

E-LETTER on Systems, Control, and Signal Processing
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Welcome to the 354 issue of the Eletter, available electronically [here](#).
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The next Eletter will be mailed out at the beginning of March 2018.

Contents

1. IEEE CSS Headlines

- 1.1 Announcement: Submission to IEEE Control Systems Letters with CDC (2018) Option Now Available
- 1.2 IEEE Control Systems Society Technically Cosponsored Conferences
- 1.3 IEEE Transactions on Control of Network Systems
- 1.4 IEEE Control Systems Society Publications Content Digest

2. Awards

- 2.1 Nordic Process Control Award
- 2.2 European PhD Award on Control for Complex and Heterogeneous Systems

3. MISC

- 3.1 Marine Robotics School
- 3.2 Doctoral School on “Introduction to Modeling and Control of Port-Hamiltonian systems”
- 3.3 International Graduate School on Control
- 3.4 American Summer School on MPC
- 3.5 LCCC Focus Period on “Learning and Adaptation for Sensorimotor Control”
- 3.6 Software Release: emgr 5.3

4. Books

- 4.1 Linear Continuous-Time Systems
- 4.2 Regional Analysis of Time-Fractional Diffusion Processes

5. Journals

- 5.1 Contents: Automatica
- 5.2 Contents: Nonlinear Analysis: Hybrid Systems
- 5.3 Contents: European Journal of Control
- 5.4 Contents: Asian Journal of Control
- 5.5 Contents: International Journal of Control, Automation, and Systems
- 5.6 Contents: IET Control Theory & Applications
- 5.7 Contents: Control Engineering Practice

- 5.8 Contents: Control Theory and Technology
- 5.9 Contents: International Journal of Control
- 5.10 CFP: ASME Journal of Dynamic Systems, Measurement, and Control

6. Conferences

- 6.1 International Conference on Unmanned Aircraft Systems
- 6.2 International Conference on Methods and Models in Automation and Robotics
- 6.3 IFAC Conference on Cyber-Physical & Human Systems
- 6.4 ASME 2018 Dynamic Systems and Control Conference
- 6.5 Allerton Conference on Communication, Control, and Computing
- 6.6 Workshop on Benchmarking Cyber-Physical Networks and Systems
- 6.7 World Congress: Mathematical Problems in Engineering, Aerospace and Sciences
- 6.8 Networked, Autonomous Air & Space Systems Workshop
- 6.9 IFAC Conference on Modelling Identification and Control of Nonlinear Systems
- 6.10 IFAC Workshop on Distributed Estimation and Control in Networked Systems
- 6.11 Indian Control Conference
- 6.12 International Conference on Control, Automation and System
- 6.13 International Conference Dynamical Systems: Stability, Control, Optimization

7. Positions

- 7.1 PhD: Illinois Institute of Technology, USA
- 7.2 PhD: Texas A&M University, USA
- 7.3 PhD: Tel Aviv University, Israel
- 7.4 PhD: KU Leuven, Belgium
- 7.5 PhD: KU Leuven, Belgium
- 7.6 PhD: KU Leuven, Belgium
- 7.7 PhD: KU Leuven, Belgium
- 7.8 PhD: Vrije Universiteit Brussel, Belgium
- 7.9 PhD: Eindhoven University of Technology, The Netherlands
- 7.10 PhD: Delft University of Technology, The Netherlands
- 7.11 PhD: Delft University of Technology, The Netherlands
- 7.12 PhD: University of Groningen, The Netherlands
- 7.13 PhD: Uppsala University, Sweden
- 7.14 PhD: Uppsala University, Sweden
- 7.15 PhD: University of Cyprus, Cyprus
- 7.16 PhD: University of Poitiers, France
- 7.17 PhD: Slovak University of Technology in Bratislava, Slovakia
- 7.18 PhD: University of Louisiana at Lafayette, USA
- 7.19 PhD: University of Strathclyde, UK
- 7.20 PhD: University of Cambridge, UK
- 7.21 PhD: University of Houston, USA
- 7.22 Research Fellow/Associate: National University of Singapore, Singapore
- 7.23 PostDoc: U.S. Army Research Laboratory, USA
- 7.24 PostDoc: University of Michigan, USA
- 7.25 PostDoc: Shanghai Jiao Tong University, China
- 7.26 PostDoc: IA IMT Lille Douai, France
- 7.27 PostDoc: UTFSM, Chile
- 7.28 PostDoc: National Institute of Informatics, Japan
- 7.29 PostDoc: INRIA Grenoble, France
- 7.30 PostDoc: University of Utah, USA
- 7.31 PostDoc: MINES ParisTech, France
- 7.32 PostDoc: University of Michigan, USA
- 7.33 PostDoc/Visiting Researcher: Huazhong University of Science & Technology, China
- 7.34 Faculty: Louisiana State University, USA

- 7.35 Faculty: Norwegian University of Science and Technology, Norway
- 7.36 Faculty: Clemson University, USA
- 7.37 Faculty: Westlake Institute for Advanced Study, China
- 7.38 Faculty: KAUST, Saudi Arabia
- 7.39 Faculty: University of Groningen, The Netherlands
- 7.40 Research Scientist: Optikom, China
- 7.41 Product Development Engineer: Arconic Fastening Systems and Rings, USA

1. IEEE CSS Headlines

1.1. Announcement: Submission to IEEE Control Systems Letters with CDC (2018) Option Now Available

Contributed by: Francesca Bettini, bettini@dei.unipd.it

As for the year 2017, also this year the IEEE Control Systems Letters (L-CSS) offers the opportunity for authors to not only publish a paper in the journal but also to present the same paper at the flagship conference of the IEEE Control Systems Society: the IEEE Conference on Decision and Control (CDC).

The joint submission to IEEE Control Systems Letters and CDC 2018 will be possible ***from January 4 to March 6, 2018***.

Manuscripts submitted to the L-CSS with the CDC option will undergo a regular review as papers submitted to the Letters (so they should be submitted only to the L-CSS and not to the CDC). At the end of the first round of review, the reviews and the Associate Editor's report will be forwarded to the CDC Program Committee, which will use them to decide on the inclusion of these manuscripts in the program of the Conference.

After the first cycle of review, the decisions about the acceptance or rejection of the manuscript for the L-CSS and for the CDC will be independent of each other. In particular, reviews and reports collected during a possible second round of review will not be forwarded to the CDC Program Committee.

For more information about joint submission to L-CSS and CDC see, specifically,

http://iee-cssletters.dei.unipd.it/Page_authors.html

section "L-CSS and CDC".

For more information about the L-CSS, please check the website at

<http://iee-cssletters.dei.unipd.it/index.html>.

[Back to the contents](#)

1.2. IEEE Control Systems Society 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:

- 37th Chinese Control Conference (CCC2018), Wuhan, China. Jul 25 - Jul 27, 2018.
<http://ccc2018.cug.edu.cn/English/Home.htm>
- 22nd International Conference on System Theory, Control and Computing (ICSTCC 2018), Sinaia, Romania. Oct 10 - Oct 12, 2018. <http://www.icstcc.ugal.ro/>
- 23rd International Conference on Methods and Models in Automation and Robotics (MMAR 2018), Miedzyzdroje, Poland. Aug 27 - Aug 30, 2018. <http://mmar.edu.pl/>
- 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/>

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>

[Back to the contents](#)

1.3. IEEE Transactions on Control of Network Systems

Contributed by: Maureen L Stanton, stanton@bu.edu

IEEE Transactions on Control of Network Systems

Volume 4 (2017), Issue 4 (December)

<http://sites.bu.edu/tcns/december-2017/>

- Formation Control and Obstacle Avoidance of Multiple Rectangular Agents with Limited Communication Ranges, Thang Nguyen, Hung La, Tuan Dzung Le, Mohammad Jafari, p. 680
- Optimal Energy-Efficient Downlink Transmission Scheduling for Real-Time Wireless Networks, Lei Miao, Jianfeng Mao, Christos G. Cassandras, p. 692
- Distributed Control of Active-Passive Networked Multiagent Systems, Tansel Yucelen, John Daniel Peterson, p. 707
- A Truncated Prediction Approach to Consensus Control of Lipschitz Nonlinear Multi-Agent Systems with Input Delay, Chunyan Wang, Zongyu Zuo, Zongli Lin, Zhengtao Ding, p. 716
- Robust Connectivity Preserving Rendezvous of Multirobot Systems Under Unknown Dynamics and Disturbances, Zhi Feng, Chao Sun, Guoqiang Hu, p. 725
- Distributed Deployment Algorithms for Coverage Improvement in a Network of Wireless Mobile Sensors: Relocation by Virtual Force, Hamid Mahboubi, Amir G. Aghdam, p. 736
- Sustainability of Service Provisioning Systems under Stealth DoS Attacks, George Paschos, Leandros Tassioulas, p. 749
- Average State Observers for Large-Scale Network Systems, Tomonori Sadamoto, Takayuki Ishizaki, Jun-ichi Imura, p. 761
- Optimality of Fast Matching Algorithms for Random Networks with Applications to Structural Controllability, Mohamad Kazem Shirani Faradonbeh, Ambuj Tewari, George Michailidis, p. 770
- Hybrid Control of Multiagent Systems with Contingent Temporal Tasks and Prescribed Formation Constraints, Meng Guo, Charalampos P. Bechlioulis, Kostas J. Kyriakopoulos, Dimos V. Dimarogonas, p. 781
- Optimal Routing for Lifetime Maximization of Wireless Sensor Networks with a Mobile Source Node, Sepideh Pourazarm, Christos G. Cassandras, p. 793
- Optimal Targeting and Contract Offering for Load Curtailment in Nega-Watt Markets, Angeliki Anastopoulou, Iordanis Koutsopoulos, George D. Stamoulis, p. 805
- Attitude Coordinated Control of Multiple Underactuated Axisymmetric Spacecraft, Ziyang Meng, Dimos V. Dimarogonas, Karl H. Johansson, p. 816
- Near-optimal Distributed Detection in Balanced Binary Relay Trees, Zhenliang Zhang, Edwin K. P. Chong, Ali Pezeshki, Bill Moran, Stephen David Howard, p. 826
- Efficient Clustering and Path Planning Strategies for Robotic Data Collection Using Space-Filling Curves, Yuan Yan, Yasamin Mostofi, p. 838
- Distributed Dynamic Coverage and Avoidance Control Under Anisotropic Sensing, Dimitra Panagou, Dusan M. Stipanovic, Petros G. Voulgaris, p. 850
- Optimal Pricing to Manage Electric Vehicles in Coupled Power and Transportation Networks, Mahnoosh Alizadeh, Hoi-To Wai, Mainak Chowdhury, Andrea Goldsmith, Anna Scaglione, Tara Javidi, p. 863
- Analysis of Price of Total Anarchy in Congestion Games via Smoothness Arguments, Xuehe Wang, Nan

Xiao, Lihua Xie, Emilio Frazzoli, Daniela Rus, p. 876

- The Impact of Stealthy Attacks on Smart Grid Performance: Tradeoffs and Implications, Yara Abdallah, Zizhan Zheng, Ness B. Shroff, Hesham El Gamal, Tarek El-Fouly, p. 886

[Back to the contents](#)

1.4. IEEE Control Systems Society Publications Content Digest

Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

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

The CSS Publications Content Digest, available at

<http://ieeecss.org/publications-content-digest>

provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society.

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

[Back to the contents](#)

2. Awards

2.1. Nordic Process Control Award

Contributed by: Sigurd Skogestad, skoge@ntnu.no

Dale Seborg receives the 2018 Nordic Process Control Award.

The Nordic Process Control Award is awarded for lasting and significant contributions to the field of process control. The 16th recipient of this award is Professor Dale Seborg who received the award for his contributions to process control research, applications and education.

The award was presented to Professor Seborg on January 18, 2018 during the 21th Nordic Process Control Workshop held in Turku (Abo) in Finland. The title of his inspiring award lecture was: "A process control Odyssey".

The slides of the award lecture slides and more information about the Nordic Working Group on Process Control can be found at:

<http://folk.ntnu.no/skoge/npc/>

Previous winners of the Nordic Process Control Award:

1995: Howard H. Rosenbrock

1997: Karl Johan Åström

1998: F. Greg Shinskey

2000: Jens G. Balchen

2001: Charles R. Cutler

2003: Roger W. Sargent

2004: Ernst Dieter Gilles

2006: Manfred Morari

2007: Jacques Richalet

2009: John MacGregor

2010: Graham C. Goodwin

2012: Lorenz T. Biegler
2013: James B. Rawlings
2015: Rudolf Kalman
2017: Wolfgang Marquardt
2018: Dale Seborg

[Back to the contents](#)

2.2. European PhD Award on Control for Complex and Heterogeneous Systems

Contributed by: Luca Greco, luca.greco@l2s.centralesupeec.fr

2017 European PhD Award on Control for Complex and Heterogeneous Systems

As every year, we would like to encourage young researchers that have recently obtained their PhD degree to participate in the process for the selection of the best PhD thesis defended in a European University in the field of Control for Complex and Heterogeneous Systems. The aim is to encourage high-quality work amongst young researchers in their first research period.

The prize consists of a certificate and a cash award of 1000 EUR.

Deadline for application: *28th February 2018*

To be eligible for the award, the thesis must be in English and have been defended in Europe between 15/07/2016 and 14/07/2017

Former recipients can be found on the webpage:

<http://www.eeci-institute.eu/index.php?p=PhD-Award>

To apply, please consult the award webpage:

<http://www.eeci-institute.eu/PhD-Award/>

Please forward this message also to whom it may concern in your Department or to your colleagues.

Denis Efimov,
Luca Greco

[Back to the contents](#)

3. MISC

3.1. Marine Robotics School

Contributed by: Pramod Kumar Maurya, maurya@nio.org

It is our pleasure to announce another edition of the Marine Robotics School at the National Institute of Oceanography (NIO), Goa. India, from Feb. 12-17, 2018. The school covers a large spectrum of disciplines that are at the core of advance marine robotic systems design, implementation, and testing. As a key distinctive feature, we will afford the participants a well-balanced presentation of theoretical and practical issues pertaining to marine robotic systems design. The conceptual aspects are firmly rooted in dynamical systems theory and optimization and in techniques for navigation, guidance, and control of single and cooperative marine robots. The school will also cover the steps required to go from concept to practice, with hands-on experiments illustrating the use of hardware-in-the-loop simulation tools and the participation in demonstrations with underwater vehicles developed at NIO. The school will also feature a series of lectures and demonstrations with real equipment devoted to Networked Acoustic Systems, with applications to multiple vehicle communications and single/cooperative navigation and control.

This is the 4th in a series of Marine Robotics Schools at NIO, Goa first organized in 2012. The positive feedback we received from students and faculty drawn from Indian institutions was extremely encouraging, to the extent that we continued to offer the school in 2013, 2015, and now in 2018 by inviting well known researchers and systems developers in marine technology working in Europe, USA, and Asia with the goal of making these schools unique from a theoretical and practical standpoint. Given the immense coastline encircling the Indian subcontinent, it is clear that practical Marine Robotics has the rich potential of energizing young smart minds in India and in other surrounding regions. In this respect, the school aims to contribute to building bridges in marine robotics research, foster cross fertilization of ideas between marine science and technology, and give renewed impetus to outreach activities. It is also hoped that the Marine Robotics School will foster vibrant discussions among all participants and become the starting point for the definition of common R&D projects on an international scale.

We would be delighted to welcome you to Goa.

You may also wish to check the updates on the course and related materials at the following link <http://mid.nio.org/>.

Pramod Maury & Antonio Pascoal
NIO, Goa, India
IST, Univ. Lisbon, Portugal

[Back to the contents](#)

3.2. Doctoral School on “Introduction to Modeling and Control of Port-Hamiltonian systems”

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

Pre-LHMNC 2018 Workshop doctoral school

Introduction to modeling and control of port-Hamiltonian systems

30 April – 1 May 2018, Universidad Técnica Federico Santa María, Valparaíso, Chile.

- The doctoral school is aimed at postgraduate students, academics and researchers in general.
- Registration fee is USD150 for the general public and FREE for LHMNC2018 participants. However, registration is required through the email: contact@lhmnlc18.org
- A limited number of scholarships will be offered and applications should be sent to contact@lhmnlc18.org
- More information: <http://www.lhmnlc18.org/>

Summary: Conservation of energy is a fundamental property shared by all physical systems. This feature is the base of physical modeling through the formalization of generalized interconnection laws (Kirchhoff’s law). Bond-graphs, linear graphs and other network models rely on this principle. In network models the system is considered as the interconnection of energy storing elements together with energy dissipating elements via basic physical interconnection laws. The port-Hamiltonian framework formalizes this interconnection by a power preserving geometric structure, and defines the Hamiltonian function as the total energy stored in a system, thus, port-Hamiltonian systems (PHS) have direct physical interpretation and a particular geometric structure. Models based on energy approaches are very useful tools for engineers, since they are defined in terms of energy, which is a concept common to all engineering domains. They are specially interesting for control design since the closed loop energy function is a good Lyapunov candidate function for non linear control. It is particularly suited for passivity based control methods. At the end of the course the student will have acquired the basic notions on

- Formulation of lumped and distributed parameter dynamical systems using PHS models.
- Structured modeling of complex and multi-physical systems by interconnection of simple PHS and irreversible PHS models.

- Passivity based control of lumped and distributed parameter PHS.
- Discrete modeling, numerical approximation and spatial semi-discretization of distributed parameter PHS.

The course will have the following speakers:

- Arjan van der Schaft, Johann Bernoulli Institute for Mathematics and Computer Science, University of Groningen, Groningen, The Netherlands.
- Bernhard Maschke, Laboratoire d'Automatique et de Génie des Procédés, University of Lyon, Lyon, France.
- Yann Le Gorrec, FEMTO-ST, École Nationale Supérieure de Mécanique et des Microtechniques (ENSMM), Besançon, France.
- Alessandro Macchelli, Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi", University of Bologna, Bologna, Italy.
- Hector Ramirez, University of Bourgogne Franche-Comté, FEMTO-ST, Besançon, France.
- Paul Kotyczka, Department of Mechanical Engineering, Technical University of Munich, Garching, Germany.

[Back to the contents](#)

3.3. International Graduate School on Control

Contributed by: Françoise Lamnabhi-Lagarrigue, lamnabhi@12s.centralesupelec.fr

EECI-IGSC-2018: International Graduate School on Control

see, <http://eeciinstitute.web-events.net/igsc-program/>

NEW DEADLINE for the advance registration: the decision for the opening of the modules M12, M13, M14, M15, M16, M17, M19, M22, M24 and M25 is POSTPONED to 01/03/2018. EARLY REGISTRATION for these modules is still opened and till 28/02/2018, see:

<http://eeciinstitute.web-events.net/registration/>

[Back to the contents](#)

3.4. American Summer School on MPC

Contributed by: Sasa V. Rakovic, sasa.v.rakovic@gmail.com

The second American Summer School on MPC will be held at the University of Michigan at Ann Arbor, from July 16, 2018 to July 20, 2018. The five-day, eight-instructor Summer School is organized by Sasa V. Rakovic, James B. Rawlings and Ilya V. Kolmanovskiy.

The American Summer School on MPC aims to enable up to 60 graduate students, as well as interested researchers and control practitioners from a cross-cutting set of disciplines in engineering, science, and applied mathematics to receive advanced education and training from international experts in the theory, implementation and applications of MPC. The instructors comprise leading researchers from universities, government laboratories, and industrial companies, and they have been selected for their leading expertise in the different research areas, as well as a diversity of backgrounds and disciplines in engineering, science and applied mathematics.

