrastructure
o Connected buildings
5. General CPHS topics
o Semiautonomous and mixed-initiative systems
o Shared control
o Cognitive control
o Decision-support for human operators
o Recent theoretical developments impacting the open problems
o Ethics, public policy, and regulatory issues
o Potential impact and open problems

All authors should refer to the Preprints, Proceedings and Copyright Conditions prior to submitting their papers/abstracts. All manuscripts must be submitted electronically through the PaperPlaza Conference Manuscript Management System. Guidelines for the preparation of manuscripts are provided on the IFAC website. Authors are advised to read PaperCept's Getting Started Manual for Authors. Only PDF files compliant with the IFAC Publications Requirements are acceptable for publication. The procedure to generate pdf files and compliance and diagnostic tools are provided in the support section of PaperCept.

The conference program will only include papers selected on the highest standard by the IPC, according to the IFAC guidelines www.ifac-control.org/publications/Publications-requirements-1.4.pdf, and published in open access in partnership with Elsevier in the IFAC-PapersOnline series, hosted on the ScienceDirect platform www.sciencedirect.com/science/journal/24058963.

All papers will be accepted with the understanding that the authors will present them at the CPHS Conference. At least one author of every accepted paper will be required to register for the conference before uploading the final version. Accepted papers will be presented in oral or poster format.

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7.9. ACM International Conference on Hybrid Systems: Computation and Control

Contributed by: Kostas Margellos, kostas.margellos@eng.ox.ac.uk

HSCC 2018 CALL FOR PAPERS

21st ACM International Conference on Hybrid Systems: Computation and Control (HSCC)
April 11-13, 2018,
Porto, Portugal

URL: www.hscc2018.deib.polimi.it

Important dates:
Paper submission deadline: October 6, 2017 (11:59pm UTC-12)
Notification: December 2017
Camera-ready: February 2018
Conference dates: April 11-13, 2018
* Please refer to the conference website for up-to-date submission information. *

Paper submission information:
Regular papers (maximum 10 pages, 10pt font, two-column ACM format)

Tool and Case Study Papers (maximum 6 pages, 10pt font, two-column ACM format)
Demos and posters:
Demos (maximum 2 pages, 10pt font, two-column ACM format, title should begin with "Demo")
Posters (maximum 2 pages, 10pt font, two-column ACM format, title should begin with "Poster")

Awards:
- Best Repeatability Evaluation Award; Papers would be eligible upon passing the repeatability evaluation process and receive the "artifact evaluated" badge.
- Best Demo/Poster
- Best Paper Award *New*
- Test-of-Time Award *New*

Conference scope:
HSCC 2018 is the 21st in a series of conferences and is part of the eleventh Cyber Physical Systems Week, and co-located with the International Conference on Cyber-Physical Systems, Internet-of-Things Design and Implementation, Information Processing in Sensor Networks, the Real-Time and Embedded Technology and Applications Symposium, and related workshops.
It focuses on original research on concepts, tools, and techniques from computer science, control theory, and applied mathematics for the analysis and control of hybrid systems, with an emphasis on computational aspects. By drawing on strategies from computation and control, hybrid systems theory finds application in both man-made cyber-physical systems (ranging from small robots to global infrastructure networks) and natural systems (ranging from biochemical networks to physiological models). Papers are expected to cover a wide spectrum of topics from theoretical results to practical considerations, from academic research to industrial adoption, including but not limited to:

- Mathematical foundations, computability and complexity
- Analysis, verification, validation, and testing
- Modeling paradigms and techniques
- Design, synthesis, planning, and control
- Programming and specification languages
- Network science and network-based control
- Security, privacy, and resiliency in cyber-physical systems with a focus on computation and control
- Artificial intelligence and machine learning in control algorithms
- Software tools
- Applications and industrial case studies in: automotive, transportation, autonomous systems, avionics, energy and power, robotics, medical devices, manufacturing, systems and synthetic biology, models for the life sciences, and other related areas

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8. Positions

8.1. PhD: Delft University of Technology, the Netherlands

Contributed by: Manuel Mazo Jr., m.mazo@tudelft.nl

The Delft Center for Systems and Control at Delft University of Technology, the Netherlands, announces two (2) vacancies for PhD position within the ERC-funded project SENTIENT (Scheduling of Event-Triggered Control Tasks).

— Project description:
The SENTIENT project will develop efficient scheduling methods for networked control systems, implemented in event-triggered form. The objective is to abstract the traffic of such control systems in the form of timed-automata. The resulting models will then be employed in the synthesis of schedulers. The research will require the use of interdisciplinary skills in the fields of control of hybrid systems, communication networks, and timed-automata theory. Two test-beds will be employed in the research, each assigned to one PhD:

- PhD1: will apply his/her research to a wireless control system of a (scaled-down) water distribution network.
- PhD2: will apply his/her research to a control bus in an real-time industrial automotive simulator.

— Requirements:
• An MSc degree in systems and control, applied mathematics, electrical engineering, computer science or related fields.
• Basic knowledge of control systems theory (maybe waived if the candidate is particularly skilled on theoretical computer science).
• Strong analytical skills and ability to work at the intersection of several research domains, in particular control systems theory and computer science.
• At least some basic programming skills in C/C++ are expected.
• A good command of the English language and good communication skills.

— Conditions of employment:
We offer the opportunity to do scientifically exciting research in a multi-disciplinary research group. The appointment is for a period of 4 years. As an employee of the university you will receive a competitive salary: between approx. EUR 2100 (first year) and EUR 2700 (4th year) gross per month based on a full-time appointment, as well as excellent secondary benefits in accordance with the Collective Agreement

(CAO) of the Association of Universities in the Netherlands (VSNU). Assistance with accommodation can be arranged.

— Application procedure:
Submit your application to Willeke Zeestraten (application-3mE@tudelft.nl) with the subject code SENTIENTPHD before November 15th, 2017. Include a cover letter along with:
(i) a detailed curriculum vitae,
(ii) a separate motivation letter stating why the proposed research topic interests you, names and contact of referees, and other information that might be relevant to your application.
(iii) academic transcripts of both your BSc and MSc degrees.

Application Deadline: November 15th, 2017
Starting date is: February 1st, 2018

For questions you may contact Dr. Manuel Mazo Jr (M.Mazo@tudelft.nl)

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8.2. PhD: Delft University of Technology, the Netherlands

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

PhD position "Coordinated Control for Predictive Synchromodality" at Delft University of Technology (Dept. of Maritime & Transport Technology)

Large-scale transport and logistics systems are key in satisfying societies' demand for more reliable and efficient delivery of goods. Real-time information availability via huge numbers of sensors and the widespread availability of computation and communication power enable the development of new, real-time control and coordination strategies. Synchromodality is a promising concept that explicitly aims at benefitting from these developments to optimise transport logistics.

In this project, your goal is to propose and evaluate new methods that properly deal with the inherent complexity of synchromodal freight transport systems. You will hereby consider as a starting point the existence of multiple controllers / decision makers. Information is assumed not to be available at a central location but instead distributed over a number of different locations, and this information can include uncertainty. Moreover, decisions are not
made by a single decision maker, but by multiple decision makers. Interactions among these decision makers in terms of exchange of different types of information lead to various ways of negotiation and cooperation strategies. Considering the decision makers all together, you will propose a distributed optimisation problem setting, in which multiple optimisation problems need to be solved, taking into account interconnecting constraints and objectives. The main challenge then becomes how to solve this distributed problem, taking into account information sharing constraints and degrees of uncertainty. You will work with the industrial users in the project on realistic case studies in order to assess the potential of different coordination strategies.

Requirements
We are seeking an outstanding and enthusiastic researcher who has expertise and/or
interest in one or more of the following areas:

* Automatic control, distributed control, predictive control, multi-agent systems;
* Mathematical programming, robust optimisation, stochastic assignment problems;
* Freight logistics, synchromodal transport, container/bulk transport.

You have obtained an MSc or an equivalent degree or expect to obtain an MSc very soon related to these areas (Control; Transport & Logistics; Operations Research; Computer Science / AI; Mathematics). Good spoken and written English and the ability to work in a team are mandatory.

Information and application
For more information about these positions, please contact R.R. Negenborn, phone: +31(0)15-2786718, e-mail: r.r.negenborn@tudelft.nl.
To apply, please e-mail an up-to-date, detailed curriculum vitae, a letter of application, a transcript of grades obtained during your MSc studies, and the names and contact information (telephone number and e-mail address) of two references by October 15, 2017 to: application-3mE@tudelft.nl. When applying for this position, please refer to vacancy number 3ME17-42.

See also:
https://www.academictransfer.com/employer/TUD/vacancy/42221/lang/en/

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8.3. PhD: University of Colorado Denver, USA

Contributed by: Satadru Dey, satadru.dey@ucdenver.edu

Applications are invited for a Ph.D. position in the area of "Control of Energy Storage Systems". The position is with the Department of Electrical Engineering, University of Colorado Denver and the student will work under the supervision of Dr. Satadru Dey.

Description: Energy storage systems are ubiquitous in modern engineering applications such as electrified transportation, renewable power grids, and consumer electronics. Intelligent management/control of such energy storage systems is essential for safe, reliable and efficient operation. In this context, we are developing real-time control/estimation/diagnostics algorithms for advanced energy storage systems such as batteries, ultracapacitors, and fuel cells. The student is expected to conduct research on one or more of the following areas focused on energy storage systems: State and/or parameter estimation, optimal and/or robust control, fault diagnosis, and optimization.

The successful Ph.D. applicant will be awarded a competitive scholarship covering both tuition and living expenses.

Expected Start Date: Spring/Summer 2018

Ideal Candidates should satisfy the following criteria:
- Bachelor's or Master's degree with major/specialization in electrical, mechanical, civil, mechatronics, controls, or any other relevant engineering/science discipline [Master's degree is preferred but not required].
- Strong background in linear systems, controls, applied mathematics
- Strong MATLAB programming experience

If interested, please send an e-mail to Satadru Dey (satadru.dey@ucdenver.edu) with the subject "Ph.D. Position — Energy Storage Controls". Attach a copy of your transcript(s) and detailed CV.

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8.4. PhD: University of Houston, USA

Contributed by: Zheng Chen, zchen43@central.uh.edu

The Bio-inspired Robotics and Controls Lab in the Department of Mechanical Engineering at the University of Houston has available funding to support PhD students in the general area of Bio-inspired Robotics, Smart Sensors and Actuators, Bio-mechatronics, 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 Spring 2018.

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 (zchen43@central.uh.edu)

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8.5. PhD: Technical University OF Liberec, Czech Republic

Contributed by: Jaroslav Hlava, jaroslav.hlava@tul.cz

Early Stage Researcher / PhD Position at TECHNICAL UNIVERSITY OF LIBEREC, CZECH REPUBLIC, Europe as a part of European Innovative Training Network Smart Tomographic Sensors for Advanced Industrial Process Control (TOMOCON)

Title of the PhD project: CONTROL SYSTEMS BASED A MULTI-PARAMETRIC DATA AND EXEMPLARY APPLICATION TO CONTINUOUS CASTING CONTROL

PROJECT DESRIPTION: Process tomography provides rich data but new control methodologies are needed if these data are to be used for real time control. As image reconstruction is computationally demanding and ill-posed, approaches based on suitable process model parametrization or state estimation are more likely to succeed. The PhD candidate shall develop control methodology (-ies) appropriate for tomography data together with concepts to use raw data instead of reconstructed images. The methodology must take into account the significant uncertainty in tomography data and finally it shall be implemented and tested with the continuous casting process using the LIMMCAST facility available at Helmholtz-Zentrum Dresden Rossendorf . The PhD candidate will spend secondments of about eight months in total for technical and scientific training with academic and industrial partners of the project.

REQUIREMENTS:

* Distinct university graduation in engineering (preferably but not limited to control or electrical engineering), applied mathematics or natural science
* Profound knowledge of systems and control theory and image data processing
* Sound expertise in mathematical optimization and mathematical modelling
* Programming skills
* Strong interest in interdisciplinary scientific work
* Good proficiency in English language

OUR OFFER: Full-time contract for 36 months, competitive and attractive salary according to the rules of the Marie Skłodowska-Curie Action - European Training Networks will be offered including mobility and (if eligible) family allowances.

Starting Date is 1st March 2018

APPLICATION: Please submit your application (cover letter, CV, certificates) to the Primary Supervisor Prof. Jaroslav Hlava jaroslav.hlava@tul.cz with indication of the position reference number TOMOCON-ESR9.

APPLICATION DEADLINE: 25 October 2017

ELIGIBILITY: The candidate must be Early-Stage Researcher i.e. in the first four years from the date when the researcher obtained the degree entitling him or her to embark on a doctorate (e.g. master degree). No doctoral degree has been awarded during these four years. The candidate can be of any nationality. The candidate must not have resided or carried out her/his main activity (work, studies, etc.) in the Czech Republic for more than 12 months in the 3 years immediately before the recruitment date.

More detailed information can be obtained at http://www.tomocon.eu/jobs/ position ESR -09

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8.6. PhD: University of South Florida, USA

Contributed by: Tansel Yucelen, yucelen@usf.edu

Open PhD Positions on Systems and Control

The Laboratory for Autonomy, Control, Information, and Systems (LACIS, http://lacis.eng.usf.edu/) at the University of South Florida is looking for exceptional doctoral students with solid background and creative skills. The LACIS is a highly-active research laboratory on systems and control with past and current projects from a broad set of funding agencies, where the researchers at the LACIS have the opportunity to collaborate with many researchers around the world. Doctoral students to be hired are expected to perform high-quality and creative research on distributed control and robust adaptive systems with applications to swarm of unmanned aerial and ground vehicles. Our intention is to give a strong guidance to maximize the chances of our students for building a rewarding career.

The intended start date for these open positions is Spring 2018/Summer 2018. In addition, basic application requirements for these open positions include: 1) A Master of Science degree in a closely related field such as electrical engineering, mechanical engineering, aerospace engineering, or mathematics. 2) A strong record of courses taken related to systems and control (including but not limited to linear control systems and nonlinear control systems). 3) If the candidates already have published and/or submitted research papers related to systems and control, this will be considered very positively during the application process.

If you are interested in joining the LACIS at the USF to do transformative high-impact research, please send an email to Dr. Tansel Yucelen (yucelen@usf.edu), the Director of the LACIS, and include A) your resume (resume needs to include a list of undergraduate and graduate courses taken related to systems and control as well as mathematics - with grades on these courses, and it should also include list of published and/or submitted papers, if any) and B) a concise paragraph explaining your theoretical and experimental experience precisely related to systems and control. Please also include contact information (name, affiliation, and email) of your current advisor and at least one other reference.

Dr. Tansel Yucelen
Asst. Professor of Mechanical Engineering
Director of the LACIS (http://lacis.eng.usf.edu/)
University of South Florida

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8.7. PhD: Louisiana State University, USA

Contributed by: Michael Malisoff, malisoff@lsu.edu

PhD Research Assistant Positions at Louisiana State University:

One or more graduate Research Assistant positions are available in systems and controls, as part of Prof. Malisoff's US National Science Foundation Directorate for Engineering funded research projects. Prof. Malisoff will consider applicants from all universities, but students from outside LSU must first be granted admission to LSU before being eligible to work on the research projects, and international students may first need to obtain visas. For the first year, the selected students will receive financial support including a full tuition remission, with continued availability of this support for up to 3 years contingent on satisfactory progress and the availability of funds.

The positions are for students wishing to earn PhDs from LSU, either in engineering or math. For math PhD students, no background in engineering is required. Engineering PhD students could be co-advised by Prof. Miroslav Krstic and by Prof. Malisoff. Applicants should send malisoff@lsu.edu their CV as a .pdf file with contact information for 3 references, a plain text statement of interest, and a .pdf with a list of courses taken. Applicants not already at LSU must also complete an admission process; see http://sites01.lsu.edu/wp/graduateschool/. Applicants may be considered for an RA position starting as early as Spring 2018. Minorities and women are strongly encouraged to apply.

For more information about Prof. Malisoff's current projects and his research group and publications, see https://www.math.lsu.edu/ malisoff/ or
https://nsf.gov/awardsearch/advancedSearchResult?PILastName=malisoff.

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8.8. PhD: University of Cambridge, UK

Contributed by: Jorge Goncalves, jmg77@cam.ac.uk

Doctoral Candidate (PhD student) in Systems Biology

Control of circadian period

The PhD student will be a member of the highly interdisciplinary research group, integrating experimental biological (supervised by Alex Webb in Plant Sciences) and system biology approaches (supervised by Jorge Goncalves in Engineering).

Your Profile:

• The ideal candidate would hold degrees in Control Systems, Mathematics, Theoretical Physics, or Theoretical Machine Learning.

• We are seeking students that graduate in their top 20% undergraduate and Master's class rank (equivalent to a UK first class degree).

• Excellent working knowledge of English.

• Funding is available to students from the UK and other EU nations. Excellent candidates from non-EU nations are welcome to apply but they will have to obtain additional funding to take up the position.

Applications should contain the following documents:

• A detailed Curriculum vitae.

• A motivation letter, including a brief description of past research experience and future interests.

• Copies of diplomas.

• Please ask at least two references to email their confidential letters directly to Alex Webb (aarw2@cam.ac.uk) within two weeks of submitting the application.

More details can be found at http://www-control.eng.cam.ac.uk/Main/JorgeGoncalves

Only complete applications will be considered.

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

For further information, please Alex Webb (aarw2@cam.ac.uk) or Jorge Goncalves (jmg77@cam.ac.uk).

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

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8.9. PhD: University of Oxford, UK

Contributed by: Kostas Margellos, kostas.margellos@eng.ox.ac.uk

D.Phil (Ph.D. equiv.), University of Oxford

Project title: Aggregative game theory for optimal charging of large fleets of electric vehicles

Supervisor: Prof. Kostas Margellos
Duration: 3.5 years

The studentship is part of an EPSRC funded project on "Aggregative charging control of electric vehicle populations" being undertaken by the University of Oxford (PI: Prof. Kostas Margellos).
The student will focus on the development and coding of the distributed charging algorithms; emphasis will also be given on analysing their optimality properties. S/he will be a member of the Control Group and will be supervised by Prof. Kostas Margellos.

Eligibility:
This studentship is funded through the UK Engineering and Physical Sciences Research Council (EPSRC) Doctoral Training Partnership and is open to both UK students (full award – fees plus stipend) and EU students (partial award – fees only). Full details of the EPSRC eligibility requirements can be found here https://www.epsrc.ac.uk/skills/students/help/eligibility/

Award Value:
University tuition fees are covered at the level set for UK/EU students, as are Oxford college fees (c. £7,432 in total p.a.). The stipend (tax-free maintenance grant) is c. £14,553 p.a. for the first year, and at least this amount for a further two years.

Candidate Requirements:
Prospective candidates will be judged according to how well they meet the following criteria:
- A first class honours degree in Engineering, Mathematics or Computer Science;
- Experience in control theory and optimization;
- Mathematical maturity with emphasis on optimization theory;
- Excellent English written and spoken communication skills;

The following skills are desirable but not essential:
- Ability to program in Matlab;
- Experience in energy systems management and operations;

Application Procedure:
Informal enquiries are encouraged and should be addressed to Prof Kostas Margellos (kostas.margellos@eng.ox.ac.uk).
Candidates must submit a graduate application form and are expected to meet the graduate admissions criteria. Details are available on the course page of the University website.
https://www.ox.ac.uk/admissions/graduate/courses/dphil-engineering-science?wssl=1

Please quote 18ENGIN_09DTP in all correspondence and in your graduate application.

Application deadline: noon on 19 January 2018

Start date: October 2018

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8.10. PhD: University of Agder, Norway

Contributed by: Jing Zhou, jing.zhou@uia.no

PhD: Department of Engineering Sciences, University of Agder, Norway
Title of the project: Coupled Dynamics Between Vessel and Crane

The University of Agder invites applications for a PhD fellowship in Coupled Dynamics Between Vessel and Crane. The position is linked to the Department of Engineering Sciences and SFI Offshore Mechatronics Center and the contract is for a period of 3 years. Starting date January 2018/ or negotiated with the faculty.

Brief Description of the Research Project:
• modelling of vessel and crane dynamics,
• analysis of coupled dynamics between large crane, small vessel and heavy payloads,
• dynamic positioning control,
• motion compensation and heave compensation,
• and implementing and testing the developed models and control algorithms.

Admission Requirements
• a master's degree in control, mechatronics, mechanical engineering, marine engineering or a similar/related field.
• background in several of the following topics: systems and control, dynamic system modeling, marine systems
To be regarded as an eligible applicant, the applicant should have:
• the average grade for courses included in the bachelor's degree should be B or higher
• the average grade for courses included in the master's degree should be B or higher
• the master's thesis should have a grade B or higher
• Applicants whose mother tongue is neither Norwegian nor English must present an official language test report. The acceptable tests are:
• TOEFL – 550 (paper-based test), or 80 (internet based test)
• IELTS – 6.0.

Salary: The position is remunerated according to the State salary scale, code 1017, salary NOK 435 500 gross per year.
APPLICATION PROCEDURE: To apply, send email to jing.zhou@uia.no. Subject of your email should be: "Coupled Dynamics PhD application". Deadline: October 15, 2017! Include:
- an academic CV,
- a pdf of your diplomas and transcript of course work and grades,
- proof of English language proficiency test results,
- a research proposal (max. 2 pages) that sets out background, rationale, recent work and research design for the intended study.

Contac Person: Prof. Jing Zhou, email: jing.zhou@uia.no

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8.11. PhD: ETH Zurich, Switzerland

Contributed by: Maryam Kamgarpour, maryamk@ethz.ch

PhD opening: The Automatic Control Laboratory, Prof. Maryam Kamgarpour, at the Department of Information Technology and Electrical Engineering, ETH Zurich has an opening PhD position on the topic of developing the theory and algorithms for real-time control in emergency evacuation scenarios.