The main topics of the second summer school on MPC are:

- Essential MPC (by James B. Rawlings).
- Robust MPC (by Sasa V. Rakovic).
- Stochastic MPC (by Ilya V. Kolmanovskiy).
- Hybrid MPC (by Ricardo Sanfelice).

- Convex Optimization for MPC (by Stephen J. Wright).
- Optimization for MPC (by Lorenz T. Biegler).
- MPC in Practice (by Thomas A. Badgwell).
- Automotive/Aerospace Applications of MPC (by Stefano Di Cairano).

The summer school delivers a carefully crafted overview of the theoretical fundamentals of MPC, and it provides access to, and motivates the development of, freely-available and state-of-the-art numerical software for implementing the advanced MPC methods on difficult and challenging examples and industrial applications. The summer school also anticipates inclusion of class mini-projects that enable all attendees to present, and discuss, problems of direct interest to their research, and also to receive feedback from a set of instructors with valuable expertise in all areas of MPC research.

Additional information, including a detailed summer school schedule and registration information will be made available shortly at the summer school website (please monitor the website of the first summer school www.che.wisc.edu/mpc-summer-school for the link to the website for the second summer school.)

Registration will open on April 09. Given a large interest in the first summer school held last year and since the registration is capped at 60 students, early registration for the second summer school is encouraged.

[Back to the contents](#)

3.5. LCCC Focus Period on “Learning and Adaptation for Sensorimotor Control”

Contributed by: Anders Rantzer, rantzer@control.lth.se

The LCCC Linnaeus center - Lund Center for Control of Complex engineering systems is announcing a Focus Period on “Learning and Adaptation for Sensorimotor Control” from October 8 to November 9, 2018 with a workshop in the middle. Confirmed invited speakers include Francesca Cacucci (UK), Marie Csete (USA), Ondrej Chum (Czech Republic), Mathew Diamond (Italy), John Doyle (USA), Auke Ijspeert (Switzerland), Henrik Jörntell (Sweden), Hedvig Kjellström Sidenbladh (Sweden), Per Petersson, (Sweden), Ben Recht (USA), Angela Schoelling (Canada), Terrence Sejnowski (USA), Patrick van der Smagt (Germany), Stefano Soatto (USA), Csaba Szevesvari (USA), Paul Verschure (Spain), René Vidal (USA), CI de Zeeuw (The Netherlands).

The aim of the focus period is to bring together leading researchers from different communities to create cross-fertilization and new ideas. At any particular time, there will be room for up to 10 visiting scholars. A typical visit will be 3 weeks, either beginning or ending with the workshop week. Invitation as visiting scholar includes free accommodation and workshop registration. Interested visitors are encouraged to contact Anders Rantzer rantzer@control.lth.se.

For more information, see <http://www.lccc.lth.se/index.php?page=october-2018>.

[Back to the contents](#)

3.6. Software Release: emgr 5.3

Contributed by: Christian Himpe, himpe@mpi-magdeburg.mpg.de

Version 5.3 of emgr - EMpirical GRamian framework - has been released.

In system theory and control engineering the system Gramian matrices of linear input-output systems have wide-spread use, for example: model reduction, decentralized control, optimal placement or sensitivity analysis. Empirical Gramian matrices correspond to the linear system Gramians, but extend to parametric and nonlinear systems due to their data-driven computation. The empirical Gramian framework is an open-source Matlab toolbox, compatible with Octave and MATLAB, which enables the computation of the following empirical system Gramians:

- * Empirical controllability Gramian
- * Empirical observability Gramian
- * Empirical cross Gramian
- * Empirical linear cross Gramian (fast variant for linear systems)
- * Empirical sensitivity Gramian (controllability of state and parameters)
- * Empirical identifiability Gramian (observability of state and parameters)
- * Empirical joint Gramian (observability of parameters and minimality of state)

For more information see: <http://gramian.de>

[Back to the contents](#)

4. Books

4.1. Linear Continuous-Time Systems

Contributed by: Lyubomir T. Gruyitch, gruyitch.lyubomir.t@gmail.com

Features of the new book by Lyubomir T. Gruyitch

“Linear Continuous-Time Systems”

CRC Press, ISBN 9781138039506 - CAT# K32969, 2017

- Discovers the existence of the system full transfer function matrix $F(s)$ and defines and determines it for IO, ISO and IIO systems (the new class of the systems introduced in the book).
- Establishes the full block diagram technique and the full system matrix $P(s)$ both based on the use of $F(s)$.
- Introduces new dynamical system and control tools, which are not available in existing texts.
- Explores the concept and definition of the IO systems and of the IIO systems state and uses it in the stability study.
- Provides the understanding, knowledge, and capability to analyze and design all three classes of the systems.

[Back to the contents](#)

4.2. Regional Analysis of Time-Fractional Diffusion Processes

Contributed by: Yasmin Brookes, yasmin.brookes@springer.com

Regional Analysis of Time-Fractional Diffusion Processes

by Fudong Ge, YangQuan Chen and Chunhai Kou.

ISBN: 978-3-319-72895-7

February 2017, Springer

Hardcover, 250 pages, \$129.00/EUR 114,99

<http://www.springer.com/gb/book/9783319728957>

This monograph provides an accessible introduction to the regional analysis of fractional diffusion processes. It begins with background coverage of fractional calculus, functional analysis, distributed parameter systems and relevant basic control theory. New research problems are then defined in terms of their actuation and sensing policies within the regional analysis framework. The results presented provide insight into the control-theoretic analysis of fractional-order systems for use in real-life applications such as hard-disk drives, sleep stage identification and classification, and unmanned aerial vehicle control. The results can also be extended to complex fractional-order distributed-parameter systems and various open questions with potential for further investigation are discussed. For instance, the problem of fractional order distributed-parameter

systems with mobile actuators/sensors, optimal parameter identification, optimal locations/trajectory of actuators/sensors and regional actuation/sensing configurations are of great interest.

The book's use of illustrations and consistent examples throughout helps readers to understand the significance of the proposed fractional models and methodologies and to enhance their comprehension. The applications treated in the book run the gamut from environmental science to national security.

Academics and graduate students working with cyber-physical and distributed systems or interested in the applications of fractional calculus will find this book to be an instructive source of state-of-the-art results and inspiration for further research.

Contents

1. Introduction
2. Preliminary Results
3. Regional Controllability
4. Regional Observability
5. Regional Detection of Unknown Sources
6. Spreadability
7. Regional Stability and Regional Stabilizability
8. Conclusions and Future Work

[Back to the contents](#)

5. Journals

5.1. Contents: Automatica

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

Automatica

Vol. 88

February 2018

- Angelo Alessandri, Luca Zaccarian, Stubborn state observers for linear time-invariant systems, Pages 1-9
- Andrii Mironchenko, Guosong Yang, Daniel Liberzon, Lyapunov small-gain theorems for networks of not necessarily ISS hybrid systems, Pages 10-20
- Xiaobin Gao, Emrah Akyol, Tamer Başar, Optimal communication scheduling and remote estimation over an additive noise channel, Pages 57-69
- Bin Zhou, Xuefei Yang, Global stabilization of feedforward nonlinear time-delay systems by bounded controls, Pages 21-30
- Maobin Lu, Rendezvous with connectivity preservation of mobile agents subject to uniform time-delays, Pages 31-37
- Syed Zeeshan Rizvi, Javad Mohammadpour Velni, Farshid Abbasi, Roland Tóth, Nader Meskin, State-space LPV model identification using kernelized machine learning, Pages 38-47
- Lei Fang, Jiandong Wang, Xiaobo Tan, An incremental harmonic balance-based approach for harmonic analysis of closed-loop systems with Prandtl–Ishlinskii operator, Pages 48-56
- Muhammad Iqbal, John Leth, Trung Dung Ngo, Cartesian product-based hierarchical scheme for multi-agent systems, Pages 70-75
- Li Xia, Mean–variance optimization of discrete time discounted Markov decision processes, Pages 76-82
- Jian Wang, Asymptotic stabilization of continuous-time linear systems with quantized state feedback, Pages 83-90

- Dina Alina Irofti, Keqin Gu, Islam Boussaada, Silviu-Iulian Niculescu, Some insights into the migration of double imaginary roots under small deviation of two parameters, Pages 91-97
- Florian A. Bayer, Matthias A. Müller, Frank Allgöwer, On optimal system operation in robust economic MPC, Pages 98-106
- Marek Rydel, Rafał Stanisławski, A new frequency weighted Fourier-based method for model order reduction, Pages 107-112
- Gianluca Meneghello, Paolo Luchini, Thomas Bewley, A probabilistic framework for the control of systems with discrete states and stochastic excitation, Pages 113-116

[Back to the contents](#)

5.2. Contents: Nonlinear Analysis: Hybrid Systems

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

Nonlinear Analysis: Hybrid Systems

Vol. 28

May 2018

- Yuechao Ma, Xiaorui Jia, Qingling Zhang, Robust observer-based finite-time control for discrete-time singular Markovian jumping system with time delay and actuator saturation, Pages 1-22
- Huijiao Wang, Dong Zhang, Renquan Lu, Event-triggered filter design for Markovian jump systems with quantization, Pages 23-41
- Arvo Kaldmäe, Ülle Kotta, Alexey Shumsky, Alexey Zhirabok, Disturbance decoupling in nonlinear hybrid systems, Pages 42-53
- Huong Le Thi, Stéphane Junca, Mathias Legrand, Periodic solutions of a two-degree-of-freedom autonomous vibro-impact oscillator with sticking phases, Pages 54-74
- Chao Han, Li Jia, Daogang Peng, Model predictive control of batch processes based on two-dimensional integration frame, Pages 75-86
- Meng Liu, Xin He, Jingyi Yu, Dynamics of a stochastic regime-switching predator-prey model with harvesting and distributed delays, Pages 87-104
- Deyin Yao, Ming Liu, Renquan Lu, Yong Xu, Qi Zhou, Adaptive sliding mode controller design of Markov jump systems with time-varying actuator faults and partly unknown transition probabilities, Pages 105-122
- Zhiyong Yu, Haijun Jiang, Da Huang, Cheng Hu, Consensus of nonlinear multi-agent systems with directed switching graphs: A directed spanning tree based error system approach, Pages 123-140

[Back to the contents](#)

5.3. Contents: European Journal of Control

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European Journal of Control

Volume 39

January 2018

- Liubao Deng, Zhiqiang You, Yuefen Chen, Optimistic value model of multidimensional uncertain optimal control with jump, Pages 1-7
- Péter Bauer, József Bokor, Development and performance evaluation of an infinite horizon LQ optimal tracker, Pages 8-20
- Xiaodong Xu, Stevan Dubljevic, Optimal tracking control for a class of boundary controlled linear coupled hyperbolic PDE systems: Application to plug flow reactor with temperature output feedback, Pages 21-34

- Kaïs Ammari, Ahmed Bchatnia, Karim El Mufti, Stabilization of the wave equation with moving boundary, Pages 35-38
- Hua-Cheng Zhou, Bao-Zhu Guo, Performance output tracking for one-dimensional wave equation subject to unmatched general disturbance and non-collocated control, Pages 39-52
- Péter Polcz, Tamás Péni, Gábor Szederkényi, Improved algorithm for computing the domain of attraction of rational nonlinear systems, Pages 53-67
- Hiroshi Ito, Thach Ngoc Dinh, Interval observers for global feedback control of nonlinear systems with robustness with respect to disturbances, Pages 68-77
- Jing Lei, Performance recovery of regional input-to-state stabilization by sampled-data output feedback control for nonlinear systems in the presence of disturbance, Pages 78-94
- Toshiyuki Murao, Kenji Hirata, Yusuke Okajima, Kenko Uchida, Real-time pricing for LQG power networks with independent types: A dynamic mechanism design approach, Pages 95-105
- H.B. Silveira, P.S. Pereira da Silva, P. Rouchon, Stabilization of photon-number states via single-photon corrections: A convergence analysis under imperfect measurements and feedback delays, Pages 106-117

[Back to the contents](#)

5.4. Contents: Asian Journal of Control

Contributed by: LiChen Fu, lichen@ntu.edu.tw

Asian Journal of Control

Vol.20, No.1 January, 2018

CONTENTS

[Invited Paper]

1. Dead-beat regulation of mechanical juggling systems (pages 1–11), Laura Menini, Corrado Possieri and Antonio Tornambè

[Regular Paper]

2. Boundary Control for A Flexible Inverted Pendulum System Based on A Pde Model (pages 12–21), Yawei Peng, Jinkun Liu and Wei He

3. Global Practical Tracking for Nonlinear Systems With More Unknowns via Adaptive Output-Feedback (pages 22–38), Shaoli Jin, Yungang Liu and Fengzhong Li

4. Fixed-Time Synchronization of a Class of Second-Order Nonlinear Leader-Following Multi-Agent Systems (pages 39–48), Hua Li, Ming Zhu, Zhaobi Chu, Haibo Du, Guanghui Wen and Naif D. Alotaibi

5. Matrix form of Biconjugate Residual Algorithm to Solve the Discrete-Time Periodic Sylvester Matrix Equations (pages 49–56)

Author: Masoud Hajarian

6. A neural differential evolution identification approach to nonlinear systems and modelling of shape memory alloy actuator (pages 57–70), Son Ngoc Nguyen, Vinh Ho-Huu and Anh Pham Huy Ho

7. Synchronization of A Class of Uncertain Chaotic Systems with Lipschitz Nonlinearities Using State-Feedback Control Design: A Matrix Inequality Approach (pages 71–85), Saleh Mobayen and Fairouz Tchier

8. A Game Theory-Based Coordination and Optimization Control Methodology for a Wind Power-Generation Hybrid Energy Storage System (pages 86–103), Xiaojuan Han, Xiaoling Yu, Yubo Liang, Jianlin Li and Zekun Zhao

9. Data-Driven Adaptive Critic Approach for Nonlinear Optimal Control via Least Squares Support Vector Machine (pages 104–114), Jingliang Sun, Chunsheng Liu and Nian Liu

10. Computationally-Light Non-Lifted Data-Driven Norm-Optimal Iterative Learning Control (pages 115–124),

Ronghu Chi, Zhongsheng Hou, Shangtai Jin and Biao Huang

11. Non-Fragile Simultaneous Actuator and Sensor Fault-Tolerant Control Design for Markovian Jump Systems Based on Adaptive Observer (pages 125–134), Dunke Lu, Guohui Zeng and Jin Liu
12. Constrained Nonlinear-Based Optimisation Applied to Fuzzy PID Controllers Tuning (pages 135–148), Paulo Gil, Ana Sebastião and Catarina Lucena
13. Fuzzy Sliding-mode Strategy for Air–fuel Ratio Control of Lean-burn Spark Ignition Engines (pages 149–158), Hsiu-Ming Wu and Reza Tafreshi
14. Improved Controller Design for Uncertain Positive Systems and its Extension to Uncertain Positive Switched Systems (pages 159–173), Junfeng Zhang, Xudong Zhao, Ridong Zhang and Yun Chen
15. Design of Regulatory Traffic Light Control Systems with Synchronized Timed Petri Nets (pages 174–185), Yi-Sheng Huang, Yi-Shun Weng and MengChu Zhou
16. Synchronization of Uncertain Complex Networks with Time-Varying Node Delay and Multiple Time-Varying Coupling Delays (pages 186–195), Chuan Zhang, Xingyuan Wang, Chunpeng Wang and Wenjie Zhou
17. Discrete-Valued Model Predictive Control Using Sum-of-Absolute-Values Optimization (pages 196–206), Takuya Ikeda and Masaaki Nagahara
18. Dynamic Output Feedback Control for Systems Subject to Actuator Saturation via Event-Triggered Scheme (pages 207–215), Hongchao Li, Zhiqiang Zuo and Yijing Wang
19. A New Approach for Vehicle Lateral Velocity and Yaw Rate Control with Uncertainty (pages 216–227), Hao Sun, Han Zhao, Kang Huang and Shengchao Zhen
20. A modified gradient-based algorithm for solving extended Sylvester-conjugate matrix equations (pages 228–235), Mohamed A. Ramadan and Ahmed M. E. Bayoumi
21. Global PID Control of Robot Manipulators Equipped with PMSMs (pages 236–249), V. M. Hernández-Guzmán and J. Orrante-Sakanassi
22. A Seventh-Degree Cubature Kalman Filter (pages 250–262), Dong Meng, Lingjuan Miao, Haijun Shao and Jun Shen
23. Quasi-Time-Dependent H_∞ Controller for Discrete-Time Switched Linear Systems With Mode-Dependent Average Dwell-Time (pages 263–275), Hui Zheng, Guanghui Sun, Yu Ren and Congcong Tian
24. Exponential Stability and Stabilization for Quadratic Discrete-Time Systems with Time Delay (pages 276–285), Fu Chen, Shugui Kang, Shidong Qiao and Caixia Guo
25. Estimation of Multi-Order Spectra for Nonlinear Closed-Loop Systems (pages 286–297), Jialiang Zhang and Jianfu Cao
26. Stabilization of Stochastic Coupled Systems With Time Delay Via Feedback Control Based on Discrete-Time State Observations (pages 298–311), Yongbao Wu, Mengjie Huo and Wenxue Li
27. Interpolatory Model Order Reduction Method for Second Order Systems (pages 312–322), Zhi-Yong Qiu, Yao-Lin Jiang and Jia-Wei Yuan
28. Boundary Control for a Vibrating String System with Bounded Input (pages 323–331), Zhijia Zhao, Yu Liu and Fei Luo
29. Adaptive Finite-Time Robust Control of Nonlinear Delay Hamiltonian Systems Via Lyapunov-Krasovskii Method (pages 332–342), Renming Yang and Rongwei Guo
30. Online Algebraic Identification Approach of Continuous Linear Time Delay Systems (pages 343–355), Abdelbacet Mhamdi, Kaouther Ibn Taarit and Moufida Ksouri
31. Continuous-Action XCSR with Dynamic Reward Assignment Dedicated to Control of Black-Box Mechanical Systems (pages 356–369), Saeed Hashemnia, Masoud Shariat Panahi and Mohammad Mahjoob
32. Iterative Learning Control for Linear Discrete-Time Systems with Unknown High-Order Internal Mod-

els: A Time-Frequency Analysis Approach (pages 370–385), Qiao Zhu, Jian-Xin Xu, Deqing Huang and Guang-Di Hu

33. Singular Perturbation Method for Smart Building Temperature Control Using Occupant Feedback (pages 386–402), Santosh K. Gupta, Koushik Kar, Sandipan Mishra and John T. Wen

34. Fractional Order Controller for Controlling Power System Dynamic Behavior (pages 403–414), S. P. Nangrani and S. S. Bhat

35. On Finite-Time Stabilization of Active Disturbance Rejection Control for Uncertain Nonlinear Systems (pages 415–424), Qing Wang, Maopeng Ran and Chaoyang Dong

36. Robust Model Predictive Control for Linear Discrete-Time System With Saturated Inputs and Randomly Occurring Uncertainties (pages 425–436), Jianhua Wang, Yan Song, Sunjie Zhang, Shuai Liu and Abdullah M. Dobaie

37. The Unified Frame of Alternating Direction Method of Multipliers for Three Classes of Matrix Equations Arising in Control Theory (pages 437–454), Yi-Fen Ke and Chang-Feng Ma

38. Spacecraft Anti-Unwinding Attitude Control Using Second-Order Sliding Mode (pages 455–468), Pyare Mohan Tiwari, S. Janardhanan and Mashuq un-Nabi

39. Exponential Synchronization of Memristive Chaotic Recurrent Neural Networks Via Alternate Output Feedback Control (pages 469–482), Xiaofan Li, Jian-an Fang and Huiyuan Li

40. Lebesgue-p NORM Convergence OF Fractional-Order PID-Type Iterative Learning Control for Linear Systems (pages 483–494)

Author: Lei Li

41. Optimistic Value Model of Indefinite LQ Optimal Control for Discrete-Time Uncertain Systems (pages 495–510), Yuefen Chen and Yuanguo Zhu

42. Design of Optimal Petri Net Supervisors for Flexible Manufacturing Systems via Weighted Inhibitor Arcs (pages 511–530), XuYa Cong, Chao Gu, Murat Uzam, YuFeng Chen, Abdulrahman M. Al-Ahmari, NaiQi Wu, MengChu Zhou and ZhiWu Li

43. Influence of the Tensor Product Model Representation of qLPV Models on the Feasibility of Linear Matrix Inequality Based Stability Analysis (pages 531–547), Alexandra Szollosi and Peter Baranyi

[Brief Paper]

1. A Consensus Protocol over Noisy Two-Layered Networks with Cooperative and Antagonistic Interactions (pages 548–557), L. T. H. Nguyen, T. Wada, I. Masubuchi, T. Asai and Y. Fujisak

2. Nonlinear Constrained Optimal Control Problems and Cardinal Hermite Interpolant Multiscaling Functions (pages 558–567), Elmira Ashpazzadeh, Mehrdad Lakestani and Mohsen Razzaghi

3. Almost Disturbance Decoupling for a Class of Nonlinear Systems Subject to Time-Delays Via Sampled-Data Output Feedback Control (pages 568–576), Qinghua Meng, Pan Wang, Zong-Yao Sun and Chih-Chiang Chen

4. Bipartite Linear X -Consensus of Double-Integrator Multi-Agent Systems With Measurement Noise (pages 577–584), Cuiqin Ma, Weiwei Zhao and Yun-Bo Zhao

5. A Condition for Boundedness of Solutions of Bidimensional Switched Affine Systems With Multiple Foci and Centers (pages 585–594)

Author: Liying Zhu

6. A Note on all-Stabilizing Proportional Controllers for Single Input–Single Output Systems (pages 595–598), İlker Üstoglu, Halit Örenbaş and Yavuz Eren

7. Global Practical Mittag Leffler Stabilization by Output Feedback for a Class Of Nonlinear Fractional-Order Systems (pages 599–607), Omar Naifar, Abdellatif Ben Makhlof, Mohamed Ali Hammami and Liping Chen

8. Exponential Stabilization of Switched Discrete-Time Systems with All Unstable Modes (pages 608–612),
Jiao Li, Zixiao Ma and Jun Fu

[Back to the contents](#)

5.5. Contents: International Journal of Control, Automation, and Systems

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Table of contents

Vol. 16, No. 1, February 2018

- Robust Finite-time Attitude Tracking Control of Rigid Spacecraft Under Actuator Saturation, Hai-Tao Chen, Shen-Min Song*, and Zhi-Bin Zhu pp.1-15
- Formation Control of Swarm Robots with Multiple Proximity Distance Sensors, Kazunori Sakurama*, Yusuke Kosaka, and Shin-ichiro Nishida pp.16-26
- Adaptive Control Based on Extended Neural Network for SISO Uncertain Nonlinear Systems, Hao-guang Chen*, Yin-he Wang, and Li-li Zhang pp.27-38
- Dynamic Modeling and Inverse Optimal PID with Feed-Forward Control in H_∞ Framework for a Novel 3D Pantograph Manipulator, Manar Lashin*, Mohamed Fanni, Abdelfatah M. Mohamed, and Tomoyuki Miyashita pp.39-54
- Lyapunov-based States Transfer for Open System with Superconducting qubits, Ying-Hua Ji*, Ju-Ju Hu, and Qiang Ke pp.55-61
- Robust Sliding Mode Control of a Vapor Compression Cycle, Nakhoon Kim, Yunki Park, Jung E. Son, Seongjin Shin, Byounghyuk Min, Hyungjin Park, Seokhyun Kang, Hyun Hur, Man Yeoung Ha, and Min Cheol Lee* pp.62-78
- Partial-state Feedback Stabilization for a Class of Generalized Nonholonomic Systems with ISS Dynamic Uncertainties, Yan Zhao*, Chunxiao Wang, and Jiangbo Yu pp.79-86
- Event-triggered Consensus of Discrete Time Second-order Multi-agent Network, Daduan Zhao, Tao Dong* and Wenjie Hu pp.87-96
- Identification of Optimal Set of Driver Nodes in Complex Networked Systems Using Region of Attraction, Ram Niwash Mahia*, Mahaveer Singh, and Deepak M. Fulwani pp.97-107
- Dual-side Event-triggered Output Feedback H_∞ Control for NCS with Communication Delays, Fuqiang Li*, Lisai Gao, Gensheng Dou and Baozhou Zheng pp.108-119
- Finite-time H_∞ Control of Cascade Nonlinear Switched Systems under State-Dependent Switching, Qingyu Su* and Xiaolong Jia pp.120-128
- Multi-sensor Optimal Data Fusion for INS/GNSS/CNS Integration Based on Unscented Kalman Filter, Bingbing Gao*, Gaoge Hu, Shesheng Gao, Yongmin Zhong, and Chengfan Gu pp.129-140
- Fast Regulation Control of a Class of Input-delayed Linear Systems with Pre-feedback, Min-Sung Koo and Ho-Lim Choi* pp.141-149
- Missing Output Identification Model Based Recursive Least Squares Algorithm for a Distributed Parameter System, Jing Chen, Bin Jiang*, and Juan Li pp.150-157

- Stochastic Stability for a Class of Discrete-time Switched Neural Networks with Stochastic Noise and Time-varying Mixed Delays, Ying Cui, Yurong Liu*, Wenbing Zhang, and Fuad E. Alsaadi pp.157-167
- An Improved Polytopic Adaptive LPV Observer Design Under Actuator Fault, Radhia Houimli*, Neila Bedioui, and Mongi Besbes pp.168-180
- Finite Time H_∞ Boundedness of Discrete-time Markovian Jump Neural Networks with Time-varying Delays, M. Syed Ali*, K. Meenakshi, and N. Gunasekaran pp.181-188
- Adaptive Backstepping Control for Spacecraft Rendezvous on Elliptical Orbits Based on Transformed Variables Model, Yu Wang*, Kun Li, Kaihong Yang, and Haibo Ji pp.189-196
- Hybrid Scheduling and Quantized Output Feedback Control for Networked Control Systems, Tengli Wang, Chuan Zhou*, Hui Lu, Junda He, and Jian Guo pp.197-206
- Linear Parameter-varying Approach for Modeling and Control of Rapid Thermal Processes, Mark Trudgen and Javad Mohammadpour Velni* pp.207-216
- Online Fault Diagnosis in Discrete Event Systems with Partially Observed Petri Nets, Jiufu Liu*, Zaihong Zhou*, and Zhisheng Wang pp.217-224
- "Robust H_∞ State-feedback Control for Nonlinear Uncertain Systems with Mixed Time-varying Delays", R. Saravanakumar, M. Syed Ali, He Huang, Jinde Cao, and Young Hoon Joo pp.225-233
- Reliable Gain Scheduling Output Tracking Control for Spacecraft Rendezvous, Qian Wang* and Anke Xue pp.234-242
- Robust H_∞ Control of Uncertain Stochastic Systems with Time-varying Interval Delays, Cheung-Chieh Ku* and Guan-Wei Chen pp.243-255
- Fault Detection for a Class of Nonlinear Networked Control Systems with Communication Constraints, Zehui Mao, Yifei Pan, Bin Jiang*, and Wen Chen pp.256-264
- An Efficient Model Predictive Control for Trajectory Tracking of Wheeled Inverted Pendulum Vehicles with Various Physical Constraints, Ming Yue*, Cong An, and Jian-zhong Sun pp.265-274
- Estimation of the User's Muscular Torque for an Over-ground Gait Rehabilitation Robot Using Torque and Insole Pressure Sensors, Beomsoo Hwang and Doyoung Jeon* pp.275-283
- A Stable Gait Planning Method of Biped Robot Based on Ankle Motion Smooth Fitting, Dong En Zeng, Wang Dan Dan, Tong Ji Gang*, Chen Chao*, and Wang Zeng Hui pp.284-294
- Enhanced Multi-sensor Data Fusion Methodology based on Multiple Model Estimation for Integrated Navigation System, Lei Wang* and Shuangxi Li pp.295-305
- The Effect of Remote Center Compliance Parameters on Formation Control of Cooperative Wheeled Mobile Robots for Object Manipulation, Khalil Alipour* and Adel Abbaspour pp.306-317
- Online Robot Reference Trajectory Adaptation for Haptic Identification of Unknown Force Field, Dianye Huang, Chenguang Yang*, Ning Wang, Andy Annamalai, and Chun-Yi Su pp.318-326
- Sampled-data Control of Fuzzy Systems Based on the Intelligent Digital Redesign Technique: An Input-delay Approach, Han Sol Kim, Jin Bae Park*, Young Hoon Joo pp.327-334
- Collaborative Learning Based on Convolutional Features and Correlation Filter for Visual Tracking, Suryo Adhi Wibowo, Hansoo Lee, Eun Kyeong Kim, and Sungshin Kim* pp.335-349
- Intelligent Digital Redesign for Sampled-data Fuzzy Control Systems Based on State-matching Error Cost Function Approach, Geun Bum Koo, Jin Bae Park*, and Young Hoon Joo pp.350-359
- Adaptive Fuzzy Fault Tolerant Control Using Dynamic Sliding Mode, Ali Karami-Mollae* and Hamed Tirandaz pp.360-367
- Prediction of Dinghy Boom Direction Using Intelligent Predictor, Yeong-Hyeon Byeon, Myung-Won Lee, Jae-Neung Lee, and Keun-Chang Kwak* pp.368-376
- Reinforcement Q-learning Based on Multirate Generalized Policy Iteration and Its Application to a 2-DOF

- Helicopter, Tae Yoon Chun, Jin Bae Park*, and Yoon Ho Choi pp.377-386
- Square Root Unscented Digital Phased-locked Loop, Sung Hyun You, Hyun Ho Kang, and Moon Kyoo Song* pp.387-391
 - Real-time Implementation and Flight Tests using Linear and Nonlinear Controllers for a Fixed-wing Miniature Aerial Vehicle (MAV), T. Espinoza-Fraire*, A. Dzul, F. Cortes-Martinez, and Wojciech Giernacki pp.392-396
 - Reference Test Maps for Path Planning Algorithm Test, Jingyu Kim and Sang Hyo (Arman) Woo* pp.397-401

[Back to the contents](#)

5.6. Contents: IET Control Theory & Applications

Contributed by: Alexandria Lipka, alipka@theiet.org

IET Control Theory & Applications

Volume 12

February 2018

<http://digital-library.theiet.org/content/journals/iet-cta/12/3>

- Tao Zhao, Weibo Liang, Songyi Dian, Jian Xiao, Zhenbo Wei, Improved stability and stabilisation criteria for discrete time-delay systems via a novel double summation inequality, Pages 327 - 337
- Hanmei Wang, Jun Zhao, Finite-time passivity of switched non-linear systems, Pages 338 - 345
- Jun-Wei Wang, Ya-Qiang Liu, Chang-Yin Sun, Observer-based dynamic local piecewise control of a linear parabolic PDE using non-collocated local piecewise observation, Pages 346 - 358
- Yassine Boukal, Mohamed Darouach, Michel Zasadzinski, Nour-Eddine Radhy, Large-scale fractional-order systems: stability analysis and their decentralised functional observers design, Pages 359 - 367
- Jian Li, Chun-Yu Wu, Qingyu Su, Robust fault detection filter design for interconnected systems subject to packet dropouts and structure changes, Pages 368 - 376
- Meysam Bataghva, Mahnaz Hashemi, Adaptive sliding mode synchronisation for fractional-order non-linear systems in the presence of time-varying actuator faults, Pages 377 - 383
- Hanieh Mohammadi, Hong Yao, Gholamreza Khademi, Thang T. Nguyen, Dan Simon, Hanz Richter, Extended Kalman filtering for state estimation of a Hill muscle model, Pages 384 - 394
- Yilun Shang, Fixed-time group consensus for multi-agent systems with non-linear dynamics and uncertainties, Pages 395 - 404
- Zhifeng Gao, Zepeng Zhou, Moshu S. Qian, Jinxing Lin, Active fault tolerant control scheme for satellite attitude system subject to actuator time-varying faults, Pages 405 - 412
- Hehong Zhang, Yunde Xie, Gaoxi Xiao, Chao Zhai, Closed-form solution of discrete-time optimal control and its convergence, Pages 413 - 418
- Guangming Zhuang, Jianwei Xia, Baoyong Zhang, Wei Sun, Robust normalisation and P-D state feedback control for uncertain singular Markovian jump systems with time-varying delays, Pages 419 - 427
- Xuefeng Zhang, Yangyang Liu, Comments on 'Stabilisation conditions for fuzzy control of uncertain fractional order non-linear systems with random disturbances', Pages 428 - 429

[Back to the contents](#)

5.7. Contents: Control Engineering Practice

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

- Xing Jin, Ashish Vora, Vaidehi Hoshing, Tridib Saha, Gregory Shaver, Oleg Wasynczuk, Subbarao Varigonda, Applicability of available Li-ion battery degradation models for system and control algorithm design, Pages 1-9
- Salvatore Strano, Mario Terzo, Constrained nonlinear filter for vehicle sideslip angle estimation withno a priori knowledge of tyre characteristics, Pages 10-17
- Sotiris Ntouskas, Haralambos Sarimveis, Pantelis Sopasakis, Model predictive control for offset-free reference tracking of fractional order systems, Pages 26-33
- Ana Paula Batista, Fábio G. Jota, Performance improvement of an NCS closed over the internet with an adaptive Smith Predictor, Pages 34-43
- D. Maamria, K. Gillet, G. Colin, Y. Chamaillard, C. Nouillant, Computation of eco-driving cycles for Hybrid Electric Vehicles: Comparative analysis, Pages 44-52
- Snezana Yordanova, Milen Slavov, Branimir Gueorguiev, Parallel distributed compensation for improvement of level control in carbonization column for soda production, Pages 53-60
- Mayank-Shekhara Jha, Genevieve Dauphin-Tanguy, Belkacem Ould-Bouamama, Robust fault detection with Interval Valued Uncertainties in Bond Graph Framework, Pages 61-78
- Pau Muñoz-Benavent, Luis Gracia, J. Ernesto Solanes, Alicia Esparza, Josep Tornero, Robust fulfillment of constraints in robot visual servoing, Pages 79-95
- Muhammad Shahzad Afzal, Tongwen Chen, Ali Bandehkhoda, Iman Izadi, Analysis and design of time-deadbands for univariate alarm systems, Pages 96-107
- Berno J.E. Misgeld, Philipp G. Tenbrock, Eyal Dassau, Francis J. Doyle III, Steffen Leonhardt, Optimal online selection of type 1 diabetes-glucose metabolism models, Pages 108-119
- J.M. Maestre, M.I. Fernández, I. Jurado, An application of economic model predictive control to inventory management in hospitals, Pages 120-128
- Xia Yu, Kamuran Turksoy, Mudassir Rashid, Jianyuan Feng, Nicole Hobbs, Iman Hajizadeh, Sediqeh Samadi, Mert Sevil, Caterina Lazaro, Zacharie Maloney, Elizabeth Littlejohn, Laurie Quinn, Ali Cinar, Model-fusion-based online glucose concentration predictions in people with type 1 diabetes, Pages 129-141
- Loris Roveda, Nicola Pedrocchi, Manuel Beschi, Lorenzo Molinati Tosatti, High-accuracy robotized industrial assembly task control schema with force overshoots avoidance, Pages 142-153
- Un-Chul Moon, Youngjun Lee, Kwang Y. Lee, Practical dynamic matrix control for thermal power plant coordinated control, Pages 154-163
- M. Dorosti, R.H.B. Fey, M.F. Heertjes, H. Nijmeijer, Iterative Pole–Zero model updating: A combined sensitivity approach, Pages 164-174
- Yousu Chen, Pavel Etingov, Erin Fitzhenry, Poorva Sharma, Tony Nguyen, Yuri Makarov, Mark Rice, Craig Allwardt, Steve Widergren, Bringing probabilistic analysis capability from planning to operation, Pages 18-25

[Back to the contents](#)

5.8. Contents: Control Theory and Technology

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- Reconstruction of measurements in state estimation strategy against deception attacks for cyber physical systems, Q. Li, B. Xu, S. Li, Y. Liu, D. Cui P.1
- Secure design for cloud control system against distributed denial of service attack, Y. Ali, Y. Xia, L. Ma, A. Hammad P.14
- LQR and LQG based optimal switching techniques for PSS and UPFC in power systems, L. Yathisha, S. Patilkulkarni P.25
- Iterative computational approach to the solution of the Hamilton-Jacobi-Bellman-Isaacs equation in non-linear optimal control, M. D. S. Aliyu P.38
- An equivalent linearization method for nonlinear Van der Pol oscillator subjected to random vibration using orthogonal functions, A. Younespour, H. Ghaffarzadeh, B. F. Azar P.49
- Output stabilization of distributed bilinear systems, E. Zerrik, L. Ezzaki P.58
- Regional gradient observability for semilinear hyperbolic systems: HUM approach, A. Khazari, A. Boutoulout, I. El Harraki P.72

[Back to the contents](#)

5.9. Contents: International Journal of Control

Contributed by: Bing Chu, b.chu@soton.ac.uk

International Journal of Control

Volume 91, Issue 2, 2018

<http://www.tandfonline.com/toc/tcon20/current>

- Adaptive tracking control for a class of stochastic switched systems, Hui Zhang & Yuanqing Xia, pages: 253-265
- Performance recovery of a class of uncertain non-affine systems with unmodelled dynamics: an indirect dynamic inversion method, Bowen Yi, Shuyi Lin, Bo Yang & Weidong Zhang, pages: 266-284
- PID position regulation in one-degree-of-freedom Euler–Lagrange systems actuated by a PMSM, J. Verastegui-Galván, V. M. Hernández-Guzmán & J. Orrante-Sakanassi, pages: 285-296
- Optimal robust control of nonlinear time-delay systems: Maintaining low operating errors during feedback outages, Ho–Lim Choi & Jacob Hammer, pages: 297-319
- Mixed H_2/H_∞ -based actuator selection for uncertain polytopic systems with regional pole placement, Ahmadreza Argha, Steven W. Su, Andrey Savkin & Branko G. Celler, pages: 320-336
- Adaptive inverse compensation for actuator backlash with piecewise time-varying parameters, Guanyu Lai, Changyun Wen, Zhi Liu, Yun Zhang, C.L. Philip Chen & Shengli Xie, pages: 337-345
- MIMO H_∞ control of three-axis ship-mounted mobile antenna systems, Í. Sina Kuseyri, pages: 346-358
- Robust model predictive control for constrained continuous-time nonlinear systems, Tairen Sun, Yongping Pan, Jun Zhang & Haoyong Yu, pages: 359-368
- A distributed model predictive control scheme for leader–follower multi-agent systems, Giuseppe Franzè, Walter Lucia & Francesco Tedesco, pages: 369-382
- Boundary stabilisation of the wave equation in the presence of singularities, Fatiha Alabau-Boussouira, Tarik Ali-Ziane, Fatima Arab & Ouahiba Zaïr, pages: 383-399
- Almost sure exponential stability of stochastic fluid networks with nonlinear control, Song Zhu, Wenting Chang & Dan Liu, pages: 400-410
- Approximation of optimal filter for Ornstein–Uhlenbeck process with quantised discrete-time observation,

Piotr Bania & Jerzy Baranowski, pages: 411-419

- Passivity-based control of linear time-invariant systems modelled by bond graph, R. Galindo & R. F. Ngwompo, pages: 420-436

- On analysis and design of discrete-time constrained switched systems, Matheus Souza, André R. Fioravanti & Robert N. Shorten, pages: 437-452

- Computation of the target state and feedback controls for time optimal consensus in multi-agent systems, Ameer K. Mulla, Deepak U. Patil & Debraj Chakraborty, pages: 453-469

- Rendezvous with connectivity preservation for multi-robot systems with an unknown leader, Yi Dong, pages: 470-479

- Detection, isolation and diagnosability analysis of intermittent faults in stochastic systems, Rongyi Yan, Xiao He, Zidong Wang & D. H. Zhou, pages: 480-494

[Back to the contents](#)

5.10. CFP: ASME Journal of Dynamic Systems, Measurement, and Control

Contributed by: Manish Kumar, manish.kumar@uc.edu

CFP: ASME Journal of Dynamic Systems, Measurement, and Control Special Issue on “Unmanned Mobile Systems” in memory of Professor J Karl Hedrick

Professor J. Karl Hedrick’s professional work was systematically concentrated on the development of non-linear control theory and on its application to a broad variety of systems, including automated highway systems, formation flight of autonomous vehicles, powertrain control, embedded software design, and active suspension systems. The engineering society lost a profound researcher and intellectual who was a remarkable colleague, mentor, collaborator, contributor, and friend with many in the ASME Dynamic Systems and Control Division, ASME JDSMC editors and readers, and National Academy of Engineering. We would like to invite members of our engineering community to submit their works to this Special Issue in honor of Prof. Hedrick’s contribution to our profession.