About the lab: We work on control theoretic topics in the intersection of optimisation, game theory and learning. Furthermore, we work on applications ranging from air traffic system and robotics to power grid. For further information about the group please visit our website http://control.ee.ethz.ch/ maryamk/.

About the position: This PhD project advances the necessary control theory and algorithms to develop a decision support system for first responders in emergency evacuation scenarios. Our tools will be based on stochastic control, online optimization, combinatorial optimization and multi-agent control.

Requirements: Applicants should have a strong background and interest in mathematics, optimization or control, well-developed analytical and problem solving skills, outstanding academic track record, excellent English communication skills.

Procedure: We look forward to receiving your application including CV, transcript, one page on statement of research interests and goals and names of three references. Please submit the applications or inquiries regarding the position to Prof. Maryam Kamgarpour, by email mkamgar@control.ee.ethz.ch.

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8.12. PhD: University of Rhode Island, USA

Contributed by: Chengzhi Yuan, cyuan@uri.edu

A couple of fully-supported Ph.D. positions are available at the University of Rhode Island, the students will be working on cutting-edge research on distributed control of Multi-robot systems, cooperative intelligent learning control systems, dynamical pattern recognition, and multi-view data-fusion-based human gait recognition.

Successful candidates should have strong backgrounds on control theory, programming skills using MATLAB/Simulink, and experiences in scientific paper writing using English. Candidates with Master degree in control theory and application are preferred.

Interested parties should send their complete CV to Prof. Yuan through cyuan@uri.edu.

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8.13. PhD: European Training Network TOMOCON, Europe

Contributed by: Uwe Hampel, u.hampel@hzdr.de

15 PhD Positions in the European Training Network TOMOCON:

We seek 15 excellent open-minded and team-spirited PhD candidates within the European Marie Skłodowska-Curie Innovative Training Network TOMOCON in multiple European locations. This network joins 12 international academic institutions and 15 industry partners. We work together in the emerging field of industrial process control using smart tomographic sensors. The network will lay the scientific and technological fundamentals of integrating imaging sensors into industrial processes and will demonstrate its functional feasibility on lab and pilot-scale applications. Our doctoral researchers will be trained and work in the fields of process tomography hardware, software and algorithms, control systems theory and design, industrial process design, multi-physics modelling and simulation, human-computer interaction, and massive parallel data processing.

The application deadline is 25 October 2017. More information about the network and all open positions can be found on the following web page: www.tomocon.eu. In case of interest please use the links and contact details provided there for application.

The following positions are available:

New concepts for control in continuous casting using electrical and magnetic tomography
Reference number: TOMOCON-ESR02
Helmholtz-Zentrum Dresden-Rossendorf, Germany

Human-computer interaction with application on industrial tomography
Reference number: TOMOCON-ESR03
Chalmers University of Technology, Sweden

Optimized controlled inline fluid separation
Reference number: TOMOCON-ESR04
Delft University of Technology, The Netherlands

Advanced simulation of liquid melt flows in controlled continuous casting
Reference number: TOMOCON-ESR05
Delft University of Technology, The Netherlands

Hybrid CFD simulation of two-phase flow in inline flow splitters using VOF and Lagrangian models
Reference number: TOMOCON-ESR06
Institut de Mécanique des Fluides de Toulouse, France

Microwave drying of porous products with novel tomography-assisted moisture control
Reference number: TOMOCON-ESR07
Karlsruhe Institute of Technology, Germany

Controlled batch crystallization with ultrasound actuation
Reference number: TOMOCON-ESR08
Lappeenranta University of Technology, Finland

Control systems based on multi-parametric data and exemplary application to continuous casting control
Reference number: TOMOCON-ESR09
Technical University of Liberec, Czech Republic

Qualification of ERT/ECT for real-time control of inline fluid separators
Reference number: TOMOCON-ESR10
Lodz University of Technology, Poland

ERT tomography for measuring the crystallization progress in a batch reactor
Reference number: TOMOCON-ESR11
Lodz University of Technology, Poland

A novel combined ECT/MIT sensor for controlled continuous steel casting
Reference number: TOMOCON-ESR12
University of Bath, UK

Ultrasound tomography for control of batch crystallization
Reference number: TOMOCON-ESR13
University of Bath, UK

ECT sensor for moisture distribution measurement in controlled microwave drying
Reference number: TOMOCON-ESR14
University of Eastern Finland, Finland

Microwave tomography for control of microwave drying processes
Reference number: TOMOCON-ESR15
University of Eastern Finland, Finland

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8.14. PhD: KTH, Sweden

Contributed by: Mikael Johansson, mikaelj@kth.se

We are looking for 1-2 PhD students with a passion for developing theory and algorithms for large-scale machine-learning, decision-making and control.

The position is with the Automatic Control Lab at KTH, ranked as the 3rd European university in the area of Automation and Control in the most recent Academic Ranking of World Universities. Our research blends curiosity-driven basic research with applications and collaboration with industry and society. Current research projects include optimization of sustainable infrastructures, distributed algorithms for large-scale machine learning, and autonomous systems.

The PhD student will enroll in the PhD program in Electrical Engineering, which provides world-class quality education, including a large number of graduate courses to ensure that you will get in-depth development of relevant competences and skills. KTH offers an attractive working environment, generous remuneration, as well as other employment benefits. As a PhD student at KTH you have many opportunities to participate at international conferences, research projects and other relevant events, which will extend your professional network and benefit your future career.

The complete description, as well as information on how to apply, is available at
https://www.kth.se/en/om/work-at-kth/lediga-jobb/what:job/jobID:166153/type:job/where:4/apply:1

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8.15. PhD/Researcher: Bosch Center for Artificial Intelligence, Germany

Contributed by: Michael Hanselmann, michael.hanselmann@de.bosch.com

We are offering several positions in Reinforcement Learning for Autonomous driving at the Bosch Center for Artificial Intelligence (BCAI) located in Stuttgart, Southern Germany.

Reinforcement Learning offers methods to solve sequential decision making problems in stochastic and unstructured environments. Such problems are also present in autonomous driving where autonomous cars need to take decisions on many different levels (e.g., which route to take, when to merge etc.) and have to cope with an open context setting.

Current job offers include:

Reinforcement learning researcher for autonomous driving

- Development and implementation of novel reinforcement (RL) and inverse reinforcement learning (IRL) algorithms, in particular in the context of situation understanding and decision making for highly automated / autonomous driving
- Original research, theoretical investigations, publications at top Machine Learning conferences and journals
- Close contact to the scientific community in RL, scouting and assessment of new approaches, publications on top conferences and journals
- Technical discussions and creation of new ideas within the existing Machine Learning research team
- Supervision of Master and PhD students

Link: https://www.bosch-career.de/bewerben/jobsearch/-/cui/job/ZRB_UNREG_SEARCH/en/567D863A01021ED79FD22

PhD in Risk-averse Reinforcement Learning

- Development and implementation of risk-averse Reinforcement Learning algorithms for decision making under uncertainty
- Evaluation of developed algorithms on open datasets and on multi-modal Bosch datasets for the lead

application autonomous driving
• Original research, collaboration with Machine Learning experts
• Technical discussions and creation of new ideas within the existing research team at the Bosch Center for Artificial Intelligence
• Publications in top-tier journals and supervision of Master students
Link: https://www.bosch-career.de/bewerben/jobsearch/-/cui/job/ZRB_UNREG_SEARCH/en/567D863A01021EE7A0FEC

We are looking forward to your application!

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8.16. PhD/PostDoc: I-Form, Ireland

Contributed by: Robert Shorten, robert.shorten@ucd.ie

Research opportunities in the design of cyber-physical control systems

As part of the recently established Science Foundation Ireland (SFI) Advanced Manufacturing Research Centre, I-Form (http://www.i-form.ie/), applications are invited for post-doctoral and doctoral positions in the area of cyber-physical control design.

Our objective is to use cognitive technologies to design and augment complex decision support tools as part of cyber-physical feedback control systems for advanced manufacturing applications such as in additive manufacturing (3D -printing). The focus of the programme will be to develop advanced control techniques to enable operators and machines to augment one-another in order to realise high performance control strategies in highly contrained environments. The research will exploit ideas from machine learning, cognitive computing, natural language processing, as well as traditional control theory and intelligent product design. Applications are sought from excellent candidates with a background in some, or all, of the above areas, for a number of positions commencing in early 2018. All positions will involve significant interaction with industrial partners, and several appointments will be directed jointly with IBM Research through the IBM-UCD Colab.

For informal enquiries contact: Robert Shorten (robert.shorten@ucd.ie); Nikos Papakostas (nikolaos.papakostas@ucd.ie); Giovanni Russo (grusso@ie.ibm.com); or Joern Ploennings (Joern.Ploennigs@ie.ibm.com).

Interested applicants should send a CV, together with a list of 3 referrees, to Professor Robert Shorten (robert.shorten@ucd.ie).

Closing date for applications is October 15th, 2017.

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8.17. PhD/PostDoc: University of Melbourne, Australia

Contributed by: Girish Nair, gnair@unimelb.edu.au

Post-doctoral and PhD Positions, University of Melbourne, Australia

Topic: Filtering, Control and Causal Inference using Nonstochastic Information Theory

One Post-doctoral and two PhD positions are available to investigate the use of nonstochastic and zero-error information theory in filtering, control and causal inference problems with deterministic disturbances or unknown noise distributions. These positions are based in the Department of Electrical and Electronic Engineering, University of Melbourne, and support an Australian Research Council project. The University of Melbourne has a well-known control group and is ranked 14th globally in Automation and Control, according to the ARWU Global Ranking of Academic Subjects 2017.

**Post-doctoral applicants should have a theoretically-focused PhD in a relevant area. Knowledge of probability theory or random sampling methods would be useful.

Salary: from AU$87,415/year before tax, plus employer superannuation contribution of 9.25

Duration: one year including probation period. Extensions are subject to performance and funding.

Starting date: flexible, but preferably before Feb 2018.

To express interest, please email a research statement and CV, with 3 referees listed, to Prof. Girish Nair, gnair@unimelb.edu.au

**PhD candidates should have a Bachelors and/or Masters degree with a strong background in control or information theory. Knowledge of probability theory would be helpful. Candidates must also meet the PhD admission requirements of the Department of Electrical and Electronic Engineering and the University of Melbourne.

Stipend: AU$30,000/year tax-free for 3.5 years, with up to AU$15,00 for travel and conferences; subject to passing Departmental confirmation after one year.

Starting date: flexible, but preferably before Feb 2018.

To express your interest, please email a research statement and CV, with 2 referees listed, to Prof. Girish Nair, gnair@unimelb.edu.au

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8.18. PostDoc: Tel Aviv University, Israel

Contributed by: Michael Margaliot, michaelm@eng.tau.ac.il

Postdoctoral Position at the Dept. of Elec. Eng. - Systems, Tel Aviv University, Israel

Applications are invited for a post-doctoral research position in the areas of systems and control theory and systems biology at Dept. of Elec. Eng. - Systems, Tel Aviv University, Israel. The position is for a period of one year, with the possibility of renewal up to another two years contingent on performance. Applicants are required to have a recently completed PhD in control or related area of engineering or applied mathematics.

Applications (including a motivation letter, complete CV, list of publications, names of referees) and inquiries should be addressed to Michael Margaliot (Homepage: www.eng.tau.ac.il/ michaelm).

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8.19. PostDoc: National Institute of Informatics, Japan

Contributed by: Ichiro Hasuo, i.hasuo@acm.org

PostDoc: National Institute of Informatics, Japan

For our 5-year research project (ERATO MMSD, Metamathematics for Systems Design) we are looking for senior researchers and postdocs (10+ positions in total and several are still open), together with research assistants (PhD students) and internship students.

This broad project aims to extend the realm of formal methods from software to cyber-physical systems (CPS), with particular emphases both on logical/categorical metatheories and industrial application esp. in automotive industry. The project covers diverse areas that include: control theory, control engineering, formal methods, programming languages, software science, software engineering, machine learning, numerical optimization, user interface, mathematical logic and category theory. Integration of techniques from control theory and those from software science, via mathematical abstraction, is of our particular interest.

For more about the project please visit
http://group-mmm.org/eratommsd

About the open positions
http://group-mmm.org/eratommsd/openpositions.html
has more information (including how to apply/inquire).

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8.20. PostDoc: University of California San Diego, USA

Contributed by: Behrouz Touri, btouri@ucsd.edu

We are looking for a highly qualified scholar in the area of control and optimization theory over networks to join our research group with the Department of Electrical and Computer Engineering at the University of California San Diego (UCSD). For more information about the research program please visit: http://eceweb.ucsd.edu/ btouri/research.html

To apply, please send your complete cv with a list of at least three recommendation providers and one representative research paper to: btouri@ucsd.edu

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8.21. PostDoc: UTFPR, Brazil

Contributed by: Alessandro N Vargas, avargas@utfpr.edu.br

Systems and Control: Two Post-Doctoral Fellowships in Brazil

Two exciting opportunities are opened for young or experienced researchers to develop research in Brazil.

Candidates must hold a PhD-Doctorate degree related to at least one of the next topics: Control and Systems Engineering; Automation; Robotics; Electrical Engineering; Electronics; Mechatronics; Mathematics (pure or applied); Statistics.
Candidates holding a PhD in any of the aforementioned topics are invited to apply.

The two vacancies are available to citizens of any country, and the successful applicants will be required to live in the Parana State (South of Brazil) during the fellowship period. Our research facilities are located at UTFPR Campus in Cornelio Procopio, Parana, in the urban area of Londrina. Londrina was settled by immigrants from London, UK, and now is a medium-scaled city with a rich cultural life.

The two selected candidates will receive a Post-Doctorate Fellowship from CAPES, Brazil (R$ 4,100 per month; it is equivalent to EU 1,100). The fellowships are awarded from 6 (six) to 12 (twelve) months and can be renewed up to 36 months.
The scholarship does not cover travel expenses from where he/she lives to come to live in Parana, Brazil

Candidates must have a PhD or Doctorate degree to apply for a fellowship. The position requires a good-level of written and oral communication skills in English.

The aim of the project is to advance the knowledge of Control systems in its broad sense. We are interested in new results of Control systems for applications of real-time processes. Candidates are strongly encouraged to apply if they are committed to pursuing theoretical or applied research in systems and control engineering whilst working collaboratively across disciplines to develop solutions to one or more of the next topics:
- Theory: linear and nonlinear control systems, stochastic systems, Markovian systems, optimal control, stability of systems, filtering and identification, networked control, nonlinear optimization, among others topics.
- Applications: industrial processes, electrical and electronic systems, automotive systems (electronic control

of vehicles), mechatronic devices, renewable energy, wind turbines, photovoltaics, technology applied in Agriculture, among others.

The appointed candidates are expect to build a bridge between theory and applications.
Depending on the qualifications of the candidate, he or she can be trained in one or more of the next topics: control, electronics, signal processing, programming of microprocessors (e.g., DSP, FPGA, Arduino, Raspberry Pi), data acquisition cards, digital oscilloscopes, industrial instrumentation, sensors, technology for agriculture, among others.

The selected candidates will work under the supervision of Prof. Alessandro N. Vargas (UTFPR, Brazil).

Quantity of fellowships: 02 (two)

Time: The initial appointment is for a period from 6 (six) to 12 (twelve) months, renewable up to three years.

Salary: R$ 4,100 (EU 1,100 aprox.) per month paid by CAPES, Brazil.
This value is tax free.

Selection:
The selection process will be completed in three steps: assessment of the candidate CV by analysis of documents submitted by the candidate; interview via email and Skype with the selected candidates. the selected candidate is required to sign a document stating that will obey the CAPES and Brazilian rules. This document is required by CAPES to issue the documents to be used by the candidate to apply for a Brazilian Visa.

Required documentation for application:
1) A cover letter in which the applicant justifies his or her interest in the proposed topics.
2) An updated academic Curriculum vitae.

Inscription of candidates:
Candidates should submit their documentation by email at "avargas@utfpr.edu.br".

Deadline:
The deadline for applications is November 10, 2017, but applications will be accepted until the positions are filled.

Result:
The result of the first step of the selection process will be informed by email. The interview will be arranged with the candidates by email and Skype.

Starting time (tentative):
Candidate: March 01, 2018.

Benefits:
The vacancies of this call are for nominations for scholarships only. As a result the Brazilian government issues a Visa for study only, i.e., the candidate cannot work for private companies during the postdoc.

More details on:
http://www.labcontrol.xyz
http://www.cp.utfpr.edu.br/vargas/

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8.22. PostDoc: The Ohio State University, USA

Contributed by: Mingjun Zhang, zhang.4882@osu.edu

We have one post-doc position to work on

Modeling and control of micro-/nano-scale biological systems. Interested candidates please send your CV to zhang.4882@osu.edu.

Mingjun Zhang, PhD & D.Sc.
Professor
Department of Biomedical Engineering
Depart of Surgery (Courtesy)
Investigator, Davis Heart and Lung Research Institute
Member, Neurological Institute
Faculty Mentor, Interdisciplinary Biophysics Graduate Program
Member, Center for Regenerative Medicine and Cell Based Therapies
The Ohio State University
318 Biomedical Research Tower
OSU Medical Center
Columbus, OH 43210-1002
Email: zhang.4882@osu.edu
Tel: 614-292-3181

https://bme.osu.edu/people/zhang.4882
http://mjzhanglab.org.ohio-state.edu/about_pi.html

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8.23. PostDoc: University of Newcastle, Australia and Huazhong University of Science and Technology, China

Contributed by: Zhiyong Chen, zhiyong.chen@newcastle.edu.au

Prof. Zhiyong Chen (http://www.eng.newcastle.edu.au/ zc879/) is looking for two postdocs available as soon as possible to work at both University of Newcastle, Australia and Huazhong University of Science & Technology, China.

The research project is broadly on control theory development and experiments of nano-positioning systems. The project is funded by National Natural Science Foundation of China - Overseas Joint Grant. The successful applicants will be offered

• A competitive salary (Chinese RMB 200,000 to 300,000 per year plus housing allowance, negotiable depending on the qualification) by Huazhong University of Science and Technology.
• Opportunity to work full time at University of Newcastle, Australia with additional support.
• State-of-the-art experimental platforms.
• Full contract for 2 years with the possibility of renewal on performance.

Qualifications

• A Ph.D. degree in Electrical Engineering, Mechanical Engineering, Applied Mathematics, or a closely related field.
• Excellent background and a record of journal publications in control theory and applications on nanopositioning systems.

Interested candidates should send their CV (with names of at least two references) and a cover letter describing their specific interest and how their background fits the qualifications to Prof. Zhiyong Chen, Zhiyong.chen@newcastle.edu.au

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8.24. PostDoc: University of Groningen, the Netherlands

Contributed by: Claudio De Persis, c.de.persis@rug.nl

PostDoc: University of Groningen, the Netherlands

A postdoctoral scholar position is available at the SMS-Cyberphysical System research group at the Faculty of Science and Engineering, University of Groningen, the Netherlands.

The research of the groups focuses on the modeling and control of complex systems with nonlinear dynamics and large-scale dimensions and their interaction with communication media and computational devices. Examples of these systems are found in manufacturing systems, power systems, distribution networks, supply chains and formation control systems. Research areas which provide fundamental tools to investigate these problems include quantized and discontinuous control, event-triggered control, time-delay systems, hybrid systems, optimization, game theory, cooperative control and output regulation.
The postdoctoral position comes with teaching obligations. A bachelor and a master course must be taught in the period February-mid April 2018. The teaching-research time division is 70% research and 30

Duration: One year, starting January 2018.

Deadline for submitting applications: November 1, 2017

Your Profile:
• A Ph.D. degree in Control Theory, Electrical & Electronics Engineering, Applied Mathematics;
• An excellent background in one of the following areas: networked control systems, dynamical networks, control theory, distributed control and optimization, machine learning;
• Strong academic credentials, written and spoken English proficiency.

About the organization:
Since its foundation in 1614, the University of Groningen has enjoyed an international reputation as a dynamic and innovative center of higher education offering high-quality teaching and research. Study and career paths in a wide variety of disciplines encourage currently more than 30,000 students and researchers to develop their individual talents. Belonging to the best research universities in Europe, the top 100 universities in the world and joining forces with prestigious partner universities and networks, the University of Groningen is truly an international place of knowledge.

Information:
Interested candidates please send your application together with your detailed CV and lis of references to: c.de.persis@rug.nl and p.tesi@rug.nl (with f.g.fokkens@rug.nl in cc).
Please specify the following text in the subject: SMS - PostDoc application.

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8.25. PostDoc: University of Oxford, UK

Contributed by: Kostas Margellos, kostas.margellos@eng.ox.ac.uk

Postdoctoral Research Assistant in Control Engineering

Applications to be received by 12pm on Wednesday 1st of November 2017
Grade 7: £31,604 - £38,833 p.a.

We are seeking a full-time Postdoctoral Research Assistant to join the Control Group under Professor Kostas Margellos at the Department of Engineering Science central Oxford. The post is funded by an EPSRC Grant and is fixed-term for 12 months.

The research supported by this post aims at an aggregative control framework for decentralised charging of large populations of electric vehicles. You will be responsible for collaborating in the preparation/presentation of scientific reports and the implementation of algorithms in MATLAB. You will also be required to conduct short-term visits in project partner institutions and contribute to relevant workshop/tutorial organisation.

You should possess a PhD/DPhil (or near completion) in control theory/optimisation, have a track record of relevant published work, experience in energy systems management and experience in MATLAB.

Further information can be found at: www.eng.ox.ac.uk/jobs/home

Only applications received before 12.00 midday on 1 November 2017 can be considered. You will be required to upload a covering letter/supporting statement, including a brief statement of research interests (describing how past experience and future plans fit with the advertised position), CV and the details of two referees as part of your online application.

The Department holds an Athena Swan Bronze award, highlighting its commitment to promoting women in Science, Engineering and Technology.

Please note that the University of Oxford's retirement policy is changing. With effect from October 1 2017, all employees at Grade 8 and above will have a retirement age of 68, and all employees at Grades 6 and 7 will no longer have a set retirement age. Further details are available at: www.ox.ac.uk/about/jobs/preemploymentscreening.