The 21st century has been principally changing transport systems of three mediums of vehicle operation on the Earth – ground, air, and water. Autonomy, connectivity, electrification, and smart mobility have become a dominant core of research and engineering for virtually all vehicle applications. New technological paradigm shifts in vehicles and vehicle systems could feasibly emerge due to incoming inter-pervasion and transdisciplinary convergence of applied technical, natural, and social sciences and engineering fields. Such rapidly expanding research frontiers require innovative approaches to all areas of unmanned vehicle dynamics and unmanned system conceptual designs to make them receptive to technological novelties.

This Special Issue specifically targets new research areas of unmanned vehicles and unmanned vehicle systems, i.e., unmanned mobile systems (UMS), in strong connection with transdisciplinary knowledge. UMS applications include unmanned ground vehicles, unmanned aerial vehicles, unmanned underwater vehicles, and unmanned intermedium vehicles for various personal and cargo transportation, construction and forestry, farming, scientific research, infrastructure monitoring, surveillance and military, etc.

The Special Issue will be comprised of, but not limited to, the following topics and their potential combinations:

- UMS multi-domain dynamics in interaction with multi-phase environment in different media
- UMS transdisciplinary-inspired concepts for safe and secure performance and energy efficiency
- Intelligent morphing and dynamics of UMS
- Challenges in communication and UMS dynamics in three media and inter-medium environments
- Intelligent sensing and actuation, and control for UMS agile dynamics and mission fulfillment

- Localization problems, landscape, air and aquatic environment sampling
- Fault-tolerance in severe, uncertain, and adversarial environments
- Human-in-the-loop and UMS intelligent decision making related to dynamics and mission fulfillment
- Integration of UMS into the manned and unmanned traffic of their respective media for their mass adoption
- Artificial intelligence and social behavior factors for communication and dynamic interaction between UMS and UMS with Infrastructure in a particular medium and inter-medium environments

Publication Target Dates

Deadline for submissions: April 10, 2018

Review, revision, and acceptance notification: August 12, 2018

Final paper due: September 3, 2018

Submission Information

To submit a manuscript for consideration for the Special Issue, please visit the journal website at:

<https://journaltool.asme.org/home/JournalDescriptions.cfm?JournalID=4&Journal=DS>

and choose the link Submit Papers. Select the Journal of Dynamic Systems, Measurement, and Control and then choose the Special Issue option for “Unmanned Mobile Systems”.

Early submissions are strongly encouraged. Papers submitted by April 10, 2018 will be reviewed in time for inclusion in the Special Issue. Papers received after that date may still be considered for the Special Issue, if time and space permit. Papers that are not ready for production in time for inclusion in the Special Issue may be considered for a regular issue of the journal.

Guest Editors:

Vladimir Vantsevich, PhD, The University of Alabama at Birmingham, Email: vantsevi@uab.edu

David Gorsich, PhD, US Army RDECOM-TARDEC, Email: david.j.gorsich.civ@mail.mil

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[Back to the contents](#)

6. Conferences

6.1. International Conference on Unmanned Aircraft Systems

Contributed by: Youmin Zhang, Youmin.Zhang@concordia.ca

Last CFPs before the current deadline of Feb. 12, 2018 for: 2018 International Conference on Unmanned Aircraft Systems (ICUAS'18) (<http://www.uasconferences.com>)

On behalf of the Organizing Committee and the ICUAS Association, it is our pleasure to invite you to participate in the 2018 International Conference on Unmanned Aircraft Systems, ICUAS'18, which will be on June 12-15, 2018 in Dallas, TX, at the Dallas Marriott City Center. This annual conference has grown tremendously; it has earned the respect of the professional community and it is constantly co-sponsored technically by the IEEE CSS and RAS and the Mediterranean Control Association. The conference is fully sponsored by the ICUAS Association. Following the usual tradition, the conference will be preceded by one day of tutorials and workshops, followed by three full-days of technical sessions. In 2018, we introduce ‘poster papers’, which will go under the same thorough review process, but will report on new ideas with only preliminary results. Keynote lectures, panel discussions and a social agenda will complement and complete the four-day event.

Conference topics include (but not limited to): Airspace Control; Integration; See/Sense-Detect-and-Avoid Systems; Airspace Management; Interoperability; Security; Airworthiness; Levels of Safety; Sensor Fusion; Autonomy; Manned/Unmanned Aviation; Smart Sensors; Biologically Inspired UAS; Micro- and Mini- UAS; Standardization; Certification; Networked UAS; Technology Challenges; Control Architectures; Payloads; Training; Energy Efficient UAS; Path Planning and Navigation; UAS Applications; Environmental Issues; Regulations; UAS Communications; Fail-Safe Systems; Reliability of UAS; UAS Testbeds; Frequency Management; Risk Analysis; UAS Transportation Management (UTM); Policy/Regulation/Law Aspects.

Unmanned system autonomy, collaboration and coordination, formation control, validation and verification and unmanned system design for assured autonomy, are topics of great interest to ICUAS'18.

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

IMPORTANT DATES (Please check the latest information at <http://www.uasconferences.com>)

February 12, 2018: Full Papers/ Invited Papers/Tutorial Proposals Due

April 15, 2018: Acceptance/Rejection Notification

May 7, 2018: Upload Final, Camera Ready Papers

April 15 - May 7, 2018: Early Registration

PAPER SUBMISSION

All papers must be submitted and uploaded electronically. Go to <https://controls.papercept.net>. Click on the link "Submit a Contribution to ICUAS'18" and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 10 point fonts, Times New Roman. The maximum number of pages per submitted paper is 10. For accepted papers, up to two additional pages will be permitted for a charge of \$100 per additional page. Illustrations and references are included in the page count. Invited and Special Sessions: Proposals for invited/special sessions must be submitted/uploaded electronically. A Summary Statement describing the motivation and relevance of the proposed session, invited paper titles and author names must be uploaded electronically by February 12, 2018. In addition, authors must submit FULL versions of invited papers electronically, through <https://controls.papercept.net>. Each paper must be marked as 'Invited Session Paper'. Workshops/Tutorials: Proposals for workshops/tutorials should contain title, the list of speakers, and extended summaries (2000 words) of their presentations. Proposals must be sent by e-mail to the Tutorial/ Workshop Chair by February 12, 2018. Paper Review Process: All submitted papers will undergo a peer review process coordinated by the Program Chairs, Advisory Committee Members, IPC members and qualified reviewers. Authors will be notified of results at the latest by April 15, 2018. Accepted papers must be uploaded electronically no later than May 7, 2018. Authors are encouraged to accompany their presentations with multimedia material, which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.

Welcome and look forward to receiving your contributions and attendance to the ICUAS'18! For detailed information please see www.uasconferences.com.

ICUAS ASSOCIATION LIAISON

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[Back to the contents](#)

6.2. International Conference on Methods and Models in Automation and Robotics

Contributed by: Pawel Dworak, pawel.dworak@zut.edu.pl

23rd International Conference on Methods and Models in Automation and Robotics

27-30 August 2018

Amber Baltic Hotel, Miedzyzdroje, Poland

It is our great pleasure to invite You to participate in the 23rd International Conference on Methods and Models in Automation and Robotics, MMAR 2018 to be held in Miedzyzdroje, Poland, from August 27th to August 30th, 2018.

The Conference will be a good opportunity for highlighting the new results and directions of Automatic Control theory, technology and applications. As such, it mainly will concentrate on the following key points:

- emphasis on invited lectures including plenaries,
- industry participation promotion,
- attract young people to study and work in the field.

The participants of the 23rd International MMAR Conference will have the opportunity to take part in the wide spectrum of categories for technical presentations, including plenary lectures, regular papers of both lecture and poster session types, and panel discussion. We look forward to seeing our old and new friends in Poland. You are kindly invited to participate in the 23rd International MMAR Conference in Miedzyzdroje, Poland.

The proceedings of the conference will be submitted for review and approval for inclusion in the IEEE Xplore® Digital Library and will be submitted for inclusion in the Conference Proceedings Citation Index - Science (ISI Web of Science).

Key Dates

March 5, 2018 - Paper submission

May 21, 2018 - Notification of acceptance

June 25, 2018 - Registration

July 2, 2018 - Camera-ready paper submission

For more information see <http://www.mmar.edu.pl>

[Back to the contents](#)

6.3. 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

Steady advances in controls, communications, and computing are enabling new forms of cyber-physical systems (CPS), and are simultaneously redefining the role and position of humans in broad areas of applications and blurring the traditional boundaries between humans and technology. Therefore, for the most part, human interactions in these technical systems are becoming more complex and raising a range of new technical challenges and broader questions, touching social and even cultural domains. This newfound relationship between humans and technology must be studied from an engineering perspective, a human-factors perspective, and from the perspective of social sciences. This conference series on Cyber-Physical & Human Systems (CPHS) is intended to examine these multidisciplinary dimensions.

The second IFAC conference on CPHS builds on the success of CPHS 2016 and the H-CPS-I meeting in 2014. CPHS 2018 aims to bring together researchers and practitioners from academia and industry to share scientific and technological advances as well as gain a deeper understanding of the interactions between cyber-physical systems and humans. Of particular interest are human-centered technologies in a wide-range of applications including transportation, energy, robotics, manufacturing, and health-care. Examples of topics include human-machine symbiosis, humans as supervisors/operators of complex engineering systems, humans as agents in multi-agent systems, and humans as elements in controlled systems. In addition to the technical and theoretical contributions, CPHS 2018 also invites papers studying the ethical questions, public policies, regulatory issues, and new risks associated with interactions between humans and cyber-physical systems. Towards this end, we invite submissions in the following categories:

- Full conference papers (6-8 pages) addressing relevant CPHS topics, which will be peer-reviewed, and 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).
- Invited sessions, consisting of six 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

The conference program will only include papers of the highest standard as selected by the IPC, in accordance with the IFAC guidelines www.ifac-control.org/publications/Publications-requirements-1.4.pdf. All papers and abstracts 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 and abstracts will be presented either in oral or poster format. Accepted papers will be included in the conference “preprints” (USB drive) and published online, whereas accepted abstracts will only be included as preprints and not published on-line. All papers, abstracts, and invited session proposals must be submitted through the conference submission website, www.cphs2018.org, and conform to the policy found therein.

Copyright: "All publication material submitted for presentation at an IFAC-sponsored meeting (Congress, Symposium, Conference, Workshop) must be original and hence cannot be already published, nor can it be under review elsewhere. The authors take responsibility for the material that has been submitted. IFAC-sponsored conferences will abide by the highest standard of ethical behavior in the review process as explained on the Elsevier webpage (<https://www.elsevier.com/authors/journal-authors/policies-and-ethics>), and the authors will abide by the IFAC publication ethics guidelines (<https://www.ifac-control.org/events/organizers-guide/PublicationEthicsGuidelines.pdf/view>).

Accepted papers will be published in the open-access IFAC-PapersOnLine series hosted on ScienceDirect (<http://www.sciencedirect.com/>). To this end, author(s) must confer the copyright to IFAC when they submit the final version of the paper through the paper submission process. The author(s) retain the right to use a copy of the paper for personal use, internal institutional use at the author(s)' institution, or scholarly posting at an open web site operated by the author(s) or their institution, limited to noncommercial use.

Any other use of the paper requires approval by IFAC.”

[Back to the contents](#)

6.4. ASME 2018 Dynamic Systems and Control Conference

Contributed by: Yue Wang, yue6@clemson.edu

The ASME 2018 Dynamic Systems and Control Conference

(<https://www.asme.org/events/dscc>)

September 30 - October 3, 2018, Hyatt Regency Atlanta, Atlanta, Georgia, USA

The 2018 Dynamic Systems and Control (DSC) Conference will be held on October 1-3, 2018 at the Hyatt Regency Atlanta, located in the heart of downtown Atlanta, Georgia. The venue is one of the top Atlanta luxury hotels and is connected to the MARTA transit system and blocks away from major attractions such as Georgia Aquarium and the World of Coca-Cola. On behalf of the 2018 DSCC Organization Committee and the Dynamics Systems and Control Division (DSCD) of ASME, we cordially invite you to enjoy an exciting technical program and a unique opportunity to network.

The DSC conference is the showcase technical forum of the ASME Dynamic Systems and Control Division. It provides a focused and intimate setting for dissemination and discussion of the state of the art in dynamic systems and control research, with a mechanical engineering focus. The 2018 DSC Conference Technical Program will consist of sessions in all of the usual areas of interest to the Division that include, but are not limited to, automotive and transportation systems, bio-systems and health care, energy systems, mechatronics, modeling, identification, intelligent systems, robotics, vibrations, and smart structures. Highlights of the 2018 DSCC will include:

- Four plenary talks given by distinguished scholars, including the Oldenburger Lecture and the Nyquist Lecture.
- Workshops and tutorials that are focused on emerging topics.
- Invited and special sessions on technical tracks and funding programs that are of interest to the DSC community.
- Student programs including Best Student Paper competition, networking with faculty recruiters, and networking with industry.
- Exhibits by industry.
- Extensive networking opportunities during the opening reception, continental breakfasts, the banquet, and the farewell lunch.

All accepted papers must be presented on-site at the conference by an author of the paper. Papers which are not presented (no-shows) will be removed from the official conference proceedings and will not be indexed through the ASME Digital Collection.

Online access to conference papers will be given to all registered attendees at the start of the conference. Following the event, the official proceedings of the conference are published in the ASME Digital Collection, and will be submitted to all major indexers including EI Complex, Scopus, and the ISI Conference Proceedings Citation Index.

Important Dates

- Submission of invited session proposals - April 2, 2018
- Submission of contributed and invited papers - April 9, 2018
- Notification of acceptance/rejection - May 28, 2018
- Submission of final papers - July 2, 2018

Conference Organizers

General Chair

XIAOBO TAN, xbtan@egr.msu.edu

Michigan State University

Program Chair

GEORGE ZHU, zhug@egr.msu.edu

Michigan State University

[Back to the contents](#)

6.5. Allerton Conference on Communication, Control, and Computing

Contributed by: Rachel E Palmisano, rep2@illinois.edu

56th Allerton Conference on Communication, Control, and Computing

October 2-5, 2018

WEBSITE — allerton.csl.illinois.edu

EMAIL — amellis@illinois.edu

Call for Papers: Due July 9, 2018

Manuscripts can be submitted from June 15-July 9, 2018 with the submission deadline of July 9th being firm. Please follow the instructions at allerton.csl.illinois.edu.

PAPERS PRESENTING ORIGINAL RESEARCH ARE SOLICITED IN THE AREAS OF:

- Communication systems
- Communication and computer networks
- Detection and estimation theory
- Information theory
- Error control coding
- Source coding and data compression
- Network algorithms
- Control systems
- Robust and nonlinear control
- Adaptive control
- Optimization
- Dynamic games
- Multi-agent systems
- Large-scale systems
- Robotics and automation
- Manufacturing systems
- Discrete event systems
- Multivariable control
- Computer vision-based control
- Learning theory
- Cyber-physical systems
- Security and resilience in networks
- VLSI architectures for communications and signal processing
- Intelligent transportation systems

JULY 9 — Submission Deadline

AUGUST 6 — Acceptance Date Authors will be notified of acceptance via email by August 7, 2017, at which time they will also be sent detailed instructions for the preparation of their papers for the Conference Proceedings.

AFTER AUGUST 6 — Registration Opens

OCTOBER 2-5 — Conference Dates

October 2 — Opening Tutorial Lectures at the Coordinated Science Lab, University of Illinois at Urbana-Champaign

October 3-5 — Conference Sessions at the University of Illinois Allerton Park & Retreat Center. The Allerton House is located 26 miles southwest of the Urbana-Champaign campus of the University of Illinois, in a wooded area on the Sangamon River. It is part of the 1,500 acre Robert Allerton Park, a complex of natural and man-made beauty designated as a National natural landmark. Allerton Park has 20 miles of well-maintained trails and a living gallery of formal gardens, studded with sculptures collected from around the world.

PLENARY SPEAKER — A. Stephen Morse, Dudley Professor of Electrical Engineering at Yale University

OCTOBER 7 — Final Paper Deadline Final versions of papers that are presented at the conference must be submitted electronically in order to appear in the Conference Proceedings and IEEE Xplore.

IMPORTANT DATES — 2018

INFORMATION FOR AUTHORS — Regular papers suitable for presentation in 20 minutes are solicited. Regular papers will be published in full (subject to a maximum length of eight 8.5" x 11" pages, in two column format) in the Conference Proceedings. Only papers that are actually presented at the conference and uploaded as final manuscripts can be included in the proceedings, which will be available after the conference on IEEE Xplore. For reviewing purposes of papers, a title and a five to ten page extended abstract, including references and sufficient detail to permit careful reviewing, are required.

CONFERENCE CO-CHAIRS — Negar Kiyavash & Daniel Liberzon

[Back to the contents](#)

6.6. Workshop on Benchmarking Cyber-Physical Networks and Systems

Contributed by: Sebastian Trimpe, strimpe@tuebingen.mpg.de

Call for Papers

1st Workshop on Benchmarking Cyber-Physical Networks and Systems
(CPSBench - co-located with CPSWEEK)

April 13, 2018 - Porto, Portugal

<https://cpsbench2018.ethz.ch/>

AIMS AND SCOPE

Over the last decade, research on cyber-physical networks and systems has led to smart systems at different scales and environments, from smart homes to smart cities and smart factories. Significant progress has been made through contributions in areas as diverse as embedded and real-time systems, robotics and control, wireless communication and networking, signal processing, and machine learning. Despite these advances, it is difficult to measure and compare the utility of these results due to a lack of standard evaluation criteria and methodologies. This problem concerns the evaluation against the state of the art in an individual area, the comparability of different integrated designs that span multiple areas (e.g., control and networking), and the applicability of tested scenarios to the present and future real-world cyber-physical applications and

deployments. This state of affairs is alarming as it may significantly hinder further progress in cyber-physical networks and systems research.