Informal enquiries may be addressed to Professor Kostas Margellos (kostas.margellos@eng.ox.ac.uk).

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8.26. PostDoc/Visiting Professor: Huazhong University of Science & Technology, China

Contributed by: Ye Yuan, yye@hust.edu.cn

Prof. Ye Yuan (http://yy311.github.io) is looking for a number of postdocs and visiting researchers starting as soon as possible at Huazhong Artificial Intelligence Lab (HAIL), Huazhong University of Science & Technology (HUST), China.

The research project is broadly on the development of deep learning and control theory with application to cyber-physical systems (robotics and power systems).

1. For Postdoc, we offer

• A competitive salary (USD 30,000-40,000 per year, negotiable depending on the qualification);

• Possibilities for the Postdoc to spend time at world-leading universities (such as UC Berkeley and Caltech) to take specialized courses and work with collaborators there;

• Experimental platform (Vicon + Crazyflies, GPU cluster, UR3 robot + Kinect, Hardware in the loop Power simulator)

• Full contract for 2 years with the possibility of renewal up to 6 years contingent on performance;

• Possibilities to stay at HUST as a lecturer or an associate professor afterwards.

2. For visiting professors, we offer

• A highly competitive salary depending on the qualification;

• Travel cost and housing

3. Your Profile

• A Ph.D. degree in Control Theory, Mathematics, Computer Science, or a closely related field;

• An excellent background in one of the following areas: system identification, control theory, machine learning, neuroscience, robotics.

Interested candidates should send their CV (with names of at least two references) and a cover letter (for postdoc candidates) describing their specific interest and how their background fits the qualifications to Prof. Ye Yuan ¡yye@hust.edu.cn¿.

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8.27. Research Fellowship: Hull University, UK

Contributed by: Ron Patton, r.j.patton@hull.ac.uk

Senior Research Fellowship: Hull University, UK

Applications are invited from experts in Robust Detection and Isolation (Fault Diagnosis) and Fault Tolerant Control to apply for a Senior Research Fellow position tenable for up to 5 years at Hull University UK within an EPSRC funded Offshore Wind turbine research project with Siemens-Gamesa and Dong Energy and in partnership with Sheffield and Durham Universities. The research aim is to Establish Fault Detection and Isolation methods capable of identifying a variety of faults based on robust control system performance and integrating these methods within Fault Tolerant Control schemes. An interest in wind turbine and/or wave energy control would be a special advantage along with knowledge and experience of decentralized and distributed control systems. A PhD plus several years of research leadership experience are required along with a strong publication record and evidence of experience in research income generation. A successful candidate could expect to progress to a senior academic position leading a research team in the Control and Intelligent Systems Engineering Laboratory within the Aura Research Centre.

Please contact Professor Ron J Patton for further information

http://www.hull.ac.uk/Faculties/staff-profiles/Ron-Patton.aspx

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8.28. Research Scientist: DLR Institute of Transportation Systems, Germany

Contributed by: Andreas Luber, andreas.luber@dlr.de

Research Scientist: German Aerospace Center (DLR), Institute of Transportation Systems, Germany

Research Scientist Position at the German Aerospace Center (DLR)

The DLR Institute of Transportation Systems in Braunschweig, Germany, is looking for a research scientist in the field of sensor fusion and machine learning for automotive applications.

We offer:
- A creative, team-oriented work and research environment
- Challenging projects that require cutting-edge sensor fusion and machine learning technology
- Work on the interface between academic research and future automotive applications

Your profile:
- PhD (or MSc) in electrical engineering or a related discipline
- Professional experience with automotive projects
- Excellent knowledge of sensor fusion, e.g. Kalman filters, and machine learning algorithms, e.g. neural networks
- Excellent programming skills in, e.g. C++ and Python
- Excellent communication skills in English (knowledge of German is a plus)

The job announcement with further details (in German) can be found at
http://www.dlr.de/dlr/jobs/desktopdefault.aspx/tabid-10596/1003_read-23340/

Contact: Andreas Luber (andreas.luber@dlr.de)

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8.29. Faculty: Australian National University, Australia

Contributed by: Guodong Shi, guodong.shi@anu.edu.au

Future Engineering Research Leadership (FERL) Fellow
College of Engineering and Computer Science (CECS)
Australian National University (ANU)

Classification: ANU Academic Level B/C
Salary package: 94,287−127,025 per annum plus 17Terms: Full Time, Fixed Term, 5 Years

Position summary

The Research School of Engineering (RSEng or the School) is one of two Research Schools within the ANU College of Engineering and Computer Science (CECS). This is an exciting time to join our School and be part of the a community that prides ourselves on solving "wicked problems" in collaboration with the best minds in the world from across a broad range of disciplines. We take pride in pursuing our fundamental mission – discovery and to making knowledge matter – to the very highest quality.

We are calling for applications from innovative and enthusiastic academics in the early stages of their careers who are willing to explore uncharted landscapes through our Future Engineering Research Leadership Fellows (FERL) program.
We welcome and develop diversity of backgrounds, experiences and ideas and encourage applications from individuals who may have had non-traditional career paths, who may have taken a career break or who have achieved excellence in careers outside of academia.

The positions are initially for a period of 5 years. Longer term and/or tenure-track appointments may be offered to outstanding candidates subject to experience, skill and performance with consideration given to the candidate's achievement relative to opportunity. Successful candidates will be offered individualised attention and be part of a culture with a strong sense of community to define their own research agendas, apply for competitive funding, develop their own laboratory facilities and where appropriate, build a research team. These positions come with a yearly budget to cover visitors and conference travel as well as the possibility to negotiate a longer term and/or continuing appointment and significant start-ups funds.

This recruitment process is part of the wider ANU College of Engineering and Computer Science initiative, where we are looking to appoint up to 10 positions across Engineering and Computer Science over the next two (2) years. The Research School of Computer Science is running a similar and simultaneous process.

Successful applicants will have the opportunity to engage in ground-breaking, cutting-edge research in the fields of signal processing, computer vision and robotics, computational mechanics, materials, fabrication, renewable energy, networked systems and quantum cybernetics.

Start date: Negotiable

Essential qualifications: A PhD in Engineering or a related area, with a track record of independent research in the field of engineering or related area, as evidenced by publications in peer-reviewed journals and conferences, a record of developing and maintaining collaborations and by other measures such as awards, invitations to give talks at leading conferences etc.

Applications: Guidelines on completing your application can be found in the candidate information booklet which is available at http://jobs.anu.edu.au/cw/en/job/517241?lApplicationSubSourceID=

Applications close 05/11/2017

For further information please contact:

Dr Guodong Shi
College of Engineering & Computer Science
Australian National University
Email: guodong.shi@anu.edu.au

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8.30. Faculty: Zhejiang University of Technology, China

Contributed by: Qiu Xiang, qiuxiang@zjut.edu.cn

Faculty Position: Zhejiang University of Technology , Hangzhou, China
http://www.auto.zjut.edu.cn/WebSite/Job/JobList.aspx

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

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

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

(1) Control Science and Engineering, including advanced control theory, robotics, machine vision, pattern recognition, industrial networked control systems, MES, etc.
(2) Electrical Engineering, including electric drive, power electronics, new energy, etc.
(3) Mechatronic Engineering, including high-precision servo control of mechatronic devices, the modelling and dynamic analysis of robots, etc.
(4) Computer Science and Technology, including smart city, smart healthcare, big data, cloud computing, IoT, industrial control software, etc.

A. Selection criteria
High-level talents (Changjiang Scholars, 1000 Plan Scholars, Qianjiang Scholars, etc.) You have major achievements and influence in your research area that have already been recognized by national and international researchers, or have great potentials of future development; You also meet the criteria of corresponding talents programs.
ZJUT Professors /Associate Professors You have a PhD degree obtained from a recognized university or

research institutes with at least one year of oversea research experience in a well-known foreign institute; You have research achievements recognized by national and international researchers; Your application also passes the review process at the university level (ZJUT).
Outstanding PhDs/Postdocs You have a PhD degree obtained from a recognized university or research institute; You have high-quality research outputs and the professional skills required by a university lecturer, and great potentials of your future career.

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

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

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

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

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

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

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

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8.31. Faculty: Texas A&M University, USA

Contributed by: Reza Langari, rlangari@tamu.edu

Assistant, Associate or Full Professor – Multidisciplinary Engineering Technology Program

The Department of Engineering Technology and Industrial Distribution at Texas A&M University invites applications for a tenured or tenure-track faculty position at the assistant, associate, or full professor level

with expertise in one or more of the following areas: Mechatronics, Industrial and Mobile Robots, Automation, Product Design, Industrial Internet of Things (IIoT), Cyber-Physical Systems, and Embedded Systems. The successful applicant will be required to teach; advise and mentor undergraduate and graduate students; develop an independent, externally funded research program; participate in all aspects of the department's activities; and serve the profession. Strong written and verbal communication skills are required. Applicants should consult the department's website to review our academic and research programs (https://engineering.tamu.edu/etid). Applicants must have an earned doctorate in an appropriate engineering field and or a closely related engineering or science discipline.

Applicants should submit a cover letter, curriculum vitae, teaching statement, research statement, and a list of 4 (can be between 3 – 5) references (including postal addresses, phone numbers and email addresses) by applying for this specific position at www.tamengineeringjobs.com. Full consideration will be given to applications received by December 15, 2017. Applications received after that date may be considered until positions are filled. It is anticipated the appointment will begin fall 2018.

The members of Texas A&M Engineering are all Equal Opportunity/Affirmative Action/Veterans/Disability employers committed to diversity. It is the policy of these members to recruit, hire, train and promote without regard to race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity.

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8.32. Faculty: Texas A&M University, USA

Contributed by: Reza Langari, rlangari@tamu.edu

Assistant, Associate or Full Professor – Electronic Systems Engineering Technology

The Department of Engineering Technology and Industrial Distribution at Texas A&M University invites applications with recent and relevant industrial experience for a tenured or tenure-track faculty position at the assistant, associate, or full professor level with expertise in one or more of the following areas: Wireless Communications, Industrial Internet of Things (IIoT), Distributed Sensor Networks, Mobile/Cloud Computing and/or Industrial Cybersecurity. The successful applicant will be required to teach; advise and mentor undergraduate and graduate students; develop an independent, externally funded research program; participate in all aspects of the department's activities; and serve the profession. Strong written and verbal communication skills are required. Applicants must have an earned doctorate in an appropriateelectrical engineering field and or a closely related engineering or science discipline. Applicants should consult the department's website to review our academic and research programs (https://engineering.tamu.edu/etid).

Applicants should submit a cover letter, curriculum vitae, teaching statement, research statement, and a list of 4 (can be between 3 – 5) references (including postal addresses, phone numbers and email addresses) by applying for this specific position at www.tamengineeringjobs.com. Full consideration will be given to applications received by December 15, 2017. Applications received after that date may be considered until positions are filled. It is anticipated the appointment will begin fall 2018.

The members of Texas A&M Engineering are all Equal Opportunity/Affirmative Action/Veterans/Disability employers committed to diversity. It is the policy of these members to recruit, hire, train and promote without regard to race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity.

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8.33. Faculty: University of Pennsylvania, USA

Contributed by: George J. Pappas, pappasg@seas.upenn.edu

Multiple Faculty Positions

The School of Engineering and Applied Science at the University of Pennsylvania is growing its faculty by 33% over the next five years. As part of this initiative, the Department of Electrical and Systems Engineering is engaged in an aggressive, multi-year hiring effort for multiple tenure-track positions at all levels. Candidates must hold a Ph.D. in Electrical Engineering, Systems Engineering, or related area. The department seeks individuals with exceptional promise for, or proven record of, research achievement, who will take a position of international leadership in defining their field of study, and excel in undergraduate and graduate education. Leadership in cross-disciplinary and multi-disciplinary collaborations is of particular interest. We are interested in candidates in all areas that enhance our research strengths in:

Nanodevices and nanosystems (nanoelectronics, MEMS/NEMS, power electronics, nanophotonics, integrated devices and systems at nanoscale),

Circuits and computer engineering (analog, RF, mm-wave, and digital circuits, emerging circuit design, computer engineering, IoT, embedded and cyber-physical systems), and

Information and decision systems (control, optimization, robotics, data science, network science, communications, information theory, signal processing, markets and social systems).

Prospective candidates in all areas are strongly encouraged to address large-scale societal problems in energy, transportation, health, food and water, economic and financial networks, critical infrastructure, and national security. We are especially interested in candidates whose interests are aligned with the school's strategic plan (www.seas.upenn.edu/PennEngineering2020).

Diversity candidates are strongly encouraged to apply. Click Here to submit an application.

The University of Pennsylvania is an Equal Opportunity Employer. Minorities/Women/Individuals with Disabilities/Veterans are encouraged to apply.

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8.34. Faculty: Princeton University, USA

Contributed by: Naomi Leonard, naomi@princeton.edu

Associate or Full Professor in Robotics and Cyber-Physical Systems, Princeton University
September 2, 2017

The School of Engineering and Applied Science (SEAS) at Princeton University invites applications for a faculty position at the senior level (tenured Associate or Full Professor rank) in the broadly defined field of robotics and cyber-physical systems. Applicants must hold a Ph.D. in engineering or a related subject, and have a demonstrated record of excellence and leadership in research. We seek faculty members who will create a climate that embraces excellence and diversity, with a strong commitment to teaching and mentoring.

Princeton SEAS has a long history of leadership in its core disciplines of Mechanical and Aerospace Engineering, Electrical Engineering, Computer Science, Operations Research and Financial Engineering, Civil and Environmental Engineering, and Chemical and Biological Engineering. A major effort is underway to establish a collaborative, cross-disciplinary community in robotics and cyber-physical systems, which will lead to new academic opportunities and future robotic systems that interact with the human-occupied world with safety and sophistication for the benefit of society. We seek candidates with the background, expertise, creativity, and passion to build upon and complement existing strengths in order to lead Princeton in its

efforts to establish inspiring research and teaching in the rapidly growing field of robotics and cyber-physical systems.

To ensure full consideration, applications should be received by December 1, 2017. Applicants should submit a curriculum vitae, including a list of publications, a summary of research accomplishments and future plans, a teaching statement, and contact information for at least three references online at
https://www.princeton.edu/acad-positions/position/3442.
Personal statements that summarize leadership experience and contributions to diversity are encouraged.

Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law. We welcome applications from members of all underrepresented groups. This position is subject to the University's background check policy.

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8.35. Faculty: IST Austria, Austria

Contributed by: Pedro del Real, academic.affairs@ist.ac.at

IST Austria (www.ist.ac.at) invites applications for
PROFESSOR OR ASSISTANT PROFESSOR (TENURE TRACK) POSITIONS in areas of Computer Science and Data Science

Applicants in software systems (operating, distributed, database systems), algorithms, machine learning, and robotics are particularly encouraged to apply.

We offer:
-Competitive start-up package and salary
-Guaranteed, annual base funding
-Support and benefits for acquiring third party funds
-Multiple positions are open

IST Austria is a young international institute dedicated to world-class basic research and graduate education in the natural and mathematical sciences. Our PhD program involves a multi-disciplinary course schedule and rotations in research labs. Currently 40 research groups are active in the fields of biology, neuroscience, physics, mathematics, and computer science. The institute will grow to about 90 research groups by 2026. We hire scholars from diverse international backgrounds. Our working language is English. The campus of IST Austria is located about 15 km distant from Vienna, a city with high quality of life.

Candidates for tenured positions must be internationally accomplished scientists in their respective research fields and have at least six years of experience in leading a research group.
Assistant Professors receive independent group leader positions with an initial contract of six years, at the end of which they are evaluated by international peers. The outcome of this evaluation determines if an Assistant Professor is promoted to a tenured Professor position.
Successful candidates are expected to apply for external research funds and participate in graduate teaching.

Please apply online at: http://ist.ac.at/about-ist-austria/open-positions/faculty/
Applications should include a curriculum vitae, a list of publications, as well as a research statement, including a description of the most important scientific achievements and planned future research activities.

The closing date for applications is November 2, 2017.

IST Austria values diversity and is committed to equal opportunity. Female researchers are especially encouraged to apply.

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8.36. Faculty: New York University Abu Dhabi, UAE

Contributed by: Anthony Tzes, anthony.tzes@nyu.edu

New York University Abu Dhabi http://nyuad.nyu.edu/en/ is a research university with a fully integrated Engineering division. NYUAD is seeking applicants for a faculty position in the Engineering division at the Associate or Full professor level. NYUAD is a major hub of the NYU Global Network University (GNU), and provides access to the faculty and the assets of the entire GNU system. The Electrical and Computer Engineering program offers undergraduate degrees and participates in NYU's doctoral program.

The Engineering faculty consists of 6 professors, 3 associate professors, 15 assistant professors, and 6 lecturers. The ECE program leads internationally recognized research in the areas of information, cybersecurity, and biomedical systems. The control and robotics group has experience in the areas of mobile (aerial/ground) robots, vision systems, haptics, game theory, optimization, wireless sensor systems and other areas.

The position at the level of associate or full professor falls within the broad area of control and/or robotics. The candidate's expertise should be in one or more of the following areas: networked controlled systems, smart grids, cyber physical systems, adaptive and robust control, distributed and collaborative control, aerial / marine and ground robotics, mobile manipulation, multi-robot systems, robot vision, grasping, soft and surgical robotics.

The successful candidate will: a) participate in teaching and laboratory activities for undergraduate and doctoral courses in ECE, b) supervise doctoral students, c) lead his/her research group in leading-edge research projects with the participation of a postdoctoral group of researchers (to be selected by her/him), d) collaborate with research groups at NYUAD and NYU (Tandon School of Engineering), e) participate in research funded either by local sources or international funding agencies or industries.

Start date: flexible, from January to August 2019

Essential qualifications
Applicants must hold a doctorate (PhD) in Electrical and Computer Engineering, Mechanical Engineering, or other related field. The candidate will apply for tenure at NYUAD prior to his/her appointment.

Benefits
NYUAD offers a competitive starting salary, depending on the candidate's academic evaluation. Additional benefits include housing and transportation allowance, repatriation allowance, international travel allowance, health insurance and education allowance for family members.

Applications
Candidates should submit electronically an application that consists of a curriculum vitae, a statement of teaching goals and research priorities, records of teaching effectiveness, official records of diplomas, and the names of three references, and three representative research articles of the applicant's work relevant to the position.

Applications must be submitted by November 15, 2017, to the following site:
https://apply.interfolio.com/44627

Interested candidates may contact for further information:
Anthony Tzes, Professor

Electrical and Computer Engineering Program, Engineering Division
New York University Abu Dhabi
Email: antony.tzes@nyu.edu

Examination of applications will begin on November 15, and continue until the position is filled.

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8.37. Faculty: Stanford University, USA

Contributed by: Edwin Mendoza, edwinm1@stanford.edu

Faculty Position
Department of Electrical Engineering
Stanford University

The Department of Electrical Engineering at Stanford University (http://ee.stanford.edu/) invites applications for a tenure-track faculty appointment at the junior level (Assistant or untenured Associate Professor) in the broadly defined field of electrical and computer engineering. The department is especially interested in candidates in robotics, autonomous systems, embedded systems, control, optimization, and machine learning. Priority, however, will be given to the overall originality and promise of the candidate's work over any specific area of specialization.

Applicants should have an earned Ph.D., evidence of the ability to pursue an independent program of research, a strong commitment to both graduate and undergraduate teaching, and the ability to initiate and conduct research across disciplines. A successful candidate will be expected to teach courses at the graduate and undergraduate levels and to build and lead a team of graduate students in Ph.D. research.

Applications should include a brief research and teaching plan, a detailed resume including a publications list, and the names and email addresses of at least five references.

Candidates should apply online at http://ee.stanford.edu/job-openings. The review of applications will begin on December 15, 2017, and applicants are strongly encouraged to submit complete applications by that date for full consideration; however, applications will continue to be accepted through January 15, 2018.

Stanford is an equal employment opportunity and affirmative action employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, protected veteran status, or any other characteristic protected by law.

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8.38. Faculty: Georgia Institute of Technology, USA

Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Faculty Position in Control Systems

The School of Aerospace Engineering at Georgia Institute of Technology, Atlanta, Georgia, invites nominations and applications for a faculty position in the areas of flight dynamics, dynamical systems, control theory, information science, and the interactions between these fields beginning August 2018. All ranks will be considered, but senior level appointments will reserved for exceptional candidates having a demonstrated superior research and teaching record. Salary and rank will be commensurate with qualifications.

While all related areas of research in dynamical systems and control will be considered, candidates with a research agenda most closely aligned with aerospace applications are highly desirable.

Candidates are required to have a doctorate in Aerospace Engineering or a closely related field. The successful transdisciplinary candidates will have an outstanding research record and will be expected to teach graduate

and undergraduate courses, supervise graduate students, and interact with the faculty on the development of a strong externally funded research program.

The School of Aerospace Engineering presently has 36 full-time faculty members and its undergraduate and graduate programs are ranked among the top aerospace engineering programs in the nation. The research interests of the faculty cover a broad spectrum of aerospace engineering including gas dynamics, propulsion, combustion, aerodynamics, structural mechanics, flight dynamics, and control. Information about the School can be found at www.ae.gatech.edu.

Applicants should send (electronically or via mail) a curriculum vitae, a cover letter, a statement of teaching interests and philosophy, a statement of research plans, and the name and contact information of at least three references to: Michelle Hall, c/o Professor Panagiotis Tsiotras, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA, 30332-0150. Phone: (404) 385-3819, e-mail: michelle.hall@ae.gatech.edu

Review of applications will begin immediately, and will continue until the positions are filled.

Board of Regents policy requires Federal and State background investigations, including a criminal background check. Georgia Tech is an equal opportunity/affirmative action employer.