The Workshop on Benchmarking Cyber-Physical Networks and Systems (CPSBench) brings together researchers from the different sub-communities to engage in a lively debate on all facets of rigorously evaluating and comparing cyber-physical networks and systems. CPSBench provides a venue for learning about each other's challenges and evaluation methodologies and for debating future research agendas to jointly define the performance metrics and benchmarking scenarios that matter from an overall system's perspective.

We invite researchers and practitioners from academia and industry to submit short position papers. We particularly encourage submissions that focus on one of the following:

- identify fundamental challenges and open questions in rigorous benchmarking and evaluation of cyber-physical networks and systems;
- offer a constructive critique on the current practice and state of experimental comparison;
- report on success stories or failures with using standard evaluation criteria;
- present example benchmark systems and approaches from any of the relevant communities (embedded systems, networking, control, robotics, machine learning, etc.);
- propose new research directions, methodologies, or tools to increase the level of reproducibility and comparability of evaluation results.

Well-reasoned arguments or preliminary evaluations are sufficient to support a paper's claims.

Accepted papers will be published as part of the CPSWEEK proceedings. Authors of accepted papers are expected to present their work at the workshop.

SUBMISSION AND FORMATTING

Submitted papers must contain between 4 and 6 single-spaced U.S. letter pages, including all figures, tables, and references. All submissions must be written in English. See website for more information: <https://cpsbench2018.ethz.ch/>.

Authors should indicate their names and affiliations on the first page of the paper. All submissions must be in PDF format and render without error using standard viewers (e.g., Acrobat Reader). Submitted papers must differ significantly in content from previously published papers and must not be currently under review for any other publication.

IMPORTANT DATES

Paper submission deadline: Monday, February 5, 2018

Notification to authors: Friday, March 9, 2018

Camera-ready submission deadline: Monday, March 19, 2018

ORGANIZERS

General Chair:

Omprakash Gnawali (University of Houston, USA)

TPC Co-chairs:

Marco Zimmerling (TU Dresden, Germany)

Sebastian Trimpe (MPI for Intelligent Systems, Tübingen, Germany)

[Back to the contents](#)

6.7. 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.

[Back to the contents](#)

6.8. Networked, Autonomous Air & Space Systems Workshop

Contributed by: Richard Scott Erwin, richard.erwin@us.af.mil

The submission deadline for papers for the Networked, Autonomous Air & Space Systems Workshop (NAASS '18) has been extended to 30 JANUARY 2018. The scope of this workshop will be focused on new results in networked control systems, distributed control systems, hybrid systems and control theory, and cyber-physical systems theory and control as applied to aerospace systems. The workshop specifically will solicit papers demonstrating the application of these new techniques in controls and systems theory to air and space missions, including multi-agent coordination and control and autonomous aerospace systems.

The workshop will be held 13 - 15 June in Santa Fe, New Mexico, USA. For additional details, visit the workshop website: <https://sites.google.com/site/naass2018/>.

[Back to the contents](#)

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

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

2nd 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 proposals 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@micnon2018.org, and looking forward to welcoming you in Guadalajara!

Important Dates

Deadline for submission: February 05, 2018 (Firm Deadline)

Notification of acceptance: April 02, 2018

Final paper submission: April 30, 2018

Conference dates: June 20-22, 2018

Confirmed Plenary Speakers

Frank Allgower, University of Stuttgart

David Angeli, Imperial College London

Antonio Bicchi, Italian Institute of Technology

Patrizio Colaneri, Politecnico di Milano

Zhong-Ping Jiang, NYU Tandon School of Engineering

Thomas Schön, Uppsala University

Mark Spong, University of Texas at Dallas

Kumar Venayagamoorthy, Clemson University

Rene Vidal, The Johns Hopkins University

During the conference an innovative "tandem plenary" format will be proposed with three different subjects addressed by two speakers each presenting different viewpoints and developing different topics within the subjects. The three research subjects presented in tandem are:

- 1) Economic Model Predictive Control, tandem plenary speakers: Frank Allgower and David Angeli
- 2) Nonlinear Control in Robotics, tandem plenary speakers: Antonio Bicchi and Mark Spong
- 3) Identification and Deep Learning for Nonlinear Control Systems, tandem plenary speakers: Thomas Schön and Rene Vidal.

Special regular and invited sessions will be organized around those subjects with pertinent papers regularly submitted to the conference. Submissions of papers around those research areas are thus particularly solicited.

Please accept our apologies for receive multiple copies of this email

Sincerely,

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

[Back to the contents](#)

6.10. IFAC Workshop on Distributed Estimation and Control in Networked Systems

Contributed by: Bart Besselink, b.besselink@rug.nl

7th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys18)

August 27-28, 2018

University of Groningen, Groningen, the Netherlands

<https://fwn06.housing.rug.nl/necsys2018/>

INVITATION

The Organising Committee has the pleasure of inviting you to participate in the 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys18) to be held at the University of Groningen, the Netherlands, August 27-28, 2018.

SCOPE

Networked systems and complex dynamical systems can be taken as composed of a large number of simple systems interacting through a communication medium. These systems arise as natural models in many areas of engineering and sciences, such as sensor networks, autonomous and unmanned vehicles, Internet of Things (IoT), smart manufacturing systems (Industry 4.0), biological networks, and animal cooperative aggregation.

The workshop will focus on recent theoretical and experimental developments in the last few years for the analysis, design, identification, estimation and control of networked systems. The aim of this workshop is to bring together researchers from control, computer science, communication, game theory, statistics, mathematics and other areas, as well as practitioners in the related industrial or educational fields, to discuss emerging topics in networked systems of common interest.

PROGRAMME & PLENARY SPEAKERS

Following the tradition of previous NecSys workshops, the workshop will be single track and will feature plenary presentations and poster/interactive sessions of contributed papers. The plenary speakers who have so far confirmed their presence are:

- Carlos Canudas de Wit (CNRS, GIPSA-Lab)
- Jorge Cortes (University of California San Diego)
- Florian Dorfler (ETH Zurich)
- Antoine Girard (CNRS, L2S)
- Julien Hendrickx (UC Louvain)
- Paul van den Hof (TU Eindhoven)
- Steve Morse (Yale University)
- Giuseppe Notarstefano (University of Salento)
- Lacroix Pavel (University of Toronto)

IMPORTANT DATES

- * Paper submission deadline: April 15, 2018
- * Notification of acceptance: June 30, 2018
- * Final paper submission deadline: July 20, 2018

COMMITTEES

Conference Co-chairs

* Claudio De Persis (University of Groningen)

* Ming Cao (University of Groningen)

International Programme Committee Chair

* Mehran Mesbahi (University of Washington)

International Programme Committee Co-chairs

* Hyungbo Shim (Seoul National University)

* Kanat Camlibel (University of Groningen)

[Back to the contents](#)

6.11. Indian Control Conference

Contributed by: M. Vidyasagar, m.vidyasagar@iith.ac.in

Fifth Indian Control Conference, Indian Institute of Technology, New Delhi, January 9-11, 2019

The Fifth Indian Control Conference will be held on the campus of the Indian Institute of Technology, Delhi, during January 9-11, 2019 (Wednesday through Friday). The deadline for submitting papers is May 25, 2018.

The first day of the conference will be devoted to tutorials and workshops, while the second and third days will be devoted to paper presentations.

As always, the ICC has an outstanding line-up of plenary speakers. The plenary speakers for the Fifth ICC are:

Andrew Alleyne (Illinois)

Subhasis Chaudhuri (IIT Bombay)

Mustafa Khammash (ETH Zurich)

The Fifth ICC has received technical co-sponsorship and proceedings from the IEEE Control Systems Society. Papers published in the conference proceedings will be included in IEEE Xplore subject a quality control verification.

Original manuscripts are to be submitted via the web site controls.papercept.net before May 25, 2018. The web site will be made operational in a couple of weeks. Information about past Indian Control Conferences can be found at the web site icc.org.in, which will shortly be updated to reflect the Fifth Indian Control Conference.

For any queries please contact the Conference General Chair: m.vidyasagar@iith.ac.in

[Back to the contents](#)

6.12. International Conference on Control, Automation and System

Contributed by: Hye-Soo Kim, conference@icross.org

2018 18th International Conference on Control, Automation and Systems (ICCAS 2018)

October 17-20, 2018

YongPyong Resort, PyeongChang, Gangwon Province, Korea

<http://2018.iccas.org>

Call for Papers: http://icross.org/data/download/ICCAS2018/ICCAS2018_CFP.pdf

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

IMPORTANT DATES

- May 31, 2018 : Submission of Regular Papers (3-6 pages)
- June 30, 2018 : Submission of Organized Session/Mini-symposium Proposal with Papers and Research Poster Papers (1-2 pages)
- July 31, 2018 : Notification of Acceptance
- August 31, 2018 : Submission of Final Camera-ready Papers

PLENARY SPEAKERS

- Edwin K. P. Chong (Colorado State Univ., USA)
- Matthew W. Smuck (Stanford Univ., USA)
- Janan Zaytoon (Univ. of Reims, France)
- Xiaoyan Zhu (Tsinghua Univ., China)
- Hideaki Ishii (Tokyo Inst. of Tech., Japan)

General Chair: Chul Joo Hwang (President of ICROS; Jusung Engineering, Korea) Organizing Chair: Sungwan Kim (Seoul Nat'l Univ., Korea)

Program Chair: Jung Kim (KAIST, Korea)

Organized by Institute of Control, Robotics and Systems (ICROS)

[Back to the contents](#)

6.13. International Conference Dynamical Systems: Stability, Control, Optimization

Contributed by: Natalia Dmitruk, dmitrukn@bsu.by

International Conference Dynamical Systems: Stability, Control, Optimization (DSSCO'18)

September 24-29, 2018

Belarusian State University

Minsk, Belarus

Website: <http://dssco.bsu.by/en/>

The 8th International Conference on Dynamical Systems: Stability, Control, Optimization will be held September 24-29, 2018 in the vibrant city of Minsk in Belarus. The conference is organized by the Belarusian State University and the Institute of Mathematics of the National Academy of Sciences of Belarus on the occasion of the 100th birthday of the outstanding mathematician and control theorist Yevgeny Alekseevich Barbashin (1918-1969).

The conference will cover five main topical areas:

- Stability of dynamical systems
- Structural properties of control systems
- Optimal control, estimation, identification
- Optimization and non-smooth analysis
- Control applications in technical, economical and biological systems

Call for Abstracts & Call for Participation:

Contributions are invited in the above areas, but not limited to them. Interested colleagues are asked to submit 2 page abstracts no later than March 1, 2018. Further details can be found at the conference website. Acceptance notifications will be sent out by May 1, 2018.

Further information on the conference as well as instructions for submissions can be found at:

<http://dssco.bsu.by/en/>

The DSSCO organizers are looking forward to welcoming you to Minsk in September!

International Program Committee Chairs:

Kirillova F.M., Kurzhanski A.B. and Gaishun I.V.

Organizing Committee Chairs:

Mandrik P.A., Dmitruk N.M. and Kostyukova O.I.

[Back to the contents](#)

7. Positions

7.1. PhD: Illinois Institute of Technology, USA

Contributed by: Baisravan HomChaudhuri, bhomchaudhuri@iit.edu

Ph.D. Research Assistant Positions at Illinois Institute of Technology- Chicago in FALL 2018

One research assistant position available within the Dynamic Systems and Control research area of Mechanical Materials and Aerospace Engineering department of Illinois Tech's Armour College of Engineering. The student will work under Dr. Baisravan HomChaudhuri in the general research area of optimal control, (stochastic) model predictive control, stochastic systems, semi-autonomous systems control, and their applications in robotics and cyber physical systems (e.g., connected vehicle systems, power systems).

Successful candidates would have a strong background in optimization and controls, model predictive control, and probability theory. Candidates with knowledge and background in stochastic model predictive control, and/or system verification methods would be preferred. Applicant to this position should already have completed (or will soon complete) a Master's degree in systems and controls.

Expected Start Date: Fall 2018.

Requirement:

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

Optimization, optimal control, model prediction control

Probability theory, stochastic optimal control

System verification methods

Robotics, automotive engineering, and connected vehicles

For more information about this position, contact Dr. Baisravan HomChaudhuri at bhomchaudhuri@iit.edu.

Interested candidates can email their CV to bhomchaudhuri@iit.edu.

[Back to the contents](#)

7.2. PhD: Texas A&M University, USA

Contributed by: John Valasek, valasek@tamu.edu

The Vehicle Systems & Control Laboratory (VSCL) <https://vscl.tamu.edu/> in the Top 10 ranked aerospace engineering department at Texas A&M University is seeking talented and highly motivated graduate researchers to conduct cutting edge basic and applied research on the dynamics and control of cyber-physical air, space and ground systems.

VSCL has a foundation of "People, Innovation, Excellence" with a rich 20+ year history of high quality research that is funded by federal agencies and laboratories, state governments, and industry. The

theory-computation-experiment paradigm is embraced, such that theory is transitioned to computation and implemented into proof-of-concept hardware realization.

Ph.D. students are especially encouraged to apply. Please note that U.S. Citizenship is required for one of the positions. Students with degrees in aerospace engineering, engineering physics, computer science, electrical engineering, and mechanical engineering, are particularly encouraged to apply. The strength of VSCL and its research & development breakthroughs come from its diversity in educational, cultural, and professional backgrounds. This diversity promotes new perspectives on problem solving and develops students to lead diverse teams. The start date for all positions is Fall 2018.

There are multiple openings currently available and students are sought to work in one or more of three broad areas of research listed below that are currently being conducted:

1. Autonomous nonlinear control and nonlinear multiple time-scale control. This is 6.1 Basic Research. A. [U.S. citizenship required for project A] Nonlinear adaptive control (fault tolerant, state constrained, sampled-data) of hypersonic air vehicles. B. Nonlinear Estimation and control of uncertain nonlinear multiple time-scale systems.
2. Computational intelligence for human / autonomous multi-agent cooperative control. This is 6.1 Basic Research & 6.2 Applied Research. A. Human-in-the-loop Reinforcement Learning to train autonomous agents to augment human performance. B. Modular heterogeneous multi-agent control frameworks.
3. Vision based sensors and navigation systems. This is 6.1 Basic Research & 6.2 Applied Research. A. Computer vision and control for automated tracking systems, autonomous air refueling, rendezvous and docking systems. B. Integration of high performance sensors with autonomous controllers for large scale imaging systems.

Interested students should email a CV and a description of their research experience, skills, interests, and the name of your current advisor if you have one, to Dr. John Valasek, Director, Vehicle Systems & Control Laboratory: valasek@tamu.edu.

[Back to the contents](#)

7.3. PhD: Tel Aviv University, Israel

Contributed by: Brigitte Shalom, brigitte@tauex.tau.ac.il

2 PhD positions in Modelling & Control at Tel Aviv University

The School of Electrical Engineering at Tel Aviv University in Israel is looking for 2 PhD students, employed as Early Stage Researchers (ESR) in system modelling and control, with emphasis on distributed parameter systems and internal model based control. These students will work in Prof. George Weiss' group.

These positions are part the 15 positions available within the ConFlex project, sponsored by the EU under the Marie Skłodowska-Curie actions in the H2020-MSCA-ITN Program (Marie Skłodowska-Curie Grant Agreement Number 765579).

The ConFlex consortium will train the next generation of young researchers on the control of flexible structures and fluid-structure interactions, using and also contributing to the latest advances in control theory and energy-based modelling.

ConFlex consortium academics are located in Israel (Tel Aviv University), UK (University of Warwick, Imperial College, University of Exeter), France (Université de Franche-Comté, Université de Bordeaux), Spain (Universidad Autónoma de Madrid), Germany (Bergische Universität Wuppertal, Friedrich-Alexander University Erlangen Nürnberg) and The Netherlands (Universiteit Twente). In addition, we have four partner

universities in Canada, China, USA and France and 11 prestigious industry partners who will be hosting the ESRs for secondments, mostly from Europe.

The successful candidate will receive a 3 (three) year financial package, in accordance with the European Commission rules for ESRs, consisting of:

1. Monthly living allowance (gross, before applicable taxes) of EUR 2,450
2. Monthly mobility allowance
3. Monthly family allowance (where applicable)
4. Visits to partner universities and/or industrial partners will be covered separately by the grant
5. Three (3) secondments with project partners within the European Training Network, out of which one in industry
6. An excellent working atmosphere within an international team of researchers in an inspiring multidisciplinary environment.

Applicants have to hold a MSc in Control Engineering, Electrical Engineering, Applied Mathematics or closely related fields and have basic knowledge in control theory and partial differential equations.

Applicants must comply with the European Commission, Horizon 2020 Guidelines mobility rules. In particular, they must not have performed their main activity in Israel for more than 12 months of the 36 months preceding the position.

Early-Stage Researchers must be in the first four years (full-time equivalent) of their research careers, starting at the date of obtaining the degree which would formally entitle them to embark on a doctorate.

Application procedure: send your CV (pdf format), list of grades, certificates, list of referees and motivation letter to Prof. George Weiss, gweiss@eng.tau.ac.il, with Cc to Brigitte Shalom, brightitte@tauex.tau.ac.il.

The selected candidates will be invited for an interview, via Skype or phone. Questions can be addressed to: Prof. George Weiss, gweiss@eng.tau.ac.il.

Tentative starting date: April 1, 2018.

About Tel Aviv University (TAU):

TAU fosters and encourages the spirit of research, innovation and entrepreneurship among its students, researchers and alumni.

- TAU is a Reuters “Top 100 Innovation University”.
- TAU ranks 9th among the top 10 schools globally for producing VC-backed founders of companies. TAU is the only non-U.S. university to make the top 10 cut.
- TAU ranks 8th in the world for graduates that established “unicorn” companies worth \$1 billion or more (Sage 2017). TAU is the only non-U.S. university to make the top 10.
- TAU ranks 26th in the world for citation impact per faculty member in the 2017 QS rankings. According to “US World News Report,” citations per faculty are the best understood and most widely accepted measure of research strength and faculty productivity at a university.
- TAU is in 75th place in the world by the number of research publications and the number of publications in the most prestigious journals according to the 2017 Leiden Ranking, another objective measure of research strength and standing.
- TAU ranks 5th in winning European Research Council (ERC) grants among 172 leading European research institutions.

[Back to the contents](#)

7.4. PhD: KU Leuven, Belgium

Contributed by: Wilm Decré, wilm.decre@kuleuven.be

Fully funded PhD position on B-spline based embedded model predictive control at KU Leuven, Belgium

The MECO team of the KU Leuven, Department of Mechanical Engineering, focusses on the identification, analysis and control of mechatronic systems such as autonomous guided vehicles, robots, and machine tools. It combines theoretical innovations with experimental validations on lab-scale as well as industrial setups. The theoretical research benefits from the team's expertise on numerical optimization, while MECO's practical knowhow and industrial collaboration are supported by its participation in Flanders Make - a strategic research center for the manufacturing industry.