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8.39. Faculty: Georgia Institute of Technology, USA

Contributed by: Panagiotis Tsiotras, tsiotras@gatech.edu

Faculty Position in Autonomy (AE/IRIM-GaTech)

The Institute for Robotics and Intelligent Machines and the School of Aerospace Engineering at the Georgia Institute of Technology (Georgia Tech) invites nominations and applications for a faculty position in the general area of autonomous and intelligent systems. The appointment is expected to be at the Assistant or Associate Professor level, but appointments at the Full Professor level will be considered for exceptional candidates having demonstrated a superior research and teaching record.

Candidates are expected to have a strong commitment to teaching at the undergraduate and graduate levels as well as to the development of an externally funded research program. An earned doctorate in Aerospace Engineering, Electrical Engineering, Computer Science/Engineering, Software Engineering or a closely related field is required.

The Aerospace Engineering program at Georgia Tech is the largest program of its kind in the US, having approximately 40 full-time faculty members, and more than 800 undergraduate students and 500+ graduate students. Its undergraduate and graduate programs are typically ranked among the top aerospace engineering programs in the nation. The research interests of the faculty cover a broad spectrum including gas dynamics, propulsion, combustion, aerodynamics, structural mechanics, flight mechanics, robotics and autonomy, orbital mechanics, rotorcraft, aircraft and space systems design, dynamics and control, air-traffic control, and cognitive engineering. Information about the School can be found at www.ae.gatech.edu.

The Institute for Robotics and Intelligent Machines (IRIM) is one of the twelve interdisciplinary research institutes (IRI) at Georgia Tech, and serves as an umbrella under which robotics researchers, educators, and students from across campus come together to advance the many high-powered and diverse robotics activities at Georgia Tech. IRIM's mission is to create new and exciting opportunities for faculty collaboration; educate the next generation of robotics experts, entrepreneurs, and academic leaders; and partner with industry and government to pursue truly transformative robotics research. More than 70 faculty, 30 labs and 60+ PhD

students across the College of Engineering, the College of Computing, the College of Science, and the College of Design are affiliated with IRIM. More details about IRIM can be found at http://robotics.gatech.edu

Applicants should send (electronically or via mail) a curriculum vitae, a cover letter, a statement of teaching interests and philosophy, a statement of research plans, and the name and contact information of at least three references to: Michelle Hall, c/o Professor Panagiotis Tsiotras, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA, 30332-0150. Phone: (404) 385-3819, e-mail: michelle.hall@ae.gatech.edu

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8.40. Faculty: University of Tehran, Iran

Contributed by: Hamed Kebriaei, kebriaei@ut.ac.ir

Faculty Position: University of Tehran, Iran

The University of Tehran offers up to three tenure track faculty member position in the field of Control in School of Electrical and Computer Engineering (ECE).

University of Tehran (UT) is the first modern and highest rank university in Iran. School of ECE, with more than 2000 students, 84 faculty members, 80 research Laboratories is the largest school in UT. ECE-UT holds the "Control and Intelligent Processing Center of Excellence" of the country and the Control department of ECE attracts the highest ranked students of the country in the field.

The control group is active in some interdisciplinary areas like, Smart Grids, Biological Systems, Robotics, Cognitive Science, and Industrial Automation. For more information about the control department of ECE you can visit:
http://ece.ut.ac.ir/en/control

The applicants must hold a PhD degree from renowned international universities and have a solid background in Control Systems with a strong academic records and proved world class capabilities in research.

The areas of interest include but not limited to: Hybrid/Switched Control Systems, Learning Control Systems, Data Driven Control Systems, Control of Network Systems and Automation Control Systems with application areas such as: Systems Biology, Energy, Cyber Physical Systems, and Complex Networks.

As a faculty member your role will be to:
-Perform fundamental and applied research at the forefront of the systems and control domain;
-Publish in renowned scientific journals and conferences;
-Set up and teach inspiring courses and lab projects in the BSc, MSc and PhD programs at ECE-CS;
-Supervise PhD and MSc students as well as BSc student projects;
-Maintain and expand an effective network of cooperation partners in academia, institutes and industry
-Contribute to acquiring funding for research projects from (inter)national research funding agencies.

The salary of a faculty member is paid according to the common regulations of UT, nevertheless, applicants recognized as "Elite Researchers" by the recruitment committee will get 30

What is required in an application pack?
- Cover letter stating your interest in the faculty position in Control department
- A full academic CV,
- Your statement of purpose,
- Details of three references.

Interested candidates should send their application pack for consideration to:
Dr. Hamed Kebriaei: kebriaei@ut.ac.ir

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8.41. Faculty: Lehigh University, USA

Contributed by: Barbara McGuire, bcm208@lehigh.edu

Lehigh University Robotics & Controls Faculty Search

The P.C. Rossin College of Engineering & Applied Science at Lehigh University invites nominations and applications from qualified individuals for senior/junior tenure-track positions in the area of robotics & controls.

Lehigh University is investing more than $250M over the next few years on new innovative research and academic programs to enhance its intellectual footprint and our equitable community. The investments, based on faculty-driven initiatives, will advance the university's mission and commitment to enhance student experiences. Investments will include upgrades to physical plants, research and teaching laboratories, and technical infrastructure.

The P.C. Rossin College of Engineering has a strong and diverse team of faculty members researching in the core disciplines of robotics, controls, and intelligent systems. This faculty search aims at expanding our core team to accelerate growth of interdisciplinary research in the area of robotics and controls. Our vision is for Lehigh University and the Lehigh Valley region of Pennsylvania to achieve national prominence and leadership in this important growth area and related technology. We are committed to growing our research footprint in this space while supporting an inclusive learning, research, and working environment.

We invite applications from outstanding faculty candidates at both junior and senior levels for multiple tenure-track positions in all aspects of robotics and controls, including (but not limited to):

Perception and learning in robotics, Field & industrial robotics, Control and planning of autonomous systems, Micro-, nano-scale robotics, Haptics, human-robot interaction, social robotics, Biologically inspired and soft robotics

Candidates should have a Ph.D. in Computer Science, Electrical Engineering, Mechanical Engineering, Chemical Engineering, or a related field and a distinguished record of research scholarship, and qualify for the rank of assistant, associate, or full professor. Candidates who have experience working with a diverse range of faculty, staff, and students, and who can contribute to the climate of inclusivity are encouraged to identify their experience in these areas. Ideal candidates with outstanding academic credentials and a strong interest in research and teaching (especially undergraduate education) will be given priority. Applications from female or minority candidates are strongly encouraged. Lehigh University is an affirmative action/equal opportunity employer. Lehigh provides competitive salaries and comprehensive benefits, including partner benefits. Lehigh University has a well-developed infrastructure to address dual career and work-life balance matters. As demonstrated by the Core Values and the Principles of Our Equitable Community, Lehigh University is committed to the values of Integrity and Honesty, Equitable Community, Academic Freedom, Intellectual Curiosity, Collaboration, Commitment to Excellence, and Leadership.

Review of applications will begin immediately and will continue until the position is filled. For full consideration, applicant materials must be received on-line at https://academicjobsonline.org/ajo/jobs/9860 by 11/15/2017.

Candidates should submit the following: 1) a cover letter indicating the area of specialization and faculty track, 2) curriculum vitae, 3) a statement for current and future research directions, 4) a teaching statement, 5) a description of experience and vision for enhancing participation of people from traditionally underrepresented groups, 6) copies of 3 representative papers, and 7) contact information for at least three references. Inquiries can be directed to Professors Mooi Choo Chuah and Nader Motee, Co-Chairs of the Search Committee at (robotics-search@lehigh.edu).

Lehigh is a premier residential research university, ranked in the top tier of national research universities each year. Lehigh University is a coeducational, nondenominational, private university that offers a distinct academic environment for undergraduate and graduate students from across the globe. Located in Pennsylvania's scenic Lehigh Valley, the campus is situated on 1,600 acres in close proximity to both New York City and Philadelphia.

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8.42. Faculty: University of Michigan, USA

Contributed by: Kimberly Johnson, berlykim@umich.edu

Chair, Department of Aerospace Engineering, University of Michigan

The Department of Aerospace Engineering at the University of Michigan seeks applications and nominations for the position of Department Chair. The Department currently has 27 tenured and tenure-track faculty members with approximately 318 undergraduate and 191 graduate students (116 PhD and 75 MSE/SGUS). The University of Michigan's Aerospace Engineering Department is the first collegiate aeronautics program in the United States—started in 1914, with more than 6,000 aerospace engineers graduated over the past 100 years. The successful candidate will be an outstanding scholar with an earned doctorate in a research field related to Aerospace Engineering, and will have an exemplary record of achievement in research, teaching and service at a level commensurate with appointment as a tenured full professor.

The candidate must possess visionary leadership abilities, a broad appreciation for the diverse perspectives within the Aerospace Engineering discipline, and a strong interest in promoting sponsored research programs and mentoring faculty. The qualified candidate should be able to lead and support the faculty to ensure that learning of the highest quality flourishes at all levels, from undergraduate education to graduate and post-doctoral research. The candidate should be able to work with a diverse group of faculty, staff, students, and administrators to achieve common goals and to maintain rapport with alumni and industry representatives. Furthermore, the ideal candidate would capitalize on the breadth of research at the University of Michigan to foster multidisciplinary collaboration across the College and University and have a vision to expand the department's impact. The College of Engineering is especially interested in qualified candidates who can contribute, through their research, teaching, and/or service, to the diversity and excellence of the academic community.

Michigan Engineering's vision is to be the world's preeminent college of engineering serving the common good. This global outlook, leadership focus, and service commitment permeate our culture. Our vision is supported by a mission and values that, together, provide the framework for all that we do. Information about our vision, mission and values can be found at: http://strategicvision.engin.umich.edu/.

The University of Michigan has a storied legacy of commitment to Diversity, Equity and Inclusion (DEI). The Michigan Engineering component of the University's comprehensive, five-year, DEI strategic plan—with updates on our programs and resources dedicated to ensuring a welcoming, fair, and inclusive environment—can be found at: http://www.engin.umich.edu/college/about/diversity.

Applicants should electronically submit a detailed curriculum vitae and a two-page synopsis of his or her views on current challenges and opportunities facing aerospace engineering education and research. The deadline for ensuring full consideration of an application is November 15, 2017, but the position will remain open and applications may still be considered until the appointment is made. The search will be conducted in confidence until finalists are invited for campus visits at which time professional references will be contacted.

Please submit your application to the following:
Web: https://apply.interfolio.com/45214

If you have any questions regarding the web application submittal process or other inquiries please contact Professor Henry A. Sodano, Chair, Aerospace Engineering Search Committee, at aero-search@umich.edu.

The University of Michigan is an Affirmative Action, Equal Opportunity Employer with an Active Dual-Career Assistance Program.

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8.43. Faculty: McGill University, Canada

Contributed by: Inna Sharf, facultysearch.mecheng@mcgill.ca

FACULTY POSITIONS IN MECHANICAL ENGINEERING
McGill University

The Department of Mechanical Engineering at McGill University invites applications for three tenure-track positions at the rank of Assistant Professor. McGill is among the top research intensive academic institutions in Canada, attracting over one-half billion dollars in competitive research funding each year. It has been consistently ranked in the top 25 universities worldwide in a number of recent surveys. Successful candidates will play leading roles in maintaining McGill's international reputation of excellence in research and teaching. We are particularly interested in the areas of thermofluid sciences, alternative energies, robotics and mechatronics, with applications at all scales, including micro/nanoscale.