Group website: www.mech.kuleuven.be/meco

PROJECT

You will develop cutting-edge optimization algorithms tailored to MPC of mechatronic systems such as robots, electric cars, and CNC production machines. The successful application of MPC to these systems hinges upon an effective problem formulation combined with an efficient and robust optimization algorithm. To meet these requirements you will combine and extend recent developments within the MECO research team on spline-based motion planning and numerical optimal control. MECO's current optimal motion planning research exploits the properties of B-splines to transform the problem into a small-scale nonlinear programming problem (check out <https://github.com/meco-group/omg-tools> to get a flavor). Yet it lacks tailored optimization algorithms exploiting the resulting problem structure. At the same time, MECO does have expertise in tailored numerical optimization for the more classical direct optimal control approaches. The project will involve theoretical innovations to devise effective spline-based MPC approaches based on MECO's recent results, as well as efficient numerical implementations of the algorithms in C/C++, and experimental validations on mechatronic systems.

PROFILE

Ideal candidates hold a Master's degree in engineering, computer science, or applied mathematics. Successful candidates have typically ranked at or near the top of their classes, have a solid background in optimization and control, relevant computer programming skills, and enthusiasm for scientific research. Team player mentality, independence, and problem solving attitude are expected, and proficiency in English is a requirement.

Applicants whose mother tongue is neither Dutch nor English must present an official language test report. The acceptable tests are TOEFL, IELTS, and Cambridge Certificate in Advanced English (CAE) or Cambridge Certificate of Proficiency in English (CPE).

Required minimum scores are:

TOEFL: 600 (paper-based test), 100 (internet-based test)

IELTS: 7 (only Academic IELTS test accepted)

CAE/CPE: grade B or A

OFFER

A fully funded PhD position in an international context for four years at the KU Leuven: a top European university and a hub for interdisciplinary research in the fields of systems, control and optimization. You will be embedded in the MECO research team of the Department of Mechanical Engineering. The doctoral candidate will work in world-class facilities with highly qualified experts, and will benefit from the training scheme developed based on the expertise of academic and industrial partners. A start date in the course of 2018 is to be agreed upon.

INTERESTED?

Please use the online application tool to submit your application.

Include:

- an academic CV with photo,
- a Pdf of your diplomas and transcript of course work and grades,
- statement of research interests and career goals (max. 2 pages),
- sample of technical writing (publication or thesis),
- contact details of at least two referees,
- proof of English language proficiency test results.

Deadline: April 30, 2018!

For more information, send an e-mail to wilm.decre@kuleuven.be. Subject of your email should be: “B-spline MPC PhD application”.

You can apply for this job no later than April 30, 2018 via the online application tool through <https://icts.kuleuven.be/apps/jobsite/#/vacatures/54503524>.

[Back to the contents](#)

7.5. PhD: KU Leuven, Belgium

Contributed by: Wilm Decré, wilm.decre@kuleuven.be

Fully funded PhD position on multi-system learning control for interconnected mechatronic systems at KU Leuven, Belgium

The MECO team of the KU Leuven, Department of Mechanical Engineering, focusses on identification, analysis and optimal control of mechatronic systems such as autonomous guided vehicles, robots, and machine tools. It combines theoretical contributions (development of design methodologies) with experimental knowhow (implementation and experimental validation on lab-scale as well as industrial setups). The theoretical research benefits from the group’s expertise on numerical optimization, especially convex optimization. MECO is member of Flanders Make - the strategic research centre for the manufacturing industry.

Group website: www.mech.kuleuven.be/meco

PROJECT

You will develop multi-system learning techniques for interconnected mechatronic systems. Learning techniques are used to improve the performance of systems that execute the same or similar operations over and over again. This performance improvement is realized gradually by exploiting the repetitive nature of these operations. Learning techniques are already finding their way to single systems in the mechatronic industry. However, they often suffer from long convergence periods and non-monotonic improving behavior. The new trend of interconnecting mechatronic systems (directly or through the cloud) offers new ways to improve these learning algorithms: instead of learning per machine, learning can be done for multiple systems in parallel by sharing information, resulting in an overall learning algorithm which is more efficient (shorter convergence periods) and more effective (a better performance for all systems). The project will involve theoretical innovations as well as implementations of the developed learning techniques and experimental validations. Several experimental demonstration cases are available for this research, e.g. three bar-linkage setups, a set of twenty similar mobile platforms, ...

PROFILE

Ideal candidates hold a Master’s degree in engineering (mechanical, control ...). Successful candidates have typically ranked at or near the top of their classes, have a solid background in systems, control, and numerical optimization, relevant computer programming skills, a strong interest and experience in real-world applications, and enthusiasm for scientific research. Team player mentality, independence, and problem solving attitude are expected, and proficiency in English is a requirement.

Applicants whose mother tongue is neither Dutch nor English must present an official language test report. The acceptable tests are TOEFL, IELTS, and Cambridge Certificate in Advanced English (CAE) or Cambridge Certificate of Proficiency in English (CPE).

Required minimum scores are:

TOEFL: 600 (paper-based test), 100 (internet-based test)

IELTS: 7 (only Academic IELTS test accepted)

CAE/CPE: grade B or A

OFFER

A fully funded PhD position in an international context for four years at the KU Leuven: a top European university and a hub for interdisciplinary research in the fields of systems, control and optimization. You will be embedded in the MECO research team of the Department of Mechanical Engineering. The doctoral candidate will work in world-class facilities with highly qualified experts, and will benefit from the training scheme developed based on the expertise of academic and industrial partners. A start date in the course of 2018 is to be agreed upon.

INTERESTED?

Please use the online application tool to submit your application.

Include:

- an academic CV with photo,
- a Pdf of your diplomas and transcript of course work and grades,
- statement of research interests and career goals (max. 2 pages),
- sample of technical writing (publication or thesis),
- contact details of at least two referees,
- proof of English language proficiency test results.

Deadline: April 30, 2018!

For more information, send an e-mail to wilm.decre@kuleuven.be. Subject of your email should be: "Multi-systems learning PhD application".

You can apply for this job no later than April 30, 2018 via the online application tool through <https://icts.kuleuven.be/apps/jobsite/#/vacatures/54503999>.

[Back to the contents](#)

7.6. PhD: KU Leuven, Belgium

Contributed by: Panos Patrinos, panos.patrinos@esat.kuleuven.be

Fully funded PhD position at the Department of Electrical Engineering (ESAT), KU Leuven:
Theory, algorithms and applications for structured, nonconvex optimization

The STADIUS Center for Dynamical Systems, Signal Processing and Data Analytics, Prof. Panos Patrinos, at the Department of Electrical Engineering (ESAT), KU Leuven is offering a fully funded, 4-year PhD position on the topic of the theory and algorithms for structured nonconvex optimization. KU Leuven is among the top European universities (ranked first in Times Higher Education list of most innovative universities in Europe) and a hub for interdisciplinary research in the field of optimization. The PhD position is in the context of the research project "A unifying algorithmic framework for structured optimization", funded by the Research Foundation - Flanders (FWO) for advancing fundamental scientific research.

Project summary: The objective of the project is to develop and implement a unifying methodological and algorithmic framework for structured nonsmooth and nonconvex optimization, targeting problems resulting

from various application domains, such as control and machine learning. The project will build upon ongoing, promising research of the group that establishes a connection between nonsmooth and smooth optimization, leading to new interpretations, insights, nonconvex extensions and improved versions of popular algorithms such as ADMM. The candidate will contribute in further exploring this direction by conducting fundamental research in algorithmic optimization and/or developing optimization software (in Julia, Python, C) to solve real-world problems in control and/or machine learning, such as embedded model predictive control for autonomous driving and deep learning.

Candidate requirements: Applicants should have a Master's degree from a good-quality university in mathematics, engineering, computer science or a related field. They should possess a strong background and interest in mathematics and, ideally, numerical optimization. They should have excellent analytical and problem solving skills and, preferably, well-developed programming skills. Depending on their interest, background and skills the focus of the PhD project can be either on fundamental theory and algorithmic development or software development and applications related to either control or machine learning. Applicants should also have good English communication skills.

Application procedure: To apply send email to panos.patrinos@esat.kuleuven.be with subject "PhD application: structured optimization", attaching an academic CV, a pdf of your diplomas and transcript of course work and grades, a statement of research interests and career goals (1 page max.), sample of technical writing (publication or thesis) and contact details of at least two referees.

[Back to the contents](#)

7.7. PhD: KU Leuven, Belgium

Contributed by: Panos Patrinos, panos.patrinos@esat.kuleuven.be

Fully funded PhD position at the Department of Electrical Engineering (ESAT), KU Leuven:
Risk-Averse Learning and Model Predictive Control for Autonomous Driving

The STADIUS Center for Dynamical Systems, Signal Processing and Data Analytics, Prof. Panos Patrinos, at the Department of Electrical Engineering (ESAT), KU Leuven is offering a fully funded, 4-year PhD position on the topic of real-time risk-averse learning model predictive control for autonomous vehicles. KU Leuven is among the top European universities (ranked first in Times Higher Education list of most innovative universities in Europe) and a hub for interdisciplinary research in the field of optimization. The project will be carried out in collaboration with a leading automotive company.

Project summary: The project concerns the development of theory and methodologies combining data-based learning with Model Predictive Control (MPC) in the context of autonomous vehicle motion control. The new methods will be capable of dealing with high-effect low-probability (HELP) events such as unexpected changes in traffic, traction and road conditions and unforeseen movements of other vehicles and pedestrians. To this end, the candidate will build upon the recently developed risk-averse MPC framework within our group, that accounts for the uncertainty within uncertainty estimates, being more resilient than stochastic MPC and less conservative than robust MPC. The overall goal is to develop MPC strategies that are able to learn from data in real time, to continuously improve performance and safety guarantees in the highly uncertain context of autonomous driving will be developed.

Candidate requirements: Applicants should have a Master's degree from a good-quality university in engineering or a related field. They should possess a strong background and interest in systems & control and, ideally, numerical optimization. They should have well-developed programming and excellent analytical and problem solving skills. Applicants should also have good English communication skills.

Application procedure: To apply send email to panos.patrinios@esat.kuleuven.be with subject “PhD application: risk-averse MPC”, attaching an academic CV, a pdf of your diplomas and transcript of course work and grades, a statement of research interests and career goals (1 page max.), sample of technical writing (publication or thesis) and contact details of at least two referees.

[Back to the contents](#)

7.8. PhD: Vrije Universiteit Brussel, Belgium

Contributed by: Rik Pintelon, Rik.Pintelon@vub.ac.be

Two open PhD positions at the department ELEC of the VUB (Vrije Universiteit Brussel, Belgium)

Within the framework of the FWO research project G.0052.18N we are looking for two enthusiastic PhD researchers. The project starts on the 1st of January 2018 and consists of two 4 years PhD scholarships within the time span 2018-2023.

THE RESEARCH ENVIRONMENT

The FWO research project fits within the main research activities of the department ELEC. The department ELEC has more than 35 years of experience in

Measurement and modelling of dynamical systems,

Developing fundamentally sound system identification tools, and

Applying these identification tools to engineering problems in need of models

System identification is the engineering discipline which aims at constructing mathematical models of physical systems, based on measured data. The purpose of these estimated models can be very broad: to gain physical insights into the system, to build a robust controller, to detect anomalies, to compensate for unwanted behaviour, to predict future outcomes, etc...

ABSTRACT OF THE FWO RESEARCH PROJECT

In depth understanding of the complex dynamics of physical processes is the first step towards prediction (e.g. weather forecasting), control (e.g. driverless cars), and (computer aided) design (e.g. electronic circuits, drugs). These complex dynamics are often described by nonlinear differential equations with a priori unknown dynamic order, unknown parameters, and unknown nonlinear structure. The major objective of this project is to extract (estimate) the unknown/missing information from (well-designed) experiments. Therefore, a frequency domain system identification framework for estimating nonlinear differential equations from noisy input – noisy output observations will be developed that requires as little user interaction as possible. Such a nonlinear modelling framework is currently not available, while it has potential impact on very diverse scientific disciplines ranging from bio-mechanics, nonlinear modal analysis, to the characterization of material properties and growth modelling in economics.

PROFILE

You are a talented electrical or mechanical engineer at Master level. You have the intention to perform scientific research, in view of obtaining a PhD degree. You can work independently, and collaborate in a team on challenging problems. You are eager to learn, have good didactical skills and enjoy sharing your knowledge with students and peers. You are fluent in English, and a good knowledge of Dutch is an advantage.

PREREQUISITES

Good basic knowledge on the following topics are required

System identification

System and control theory

Signal processing

Statistics

Linear algebra, complex analysis, Fourier and Laplace transforms

Hands on experience with Matlab

Good communication skills

CONTACT

Interested candidates should send a detailed CV along with a motivation letter to

John Lataire (John.Lataire@vub.be) and Rik Pintelon (Rik.Pintelon@vub.be)

[Back to the contents](#)

7.9. PhD: Eindhoven University of Technology, The Netherlands

Contributed by: Natal van Riel, n.a.w.v.riel@tue.nl

Eindhoven University of Technology (TU/e) has a vacancy for a PhD student “Metabolic resilience in overweight individuals” in the research group of Prof. Natal van Riel in the Computational Biology group at the Department of Biomedical Engineering.

We are looking for high-level candidates with an MSc degree in engineering and life sciences (biomedical engineering, biotechnology, bioengineering) with specialization in computational modelling, computational biology, dynamical system theory, or equivalent. He or she should be interested in quantitative methods, modelling and data integration with affinity for human metabolism and its regulation.

For further information and to apply: <https://jobs.tue.nl/en/vacancy/phd-student-metabolic-resilience-in-overweight-individuals-329461.html>

[Back to the contents](#)

7.10. PhD: Delft University of Technology, The Netherlands

Contributed by: Sergio Grammatico, s.grammatico@tudelft.nl

PhD position: Cooperative Network Games

Delft Center for Systems and Control (DCSC), Delft University of Technology, The Netherlands.

We are looking for a talented candidate with an M.Sc. degree (or close to completion) in Systems and Control, or Applied Mathematics, Electrical or Mechanical Engineering, or related field, with theoretical background and interest in System Theory, Automatic Control, Optimization, Game Theory, and with good command of the English language (knowledge of Dutch is not required).

Project description: The candidate will conduct multi-disciplinary, algorithmic, research on complex multi-agent systems characterized by the presence of: (i) mixed cooperative and noncooperative agents; (ii) high volume of historic data (big data) and forecast on the uncertain variables; (iii) nonlinear system dynamics. The key challenges are to extract the knowledge hidden in the historic data, e.g. via statistical learning, and to coordinate the states and the decisions of the agents to an efficient equilibrium solution, e.g. via the principles of the sharing economy. With this aim, distributed statistical learning shall be developed for cooperative game theory. The main application area is distributed, peer-to-peer, energy trading in smart power grids.

The PhD position is in the context of the research project “Enabling peer-to-peer energy trading by leveraging prosumer analytics” (P2P-TALES), funded by the Netherlands Organization for Scientific Research (NWO) as collaborative project on Energy Systems Integration and Big Data (ESI-BIDA):

<https://www.nwo.nl/en/research-and-results/research-projects/i/45/30545.html>.

Conditions of employment: The appointment will be for 4 years. The PhD student will participate in the training and research activities of the TU Delft Graduate School and of the Dutch Institute of Systems and Control (DISC). As an employee of TU Delft, the PhD student will receive a competitive salary in accordance with the Collective Labour Agreement for Dutch Universities (CAO), from 2.2k EUR/month (gross, 1st year) to 2.8k EUR/month (gross, 4th year), possibly from 1.7k EUR/month (after taxes, 1st year) to 2.0k EUR/month (after taxes, 4th year), plus holiday allowance (8% of gross annual income) and end-of-year allowance (8.3% of gross annual income), travel budget, secondary benefits, discounts for health insurance and sport membership. Assistance with accommodation can be arranged.

Applications shall include the following documents:

- curriculum vitae;
- statement of motivation and research interests (up to one page);
- transcripts of all exams taken and obtained degrees (in English);
- names and contact information of up to three references (e.g. project/thesis supervisors);
- up to two research-oriented documents (e.g. thesis, conference/journal publication).

Applications or inquires shall be emailed to prof. Sergio Grammatico (s.grammatico@tudelft.nl).

The call for applications will remain open until the ideal candidate is found. The starting date is flexible, but ideally would be March/April/May 2018.

More information: s.grammatico@tudelft.nl, <https://sites.google.com/site/grammaticosergio>.

[Back to the contents](#)

7.11. PhD: Delft University of Technology, The Netherlands

Contributed by: Sergio Grammatico, s.grammatico@tudelft.nl

PostDoc position: Game theory and Optimization for Automated Driving.

Delft Center for Systems and Control (DCSC), Delft University of Technology, The Netherlands.

We are looking for a talented postdoctoral research fellow with a Ph.D. degree (or close to completion) in Systems and Control, or Operations Research, or related field, with background and interest in System Theory, Automatic Control, Optimization, Game Theory, and with good command of the English language (knowledge of Dutch is not required). Expertise in mixed-integer optimization is appreciated.

Project description: The research fellow will conduct fundamental and algorithmic research on complex multi-agent systems with application to automated driving in highways. The key challenge is to design distributed control algorithms with mixed-integer decision variables for noncooperative, multi-agent and dynamic environments, such as semi-automated highways. With this aim, game-theoretic and optimization-based distributed control shall be developed.

Conditions of employment: The appointment will be for 1 year, with the possibility for extension. As an employee of TU Delft, the research fellow will receive a competitive salary in accordance with the Collective Labour Agreement for Dutch Universities (CAO) of about 2.9k EUR/month gross, possibly about 2.4k EUR/month after taxes, plus holiday allowance (8% of gross annual income) and end-of-year allowance (8.3% of gross annual income), secondary benefits, discounts for health insurance and sport membership. Assistance with accommodation can be arranged.

Applications shall include the following documents:

- curriculum vitae;
- statement of motivation and research interests (up to one page);
- transcripts of all exams taken and obtained degrees (in English);

- names and contact information of up to three references (e.g. project/thesis supervisors);
- up to three research-oriented documents (e.g. thesis, conference/journal publications).

Applications or inquires shall be emailed to prof. Sergio Grammatico (s.grammatico@tudelft.nl).

The call for applications will remain open until the ideal candidate is found. The starting date is flexible.

[Back to the contents](#)

7.12. PhD: University of Groningen, The Netherlands

Contributed by: Nima Monshizadeh, n.monshizadeh@rug.nl

PhD position: Analysis and control of dynamical networks

Engineering Technology Institute Groningen (ENTEG), Groningen, The Netherlands.

We are looking for a talented candidate with an M.Sc. degree (or close to completion) in Systems and Control, or Applied Mathematics, Electrical or Mechanical Engineering, or related field, with theoretical background and interest in Mathematics, Control Theory, Automatic Control, Optimization, Game Theory, and with good command of written and verbal English language (knowledge of Dutch is not required).

Project description: The candidate will conduct fundamental research on complex networks with dynamical agents. The interplay between physics of the agents and economic aspects including cost minimization, utility maximization, and competitive games will be investigated. Distributed algorithms steering the network to a desired operating point will be developed, and the robustness of these algorithms to model uncertainties and communication failures will be examined.

Application procedure: Please send your application including a motivation letter, a curriculum vitae, a list of courses with grades, and contact information for two academic references to Dr. Nima Monshizadeh (n.monshizadeh@rug.nl). Please use “PhD18” as the subject of your email.

The deadline for applications is February 28, 2018.

About the Institute and 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.

According to the ARWU's ranking of 2017, Automation and Control Engineering at the University of Groningen is number one in the Netherlands, 5th in Europe and 29th worldwide.

[Back to the contents](#)

7.13. PhD: Uppsala University, Sweden

Contributed by: Anders Ahlen, anders.ahlen@signal.uu.se

Two PhD student positions in the subject Electrical Engineering with specialization in Signal Processing at the Division of Signals and Systems, Department of Engineering Sciences, The Angstrom Laboratory, Uppsala University, Sweden

Project Description PhD Position 1:

The position will have a focus on signal processing for wireless sensor network applications, such as, for example, monitoring- and control of wireless sensor- and actuator networks, modeling of fading characteristics in complex environments, and development of efficient signal processing algorithms. As a member of cross-disciplinary team, you will contribute to providing solutions for future energy harvesting based wireless sensor- and actuator networks.

Your main responsibility will be to pursue your own doctoral studies. The PhD position is for four years, extendable to a maximum of five years, including departmental duties at a level of at most 20% (typically teaching).

For further details, please refer to <http://www.uu.se/en/about-uu/join-us/details/?positionId=187026>

Project Description PhD Position 2:

This position focuses on providing signal processing solutions for energy harvesting sensor networks. Modern machine learning techniques will be an important ingredient of the work. As a member of cross-disciplinary team, you will contribute to providing solutions for future energy harvesting wireless sensor networks. Your main responsibility will be to pursue your own doctoral studies. The PhD position is for four years, extendable to a maximum of five years, including departmental duties at a level of at most 20% (typically teaching).

For further details, please refer to <http://www.uu.se/en/about-uu/join-us/details/?positionId=186914>

[Back to the contents](#)

7.14. PhD: Uppsala University, Sweden

Contributed by: Ayca Ozcelikkale, ayca.ozcelikkale@angstrom.uu.se

PhD Position in Signal Processing

Project and Position Description

In recent years, energy harvesting (EH) solutions have become an emerging paradigm for powering up future wireless sensing systems. As such, energy harvesting constitutes a key enabling technology for Internet-of-Things (IoT) applications and Wireless Sensor Networks (WSN) including smart homes and smart factories. This position focuses on providing signal processing solutions for such energy harvesting wireless sensor networks. The position is full-time employment and for four years, extendable to a maximum of five years, including departmental duties at a level of at most 20

Requirements

A Bachelor's or Master's degree in Electrical Engineering or equivalent with basic skills in signals and systems and signal processing and a will to learn about energy harvesting WSN. It is desirable but not necessary to have some background in wireless communications and/or automatic control. The successful applicant is expected to have a strong collaborative spirit and good communication skills in oral and written English.

Application deadline: 15 February 2018

More information and application instructions:

<https://www.uu.se/en/about-uu/join-us/details/?positionId=186914>

[Back to the contents](#)

7.15. PhD: University of Cyprus, Cyprus

Contributed by: Marios M. Polycarpou, mpolycar@ucy.ac.cy

15 PhD Scholarships at the KIOS Research and Innovation Center of Excellence at the University of Cyprus

The KIOS Research and Innovation Center of Excellence (KIOS CoE) at the University of Cyprus announces 15 full-time PhD student Scholarships. The KIOS Research and Innovation Center of Excellence is the largest research center at the University of Cyprus, and has recently been upgraded to a European Research Center of Excellence through the KIOS CoE Teaming project, with significant funding in excess of 40 million euros over the next 15 years. Currently, the Center employs about 90 researchers, who are supported by externally

funded research projects while the vision of the KIOS Center of Excellence is that it will grow to 150-200 researchers by 2022.

KIOS provides an inspiring environment for carrying out top level research in the area of Information and Communication Technologies with emphasis on the Monitoring, Control and Security of Critical Infrastructures including power and energy systems, water networks, transportation networks, telecommunication networks and emergency management and response. The Center instigates interdisciplinary interaction and promotes collaboration between industry, academia and research organizations in high-tech areas of global importance.

Interested candidates should submit the following items online through the link: <https://applications.ucy.ac.cy/recruitment>

- i. Cover letter that specifies their employment availability date
- ii. A detailed curriculum vitae in English or in Greek
- iii. Copies of transcripts of BSc/MSc degree(s)
- iv. Short description of their academic and research experiences (1 page maximum).
- v. The names and contact details of at least two University Professors from whom references may be requested

The applications should be submitted as soon as possible, but not later than Wednesday, 28 February 2018, 2:00pm. The evaluation of the applications will begin immediately. For more information please contact the KIOS Center of Excellence, by phone at +357 22893460 or via e-mail at kios@ucy.ac.cy

For more information about these PhD Scholarships, please visit the following website:

<http://www.kios.ucy.ac.cy/index.php/employment-opportunities.html>

[Back to the contents](#)

7.16. PhD: University of Poitiers, France

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

PhD: University of Poitiers, France

Contributed by: Guillaume Mercère, guillaume.mercere@univ-poitiers.fr, Régis Ouvrard, regis.ouvrard@univ-poitiers.fr, and Thierry Poinot, thierry.poinot@univ-poitiers.fr

A fully funded Ph.D. position is available at at the Laboratory for Computer Science and Automation Systems (LIAS), Poitiers University, France. The appointment will be for 3 years.

DEADLINE FOR THE APPLICATION: Friday, 23rd March 2018!!!

Summary: distributed parameter systems like processes governed by heat diffusion or flow phenomena can be described by partial differential equations (PDE) depending on two or more independent variables (usually time and space). These models contain some unknown (physical) parameters to be determined. Different ways to estimate parameters of distributed parameter systems can be used: direct estimation of the PDE model parameters, transformation of the PDE into a set of ordinary differential equations (ODEs), reduction of the partial differential equation to algebraic equations.

The main objective of this Ph.D. thesis is to develop new tools for PDE model parameter identification. After focusing on existing identification techniques available in the literature with a specific attention to their advantages and drawbacks, the candidate will have to improve solutions developed by our group members until now, i.e., 2D models associated with output-error and equation-error techniques. More specifically, the candidate will focus on the following points:

- implementation of the identification algorithms,

- design of the best system excitation,
- adaptation of the algorithms for non-uniformly sampled data (in time and/or space domain),
- impact of the number of sensors and their spatial distribution on the parameter estimation
- improvement of the methods in the following cases:
 - small number of sensors,
 - small number of time samples.

The validation of the algorithms will be first performed on simulated data. While the main application field is heat transfer, the Ph.D. candidate will be involved in other academic and industrial projects led by the supervisors. For instance, the newly developed tools should be used on a two-phase system as well for a project dedicated to the population dynamics prediction.

Candidate requirements: applicants should have a Master's degree from a good-quality university in applied mathematics, engineering, computer science or a related field. They should possess a strong background and interest in mathematics and, ideally, in identification and advanced control. They should have excellent analytical and problem-solving skills and, preferably, well-developed programming skills. Applicants should have a good knowledge of Matlab. The candidate should have excellent oral and written communication skills in English.

Application procedure: To apply for this Ph.D. position, send email to guillaume.mercere@univ-poitiers.fr, regis.ouvrard@univ-poitiers.fr and thierry.poinot@univ-poitiers.fr with subject "PhD application: identification of systems governed by Partial Differential Equation - Application to heat transfers", attaching an academic CV, a cover letter, a pdf of your diplomas and transcript of course work and grades, a certificate of proficiency in English, and any other document deemed necessary by the candidate which can enrich the application.

DEADLINE FOR THE APPLICATION: Friday, 23rd March 2018!!!

[Back to the contents](#)

7.17. PhD: Slovak University of Technology in Bratislava, Slovakia

Contributed by: Radoslav Paulen, radoslav.paulen@stuba.sk

The Institute of Information Engineering, Automation and Mathematics at Slovak University of Technology in Bratislava (<http://uiam.sk>) has vacancies for two PhD positions:

1. Guaranteed Parameter Estimation (advisor: Dr. Radoslav Paulen)

Guaranteed parameter estimation is a non-asymptotic estimation technique, which, unlike statistical estimation techniques (e.g. least-squares estimation), does not require an assumption on the normal distribution of the noise present in the measured data. This makes it very interesting for practice. This project investigates the possibilities of advancing the present techniques of guaranteed parameter and state estimation to tackle the problems of model validation, handling structural model mismatch and optimal design of experiments. Use of guaranteed estimation for the optimal adaptive control of the dynamic systems will be addressed further. The project of the thesis should be finished with successful demonstration of the developed techniques on a laboratory plant.

2. Predictive Control based on Robust Soft-sensors (advisor: Dr. Radoslav Paulen)

Many process variables, such as chemical compositions of material streams or levels of degradation of the equipment, cannot be measured directly. Despite the availability of modern and cheap sensor technology, many process variables still need to be estimated by using sophisticated algorithms that simultaneously reveal statistically best options (estimates) for the values of the unmeasured variables and the confidence

associated with these estimates. It is a goal of this project to investigate new avenues in state estimation in order to improve reliability of coupled predictive control algorithms. The project of the thesis should be finished with successful demonstration of the developed techniques on a laboratory plant.

Requirements: The applicant should have obtained a M.Sc. degree in a field related to the particular project, such as chemical engineering, systems & control, mechanical engineering, electrical or electronics engineering, or computer science. A good command of the English language is required.

Conditions of employment: The positions are vacant immediately and run for four years. The successful candidate will be enrolled in the university graduate school. Salary and benefits are in accordance with the Slovak legislation regarding research and education bodies.

Application: Please send your application including a motivation letter, a curriculum vitae, a list of courses with grades, and contact information for two academic references to Dr. Radoslav Paulen (radoslav.paulen@stuba.sk).

[Back to the contents](#)

7.18. PhD: University of Louisiana at Lafayette, USA

Contributed by: Afef Fekih, afef.fekih@louisiana.edu

The Advanced Controls Laboratory at the University of Louisiana at Lafayette, USA has available funding to support a PhD student in the general area of advanced control design/Fault Tolerant Control design. Students who have had prior research experience with wind turbines/PVs/power systems will have an advantage. The successful candidate is expected to have a strong background in control systems theory, power systems, fault tolerant control, robust control, and adaptive control. Programming skills in MATLAB/Simulink are required. A genuine interest and curiosity in the subject, excellent oral and written English communication skills are needed.

Applicants shall have a Master's degree or equivalent in systems and controls, power systems, electrical engineering, mechanical engineering, applied Math or a related discipline. The PhD student is expected to carry out original research and complete coursework throughout the period of appointment. Results will be communicated in the form of journal publications, conference presentations, and the PhD dissertation. The funding covers the cost of full tuition and stipends at a competitive rate and will start in Fall 2017. Interested individuals should send their detailed curriculum vitae, copies of their recent transcripts, a copy of their best publication in English, and if applicable GRE/test scores to Dr. Afef Fekih (afef.fekih@louisiana.edu).

[Back to the contents](#)

7.19. PhD: University of Strathclyde, UK

Contributed by: Manuela L. Bujorianu, luminita.bujorianu@strath.ac.uk

PhD in Fire Safety

The Maritime Safety Research Centre (MSRC), Department of Naval Architecture, Ocean and Marine Engineering, University of Strathclyde (Glasgow, Scotland, UK).

Position description

Safety is at the heart of sustainable marine operations. However, given the dynamic nature and the growing size and complexity of modern vessels, effective management of pertinent risks remains a serious issue. There has hardly ever been a year featuring no maritime accident, let alone incidents and near misses. However, growing prevalence of cyber-physical systems on-board along with new sensor and information technologies jointly known as Industry 4, bring new problems but also new opportunities for more effective risk management.

The Maritime Safety Research Centre (MSRC) of the University of Strathclyde is engaged in a number of high impact, industrial research with focus on on-board risk management. A talented individual with the background in engineering or science is sought to fill an open PhD position in the topic of fire safety.

The successful candidate will be highly motivated, independent and yet an excellent team player, well organised, and result-oriented. As this work requires a multi-disciplinary approach, a wide set of right skills and aspirations would be advantageous. The successful candidate would be offered to commence immediately.

We offer a vibrant, nurturing environment with excellent, well-established prospects for professional development. You will be engaged with various industrial partners across the world, in particular with DNV GL and Royal Caribbean Cruises, and have a real opportunity to make it a safer and securer place.

Research project

Title: Development fire prevention methods and tools for cruise ships

The main research focus will be on fire prevention in safety critical spaces on cruise ships. New methods will need to be developed and turned into practical applications. Cyber-physical systems will need to be considered as enabling technology to achieve the effect.

Required skills

You expected to be analytically minded, like to solve problems and have adequate background in fire engineering, mathematics or engineering with skills in computational mechanics (CFD, FEA etc.), data analysis and programming.

Background in fire engineering is highly preferable (e.g., a master thesis in the area, work experience), although candidates with limited or no background but with aspiration and relevant qualifications to work in this area are also invited to apply.

Working conditions

- Full-time employment as a PhD-candidate for a period of 3 years.
- Funding for UK/EU Students: The funding covers Home-Scotland/EU student tuition fees and stipend (£14653 per year) in line with University rates (A student from the Rest of the UK (RUK) may be considered for a partial grant).
- Funding for non-EU/UK Students: Partly funding may be available depending on prior skills and other circumstances.

Supervision

Professor Dracos Vassalos, Professor of Maritime Safety

Other relevant academic

Industrial sponsor: DNV GL or Royal Caribbean Cruises

Information and applying

For more information about the project, please contact Dr. Manuela Bujorianu [Luminita.bujorianu@strath.ac.uk](mailto:luminita.bujorianu@strath.ac.uk) or Dr Romanas Puisa, r.puisa@strath.ac.uk

Application closing date: 23 February 2018. Prompt application is advised, as this position is only available until a suitable candidate is found.

[Back to the contents](#)

7.20. PhD: University of Cambridge, UK

Contributed by: Ioannis Lestas, icl20@cam.ac.uk

A PhD position in the area of control is available at the University of Cambridge, Department of Engineering with a start date on October 1st 2018. Full funding (both fees and maintenance) will be provided to UK or EU citizens who have been ordinarily resident in the UK for 3 years prior to the start date (UK citizens are

also eligible if they have been away from the UK for extended periods). For EU candidates who have not been resident in the UK only fees will be covered though additional funding might be provided to strong applicants. The project will be supervised by Dr Ioannis Lestas (icl20@cam.ac.uk) who can also be contacted for any inquiries.

Applications can be made via the university Application Portal

<https://www.graduate.study.cam.ac.uk/how-do-i-apply>

by specifying Dr Ioannis Lestas as project supervisor.

Applications should be received preferably by March 1st, though early submissions are strongly encouraged.

[Back to the contents](#)

7.21. PhD: University of Houston, USA

Contributed by: Karolos Grigoriadis, karolos@uh.edu

Research assistantships are available in the Department of Mechanical Engineering at the University of Houston for Ph.D. studies in the areas of dynamic systems identification and control with applications to mechanical, energy and biomedical systems. Specific areas of interest include: (i) the modeling and control of combustion engines, (ii) the identification and control of the human physiology and response to drugs, and (iii) the real-time monitoring and control of subsea oil production systems. Applicants are expected to have strong mathematical background and knowledge of modern control systems theory and applications documented by publications and prior MS studies on relevant topics. The vibrant Houston metropolitan area offers ample opportunities for interaction with collaborating industry and the Texas Medical Center. Applications from qualified Ph.D. students are invited for Fall 2018. For more information please contact: Prof. Karolos Grigoriadis, Department of Mechanical Engineering, University of Houston, Houston, TX 77204-4792, E-mail: karolos@uh.edu

[Back to the contents](#)

7.22. Research Fellow/Associate: National University of Singapore, Singapore

Contributed by: Chong Jin Ong, mpeongcj@nus.edu.sg

Research Fellow/Associate in Distributed Control of multi-agent systems

Applicants are invited for Research Fellow/Associate positions to work on approaches to distributed control/optimization of multi-agent system. In particular, effective approaches are sought that solve the consensus problem for a multi-agent, network system under several settings: the presence of global constraint, time-switching network and/or state and control constraints.

Applicants should possess at least a Master's degree with at least 2 years' relevant work experience for Research Associate position. Candidate with PhD degree (preferably in Multi-agent Control, distributed optimization) will be considered for Research Fellow position. The applicants should have very good foundation in mathematics and control theory. Those who have recently obtained a PhD degree in general control theory, computer science and mathematics are also encouraged to apply.

Current PhD students who are on the last leg of their candidature (submitting their thesis within the next one or two months) or waiting for their oral defence may also be considered for the position.

Remuneration will commensurate with experience.

Applications with full CV to be submitted electronically to Assoc Prof Ong Chong Jin at email: mpeongcj@nus.edu.sg

Only shortlisted applicants will be notified.

7.23. PostDoc: U.S. Army Research Laboratory, USA

Contributed by: Jemin George, jemin.george.civ@mail.mil

Postdoc Position at U.S. Army Research Laboratory (ARL)

Position Description - Postdoctoral Fellow: The U.S. Army Research Laboratory is seeking distinguished postdoctoral associates to conduct basic/applied research in the areas of i) distributed (nonconvex) optimization in contested/adversarial environment; ii) big-data analytics over resource constraint networks; and iii) distributed, resource-aware learning. The postdoctoral associates are expected to conduct fundamental research in collaboration with ARL scientists and engineers to build a foundation for distributed data science. Successful candidates will have the opportunity to collaborate with researchers from top academic institutions through several partnerships between Army laboratories, private industry and academia.

Position Qualifications: We are looking for candidates with strong background in distributed optimization, analysis of large datasets, machine learning, multi-agent optimization, and network analysis. Candidates should have the potential to publish in premier journals. All applicants must have strong mathematical and computing skills. Applicants should possess a Ph.D. in Mathematics, Statistics, Engineering, or other relevant fields. Applicants are expected to be highly motivated and intellectually curious researchers at an early stage of their scholarly career. Applicants are NOT required to be US citizens or permanent residents.

Application Process: The positions are available immediately and offered for one-year term, subject to renewal (up to three more years) based on performance. Salary is highly competitive and commensurate with rank and qualifications. Review of applications will begin immediately and continue until the positions are filled. Applicants must provide

- (1) one page cover letter,
- (2) curriculum vita including a list of publications,
- (3) research statement (no more than 3 pages); and
- (4) names and contact information for three references.

Please send all materials to: Jemin George (jemin.george.civ@mail.mil)

7.24. PostDoc: University of Michigan, USA

Contributed by: Dimitra Panagou, dpanagou@umich.edu

Postdoctoral Opening: Safety and Resilience in Multi-Agent Systems.

Aerospace Engineering Department, University of Michigan, Ann Arbor, USA

The Distributed Aerospace Systems and Control Lab at the Aerospace Engineering Department (<http://www-personal.umich.edu/~dpanagou/research/index.html>), University of Michigan (Ann Arbor, MI, USA) is inviting applications for one postdoctoral research associate position.

The successful candidate will work on planning, decision-making, and control for multi-agent systems, with emphasis on the robustly safe and resilient control and estimation for autonomous multi-vehicle systems, and for human-robot systems. The duration of the position is one year and may be renewable for another year depending on satisfactory progress and availability of funds.

Candidates should have a strong background in the general areas of hybrid systems and control theory, game theory, motion and path planning, and estimation theory.

Interested applicants should send a CV, a brief description of interests and goals, and a list of three references in a single PDF file to Professor Dimitra Panagou (dpanagou@umich.edu). Applications will be evaluated as soon as they are received, until the position is filled. The position is immediately available.