The Department is committed to excellence in teaching in its undergraduate and graduate programs in Mechanical Engineering and values service contributions of its Faculty members to the University, the profession and society at large.

Candidates must have a Ph.D., preferably with a first degree in Mechanical or Aerospace Engineering, and a strong commitment to excellence in research and teaching. Evidence of outstanding research achievements, or research potential, is indispensable. Preferred qualifications include dedication to an environment that supports diversity of population and perspectives. Membership or eligibility for membership in a Canadian professional engineering association is required.

Applications will be reviewed starting October 1, 2017 and will continue until the position is filed. Interested candidates should submit applications which include their resume, a statement of teaching and research interests, names and addresses of three referees, and copies of recent publications to:

Professor Inna Sharf
Dept. of Mech. Eng., McGill University
817 Sherbrooke Street West MD270
Montreal, Quebec, H3A 0C3 Canada
E-mail (preferred): facultysearch.mecheng@mcgill.ca
Web site: http://www.mcgill.ca/mecheng/

All qualified applicants are encouraged to apply; however, in accordance with Canadian immigration requirements, Canadians and permanent residents will be given priority. The position is subject to final budgetary approval of the University. McGill University is committed to diversity and equity in employment. It welcomes applications from: women, Aboriginal persons, persons with disabilities, ethnic minorities, persons of minority sexual orientation or gender identity, visible minorities, and others who may contribute to diversification.

Please reference the source of the ad when applying for, or inquiring about, this job announcement.

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8.44. Faculty: University of Oklahoma, USA

Contributed by: Andrea L'Afflitto, a.lafflitto@ou.edu

Tenure Track Faculty Position in Aerospace Engineering

The School of Aerospace and Mechanical Engineering (AME) at the University of Oklahoma is seeking outstanding candidates to fill a tenure-track position in aerospace engineering at the Assistant Professor level. Candidates with research and teaching expertise in one or more of the following specialty areas are of particular interest:

- Novel unmanned autonomous systems for defense, civil, and commercial applications, preferably with application to aerial and terrestrial vehicles;
-Guidance, navigation, and control systems of unmanned single or multiple vehicles operating in hostile environments and GPS-denied areas;
-Integration of unmanned aerial systems (UAS) with the National Airspace System and use of UAS for commercial and scientific applications;
- Qualification and testing of unmanned systems in standard conditions, extreme weather, and man-made events;
-Propulsion and energy storage systems to guarantee extended autonomy of unmanned systems

Review of candidates will begin on November 1, 2017. For details and to submit applications, visit https://apply.interfolio.com/45232

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8.45. Faculty: The Chinese University of Hong Kong, Hong Kong

Contributed by: Jie Huang, jhuang@mae.cuhk.edu.hk

Faculty: The Chinese University of Hong Kong, Hong Kong

The Chinese University of Hong Kong (CUHK) is ranked one of the top 50 universities worldwide according to the QS World University Rankings of 2016/17. It is also named the Most Innovative University in Hong Kong by Thomson Reuters in their survey of August 2016. In the 2014 Research Assessment Exercise, the mechanical engineering discipline of CUHK was ranked first among its counterparts of all universities in Hong Kong in terms of the ratio of world leading research (top category of 4*). Further information about the Department is available at http://www.mae.cuhk.edu.hk.

The Department of Mechanical and Automation Engineering (MAE) at CUHK is seeking excellent candidates in the area of systems and control in all levels.

Applicants should have (i) a PhD degree in Mechanical Engineering/Electrical Engineering or a related discipline, (ii) a proven record of academic scholarship such as publications in IEEE Transactions on Automatic Control, Automatica, International Journal of Robust and Nonlinear Control, etc., and (iii) high potential for excellence in teaching and research. Experience in technology transfer and entrepreneurship will also be valued.

The appointees will (a) teach undergraduate and postgraduate courses; (b) develop an externally funded high impact research programme; (c) supervise postgraduate students; and (d) provide service to the department, professional organizations and the community.

All positions are similar to tenure tracked positions at Universities in USA; that is, appointments will initially be made on contract basis for up to three years, which, subject to mutual agreement, may lead to longer-term

appointment or substantiation later. Outstanding candidates with substantial experience for Professor rank may be considered for substantive appointment forthwith. The exact start date will be negotiated with the successful applicants.

Salary and Fringe Benefits
Salary will be highly competitive, commensurate with qualifications and experience. The University offers a comprehensive fringe benefit package, including medical care, plus a contract-end gratuity for appointments of two years or longer and housing benefits for eligible appointees. (Starting annual salary for Assistant Professor is above US$100k, plus housing allowance of US$25k per year; low salary tax rate: <15%).

Applicants please apply via the link at
https://cuhk.taleo.net/careersection/cu_career_teach/jobdetail.ftl?joccb=170001DV
with uploading the full CV, copies of academic credentials, publication list with abstracts of selected published papers, details of courses taught and evaluation results (if available), a research plan, a teaching statement, together with names, addresses and fax numbers/e-mail addresses of three to five referees to whom the applicants' consent has been given for their providing references (unless otherwise specified).

For more information, please contact Ms. YL Kan at ylkan@mae.cuhk.edu.hk.

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8.46. Faculty: University of Delaware, USA

Contributed by: Herbert Tanner, btanner@udel.edu

The Department of Mechanical Engineering at the University of Delaware (UD) invites applications for a faculty position focused at an associate or full professor level, in the area of robotics systems including but not limited to bio-inspired design, mobile manipulation, machine learning, and human-machine interaction.

The Department consists of 29 full-time faculty members actively engaged in the core research areas of biomechanics, clean energy and environment, composite and advanced materials, nanotechnology, and robotics and controls. The Department has also demonstrated interest and institutional commitment in autonomous systems, and is looking for an individual who will lead campus-wide initiatives in the area, such as related new centers and institutes. It enrolls over 500 undergraduate and 100 graduate students, with an undergraduate program that is in high demand and places a strong emphasis on research and real-world design. More information can be found at www.me.udel.edu.

The University of Delaware combines a rich historic legacy in science and engineering with a commitment to undergraduate education and scholarly excellence. With external funding exceeding $200 million, the University ranks among the top 100 universities in federal R&D support. The main campus in Newark, Delaware, provides the amenities of a vibrant college town with convenient access to the major cities of the East Coast. The recently opened 194,000- square-foot Harker Interdisciplinary Science and Engineering Laboratory greatly expands opportunities and resources for research and education, and the 272-acre STAR (Science, Technology and Advanced Research) campus offers even more opportunities for research, academic, and commercial development.

Applicants must hold a Ph.D. in mechanical engineering, or a closely related field from an accredited university. The successful candidate will be a dynamic leader with international visibility, who will have demonstrated excellence in innovative research, a track record of substantially expanding external funding, and an ability to lead large interdisciplinary, multi- institutional research initiatives.

Applicants should provide a curriculum vitae, a statement of research and teaching interests and achievements, and a list of at least four references via https://apply.interfolio.com/45169. Applications received by

December 15, 2017, will be given full consideration. However, the search will continue until the position is filled. Women and minorities are strongly encouraged to apply. The University of Delaware is an equal opportunity employer.

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8.47. Faculty: Norwegian University of Science and Technology, Norway

Contributed by: Morten Breivik, morten.breivik@ntnu.no

The Norwegian University of Science and Technology (NTNU, http://www.ntnu.edu/) is establishing the world's two first professorships in Big Data Cybernetics in collaboration with KONGSBERG (https://kongsberg.com/) and Statoil (https://www.statoil.com/), combining the fields of automatic control and multivariate data modelling. We seek ambitious candidates with complementary backgrounds and enthusiasm for merging these fields by working together. For the successful applicants, this represents a unique opportunity to play a central role in the development of a new interdisciplinary field.

In particular, we seek one candidate with a strong background in automatic control/cybernetics/system identification and one candidate with a strong background in multivariate data modelling/chemometrics/subspace modelling. The purpose is to bridge the gap between theory-driven and data-driven modelling, to provide better understanding, monitoring and control of complex dynamic systems.

The positions will be affiliated with the Department of Engineering Cybernetics (Institutt for teknisk kybernetikk, ITK – http://www.ntnu.edu/itk) at NTNU's Faculty of Information Technology and Electrical Engineering in Trondheim, Norway.

ITK has 22 professors, 15 adjunct professors, about 15 postdocs and researchers as well as 70 PhD candidates. Approximately 160 candidates graduate annually from the three MSc programs in cybernetics, which comprise over 700 students in total. The department is involved in numerous research projects and centers, including the Centre of Excellence for Autonomous Marine Operations and Systems (NTNU AMOS, http://www.ntnu.edu/amos).

Understanding and safely controlling complex dynamic processes requires a strong combination of theoretical background knowledge and practical real-world measurements. Many approaches to handling big data are based on black-box methods which may not be intuitive or transparent for human interpretation. A major focus of Big Data Cybernetics is therefore the development and application of methods which give easily interpretable results, and consequently allow domain experts to play a central role in the data analysis and decision-making processes.

The main goal is to translate "big data" from a large number of sensor channels into "smart data" represented by a combination of theory-driven and data-driven models. The overlap between dynamic subspace identification (from cybernetics) and partial-least-squares modelling (from chemometrics) could for instance be a fruitful common ground for the desired high-dimensional, spatio-temporal modelling. Other types of suitable modelling techniques from physics, statistics, signal processing and machine learning may also be relevant, as long as they are multivariate, open to unexpected events, computationally fast, and their solutions are easy to interpret and validate.

The applicants' methodological background should include theory and tools for describing scientific knowledge in terms of both first-principles mathematical models as well as data-driven models based on large data sets. It is required to document solid competence in essential areas of automatic control and/or multivariate data modelling. Knowledge in system identification, nonlinear dynamics, feedback control, signal processing, image analysis, visualization or machine learning will be considered an advantage.

The candidate will join a research community at ITK which was rated "excellent from an international perspective" in the Norwegian Research Council's evaluation of 53 ICT communities in Norway in 2012, as only one of three ICT communities to receive such a rating in the Norwegian university and college sector. Currently, two of ITK's professors are IEEE Fellows.

The full announcement can be found at
https://www.jobbnorge.no/ledige-stillinger/stilling/142924/two-professorships-associate-professorships-in-big-data-cybernetics.

About NTNU, Trondheim and Norway:

- About NTNU: http://www.ntnu.edu/
- NTNU Facts and Figures: http://www.ntnu.edu/facts
- NTNU International Researcher Support: http://www.ntnu.edu/nirs
- About Trondheim: https://trondheim.com/
- About Norway: https://www.visitnorway.com/about/
- Working in Norway: https://www.nav.no/workinnorway/en/Home
- Practical info about Norway: http://www.nyinorge.no/en/Ny-i-Norge-velg-sprak/New-in-Norway/

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