[Back to the contents](#)

7.25. PostDoc: Shanghai Jiao Tong University, China

Contributed by: Bowen YI, yibowen@ymail.com

The Optimization & Control Engineering Research Center of Shanghai (in the Department of Automation, Shanghai Jiao Tong University, China) offers 3 postdoc positions in control engineering as soon as possible thereafter. We are interested in candidates in the broad areas of advanced control theory, multi-agents formation, artificial intelligence, machine learning, pattern recognition, game theory, industrial networked control systems, etc.

Requirements and qualifications:

- PhD degree
- Documented experience with research dissemination in international scientific journals
- Experience with writing research applications
- Good communication skills in English or Chinese
- Self-motivation and the ability to work both independently and as a team player with researchers from different disciplines

Main tasks:

- Active involvement in research efforts
- Supervision of student projects and thesis at both master and Ph.D. levels

Salary and others:

- RMB 120-200k/year (approximately, 18-30kUSD)
- It is a 2-year position and can be extended to 5 years

Required documents

- One self-recommendation letter covering your research statements, your achievements, as well as your possible requirements from us
- A list of your publications

For further information, please contact Prof. Dr. Weidong Zhang, Email: wdzhang@sjtu.edu.cn.

Tel: +86-21-34204019.

Address: Dongchuan Road 800, Shanghai Jiao Tong University, Shanghai 200240, China.

<http://automation.sjtu.edu.cn/ipac>

<http://automation.sjtu.edu.cn/wdzhang>

[Back to the contents](#)

7.26. PostDoc: IA IMT Lille Douai, France

Contributed by: Stephane Lecoeuche, stephane.lecoeu@imt-lille-douai.fr

Further explorations between Machine Learning and Control Systems

A postdoc position is offered at IA IMT Lille Douai as a part of CPER Data project,

Duration: 12 months of contract,

Starting Date: Open in February 2018

We are looking for a candidate with a strong scientific background and a PhD in one of the following fields: control theory, system identification, machine learning and statistics.

Context and works to be achieved during this post-doc

The Informatics and Automatic Control UR <http://ia.ur.mines-douai.fr/en/home/> is a specific unit of IMT Lille Douai. Its research domain is the engineering of evolving systems. Most of its works concern original Big Data and ICT-based solutions for better system management. Original techniques for modelling, monitoring and control of complex processes, are developed at the boundary between control systems, machine learning and artificial intelligence.

The successful applicant will work on the frontier between machine learning and control theory/system identification. System identification is a sub-discipline of control theory which aims at learning dynamical models (difference/differential equations) from data and use these models for decision making (control). Recently, the same problem has gained attention in the machine learning community.

The specific tasks the candidate is expected to contribute to are:

- To study the connections between dynamical models typically considered from a machine learning point of view and those seen by control systems community;
- To study the connections between Machine Learning algorithms and system identification techniques;
- To transfer results for better methods of control or prediction;
- To experiment on benchmark examples related to Building or Industry.

Profile

The candidate must hold a PhD Thesis in Machine Learning, Automatic Control, Model estimation. The candidate must demonstrate scientific expertise and abilities to implement solutions in domains of application such as smart manufacturing and smart cities.

Contact

Dr. Lucien ETIENNE - Department of Informatics and Automatic Control Tel: +33 3.27.71.25.26 Mail: lucien.etienne@imt-lille-douai.fr

Pr. Stephane LECOEUICHE - Department of Informatics and Automatic Control Tel: +33 3.27.71.24.45 Mail: stephane.lecoeuiche@imt-lille-douai.fr

[Back to the contents](#)

7.27. PostDoc: UTFSM, Chile

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

POSTDOCTORAL POSITIONS

The Advanced Center for Electrical and Electronic Engineering (AC3E) offers up to FOUR postdoctoral fellowships in the areas of Smart Industry, Energy and Power Systems, and Health Technologies.

AC3E was created on 2014 to group individual research efforts into multi- and inter-disciplinary teams and focus research towards industry related problems to spark innovation. The Center is part of UTFSM, one of the most prestigious universities in Chile and Latin America in the area of science, technology, and engineering. The lines of research of the Center are: Control and Automation, Renewable Energy and Power Conversion, Robotics, Biomedical Systems, Electrical Systems, and Signal Processing and Communications. These lines of research focus their work around the following areas of impact.

Areas of Impact

1. Smart Industry.

2. Energy and Power Systems.
3. Health Technologies.

Required Documents

1. Cover letter explaining your interest in becoming part of AC3E.
2. Curriculum Vitae, including a list of publications.
3. Evidence of PhD degree.
4. Contact details of at least two referees, that may be contacted for a reference letter.

Important Information

- The postdoctoral fellowships are for two years.
- Required documents should be provided in English in a single PDF file.
- The positions are for working at AC3E, located at UTFSM main campus in Valparaiso, Chile.
- Selected candidates are expected to join AC3E no later than July 2018.
- Application deadline is March 5, 2018.
- Applications should be sent to ac3e@usm.cl with subject POSTDOCTORAL POSITIONS 2018.
- Additional information can be found at www.ac3e.cl and at www.usm.cl
- Further enquiries can be sent to ac3e@usm.cl

Juan I. Yuz E., Ph.D.

Director, Advanced Center for Electrical and Electronic Engineering

Associate Professor, Departamento de Electrónica

Universidad Técnica Federico Santa María, CHILE.

<http://profesores.elo.utfsm.cl/~jyuz>

<http://www.ac3e.usm.cl>

[Back to the contents](#)

7.28. PostDoc: National Institute of Informatics, Japan

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

PostDoc: National Institute of Informatics, Japan

(New: our positions are being filled up but there are a few open ones)

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 a few 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.

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).

[Back to the contents](#)

7.29. PostDoc: INRIA Grenoble, France

Contributed by: Bernard Brogliato, bernard.brogliato@inria.fr

Post-doctoral position at INRIA Grenoble, France: This post-doc position subject is about Linear Complementarity Systems (LCS) analysis, which make an important class of hybrid dynamical systems with applications in circuits with piece-wise linear components, optimal control with state inequality constraints, genetic networks, etc. In particular the design of time-varying stabilizing controllers, both by state and output feedback (keeping in mind that LCS are strongly nonlinear and nonsmooth dynamical systems, for which the separation principle does not automatically apply), will be tackled. Theoretical results will be supported by numerical simulations obtained with the INRIA software package SICONOS (<http://siconos.gforge.inria.fr/4.1.0/html/index.html>).

Location: INRIA Grenoble, France. Applicants should hold a PhD (defended between 1st September 2016 and 31st July 2018) in Systems and Control or Applied Mathematics. Starting date: 1st November 2018, duration: 16 months. Gross salary: 2650 Euros per month. Applications have to be made on-line on the INRIA web site before end of March. For more details please contact Dr Bernard Brogliato (bernard.brogliato@inria.fr) or Dr Christophe Prieur (christophe.prieur@gipsa-lab.fr).

[Back to the contents](#)

7.30. PostDoc: University of Utah, USA

Contributed by: Masood Parvania, masood.parvania@utah.edu

A Postdoctoral Scholar position is available for joining the Utah Smart Energy Lab at the Department of Electrical and Computer Engineering at the University of Utah, Salt Lake City, Utah, USA. The postdoctoral researcher will work on a project funded by the U.S. Department of Energy on developing novel stochastic optimal control models for power systems operation with renewable energy resources, energy storage devices and controllable loads. The successful candidate should hold a Ph.D. in a relevant discipline with strong background in control systems design, stochastic optimization, and power systems operation.

Candidates should send an email to Dr. Masood Parvania, at masood.parvania@utah.edu, along with the following documents:

- Motivation letter (no more than 1 page)
- Curriculum vitae
- Names and contact information of at least two references
- PDFs of at least two relevant publications

[Back to the contents](#)

7.31. PostDoc: MINES ParisTech, France

Contributed by: François Chaplais, francois.chaplais@mines-paristech.fr

6 month Postdoc at CAS, MINES ParisTech, Paris

The subject is about the robustness of interior methods in optimal control when dealing with state constraints. We know from very simple examples that control problems with state constraints are not robust to model uncertainty. Interior point methods in optimal control put a penalty at the boundary of the state constraint. This penalty is pondered by a factor r that tends to zero as the interior point method converges. We have observed numerically, on several examples, that for small values of the weight factor r , the trajectory is rather far away from its constraints while delivering a very good performance in the optimal control problem; therefore one can expect some robustness to model uncertainty for this r .

The postdoc subject is to investigate theoretically this practical compromise between robustness and cost performance.

[Back to the contents](#)

7.32. PostDoc: University of Michigan, USA

Contributed by: Anouck Girard, anouck@umich.edu

Post-doctoral position opening in Learning and Control Algorithms for Autonomous Driving at the University of Michigan.

A post-doctoral research fellow position is open in the Department of Aerospace Engineering at the University of Michigan, Ann Arbor. The position entails conducting research into algorithms for automated driving based on applications of learning, modern control theory and artificial intelligence, including game theory, stochastic dynamic programming, and/or reinforcement learning. This position is offered in collaboration with Ford Research and Advanced Engineering.

The preferred candidate will have a strong background and interest in one or more areas of advanced learning and control, such as reinforcement learning, game theory, model predictive control, nonlinear control and/or adaptive control, and past experience with (or interest in) control applications and autonomous vehicles. Familiarity with automotive vehicle dynamics and control is a plus. The position is initially for one year, and renewable for subsequent years. The intended start date is March 1, 2018.

Potential applicants should send via e-mail (Subject: PostDoc Application in Autonomous Driving), a CV and the names of three references to Prof. Anouck Girard at anouck@umich.edu.

[Back to the contents](#)

7.33. PostDoc/Visiting Researcher: Huazhong University of Science & Technology, China

Contributed by: Ye Yuan, ye.yuan@outlook.com

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, system identification and control theory and its application to robotics.

1. For Postdoc, we offer

- A competitive salary (USD 35,000 – 50,000 per year);
- Experimental platforms to test ideas (Vicon + Crazyflies, GPU cluster, UR3/5 robot + Kinect)
- Full contract for 2 years with the possibility of renewal up to 5 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 (up to USD 9,000 per month);
- Travel cost and local housing.

3. Your Profile

- A Ph.D. degree in Control Theory, Robotics, Mathematics or a closely related field;
- An excellent background in one of the following areas: system identification, control theory, machine learning, neuroscience, robotics.
- Tenured professors in leading institutes (for visiting professors).

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).

[Back to the contents](#)

7.34. Faculty: Louisiana State University, USA

Contributed by: Guoxiang Gu, ggu@lsu.edu

The Division of Electrical & Computer Engineering (<http://www.ece.lsu.edu>) in the School of Electrical Engineering & Computer Science at Louisiana State University, Baton Rouge, seeks outstanding candidates for an Assistant Professor tenure-track position in Controls starting August 2018. Candidates are sought with research interests and experience in all areas of controls, including but not limited to: robust control, optimal control, adaptive control, nonlinear control, linear control, industrial process control, robotics, and advanced manufacturing. The successful candidate will have the opportunity to join a growing Robotics group and support a recently-introduced multidisciplinary Robotics Minor in the College of Engineering.

Louisiana State University is Louisiana's Flagship University and is committed to academic excellence. It is located in Baton Rouge, the State's capital city with high-quality housing and many cultural and recreational facilities within a short distance.

Duties of the position include establishing a vigorous, externally funded research program, publishing in highly ranked journals and conference proceedings, supervising graduate students and student advising, teaching at the graduate and undergraduate levels in candidate's specialization in the field of electrical engineering, participate in University service, including committee activities, and maintaining professional standards and level of competence.

Required Qualifications: Ph.D. in Electrical Engineering or a closely related field. Candidates who have satisfied all other doctoral requirements but dissertation submission will also be considered. The candidate must have demonstrated potential for excellence in teaching graduate and undergraduate courses in Electrical Engineering, conducting research, and the ability to attract research sponsorship.

Salary will be commensurate with qualifications and experience. Application review is set to begin on January 15, 2018, although it may begin sooner, and will continue until a candidate is selected.

For more information and to apply visit:

https://lsu.wd1.myworkdayjobs.com/en-US/LSU/job/LSU—Baton-Rouge/Assistant-Professor_R00017882.
LSU is committed to diversity and is an equal opportunity / equal access employer.

[Back to the contents](#)

7.35. 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/>) hereby invites applications for a professorship/associate professorship in Instrumentation and Sensor Systems, 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.

ITK has 24 professors, 17 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>). Two of ITK's professors are IEEE Fellows.

The professor/associate professor must have a solid background in instrumentation and sensor systems and their use in industrial control systems. Supplementary research competence in any of the following areas is also relevant: Safety and reliability of industrial real-time systems; cyber security; systems engineering; industrial computer systems and networks; industrial internet of things (IIoT); embedded systems; electronics; signal processing; data analysis; estimation; and statistical modelling.

Relevant application areas include energy and process systems; marine vessels; autonomous vehicles; robotics; ocean science; biology; medicine; health; buildings; infrastructure; transportation systems; and remote sensing, surveillance and monitoring.

The professor/associate professor is expected to play a leading role in research and research-based education in instrumentation and sensor systems in cooperation with the existing staff at ITK. She or he is also expected to establish collaboration with relevant colleagues at other departments at the faculty and within NTNU's strategic research areas.

The department has strong relationships to Norwegian and international academia and industry, with numerous joint research projects. The research activities at the department rely crucially on external funding, and the development of educational programs may also receive external funding. The successful applicant is expected to work actively to obtain research grants and other external funding from the Research Council of Norway, European research and educational agencies, relevant industry and other available sources.

The full announcement can be found at <https://www.jobbnorge.no/ledige-stillinger/stilling/145915/professor-associate-professor-in-instrumentation-and-sensor-systems>

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/>

NTNU is Norway's largest university, with an annual budget of USD 1 billion. Its 55 departments are spread out over 8 faculties, educating 40.000 students at any one time, of which half study technology and the natural sciences. NTNU graduates almost 7.000 bachelor and master students every year, while about 370 doctoral degrees are awarded annually. The university has more than 100 laboratory facilities distributed among the different faculties and departments. These are central elements in NTNU's education and research work.

Many of the technological and cultural innovations that allow Norway to extract oil and gas from the North Sea, grow healthy salmon in fish farms, or interpret the country's 9.000 years of human history have been developed at NTNU. The university itself, founded in 1910, has contributed a solid century of academic achievements and discoveries that have shaped Norwegian society.

Trondheim was Norway's first capital city, founded more than 1.000 years ago, in 997 - but now instead of Viking raiders and Hanseatic traders, you'll find jazz musicians and an international student body savouring Trondheim city life. With a population of 187.353 (January 1, 2016), it is the third most populous municipality in Norway.

With its snow-capped mountains, deep green valleys and sapphire blue fjords, Norway is recognized the world over for its scenic beauty. Combine that with Norway's cultural heritage, and you'll find that living in Norway has something to offer everyone.

While Norway lies at the very top of Europe – and in fact includes the island archipelago of Svalbard, home to the most northerly communities on the planet – the country's climate is moderated by the Gulf Stream, and features four distinct seasons. Norway's natural beauty and a history of famous polar explorers are two reasons why the outdoors is such an important part of Norwegian culture.

Newcomers to Norway will find the Norwegian work culture to be relaxed, but efficient. The typical work week is 37.5 hours long, with a generous summer holiday time and official holidays sprinkled throughout the year. The work culture reflects the culture at large, which is respectful of individual rights and supports a generous welfare system.

[Back to the contents](#)

7.36. Faculty: Clemson University, USA

Contributed by: Ardalan Vahidi, avahidi@clemson.edu

The Department of Mechanical Engineering at Clemson University invites applicants for a tenure-track faculty position at the Assistant Professor rank in the area of controls, multi-body dynamics, and/or robotic systems. Please find more information at the job application link below:

<https://apply.interfolio.com/48069>

[Back to the contents](#)

7.37. Faculty: Westlake Institute for Advanced Study, China

Contributed by: Wei Li, Liwei@wias.org.cn

Westlake Institute for Advanced Study (WIAS) is an elite, private, comprehensive research institute located in the beautiful city of Hangzhou, China. WIAS aims to become a top research institute in the world, pushing the frontiers of science and technology. English is an official language of WIAS.

WIAS has four research institutes: Natural Sciences (covering math, physics, chemistry, astronomy, geosciences, and emerging fields of sciences), Advanced Technology (covering all branches of engineering), Biology (covering all branches of modern experimental biology and computational biology), Basic Medical Sciences (covering all branches of medical sciences). Each Institute has 50+ faculty positions at all ranks, to be filled in the next 5-8 years. Institute of Advanced Technology will establish the foundation of "School of Engineering, West Lake University" in near future.

WIAS is an equal opportunity employer and encourages applications from qualified individuals of all ethnic background and from all countries. Applicant must have a doctoral degree and must have demonstrated exceptional research excellence in a relevant field.

Research excellence is the primary criteria for the evaluation of faculty applications. Appointments are made at four levels: Assistant Professor, Associate Professor, Full Professor, and Endowed Chair Professor.

In 2018 recruitment round, Institute of Advanced Technology(IAT) will specially solicit qualified applicants to fill positions in the following three research centers:

1. Information Science and Engineering (including Artificial Intelligence, Robotics, Communication, Control etc);
2. Nanotechnology and Energy Engineering;
3. Environmental and Resources Engineering;

Notwithstanding above, IAT will also welcome exceptionally qualified applicants in all areas of Engineering.

Each hired faculty member will receive an internationally competitive salary, generous housing and fringe benefits, and ample start-up funds. Long term, stable research funds are available for faculty members who are at the forefront of their chosen research fields. WIAS offers a highly stimulating research environment and an inter-disciplinary approach to research problems. All faculty members are encouraged to attack scientific problems of the most challenging and most significant type. At WIAS, sky is the limit!

Such job opportunities are unprecedented in China and apply to not just Chinese but also talented individuals of other nationalities who have no fear about experiencing cultural diversity and living and doing research in a multi-cultural environment.

Please send your application (cover letter, curriculum vitae, and research proposal) to talents@wias.org.cn

Please also arrange three letters of references to be sent directly to the above email address. Please remember to mark your application (in the email subject: Name_IAT_(research area)).

This advertisement is effective throughout 2018 and positions remain open until filled.

Applications received by 25/Jan/2018 will be given priority assessment and shortlisted candidate may be interviewed in early Feb 2018.

Qualified candidates are encouraged to apply for the 'Thousand Talents Program' or the 'Youth Thousand Talents Program' through WIAS.

As a special initiative, Institute of Advanced Technology (IAT) will also be recruiting exceptional fresh PhD graduates and those with less than 5 years' postdoctoral experiences into the newly created "Future Fellow" scheme at the academic rank of Research Assistant Professors. Appointees to this scheme will be offered a 3-4 year's fixed term contract, with substantial support (research fund, PhD students, mentoring, etc) to assist them to become ready for their first tenure-track appointment.

Contact:

Ms. YANG Mengchen, Department of Human Resources, Westlake Institute for Advanced Study

Address: 18 Shilongshan Road, Cloud Town, Xihu District, Hangzhou, Zhejiang Province, China

For more information, please visit: <http://www.wias.org.cn/>

[Back to the contents](#)

7.38. Faculty: KAUST, Saudi Arabia

Contributed by: Jeff Shamma, jeff.shamma@kaust.edu.sa

The Electrical Engineering (EE) Program in the Computer, Electrical, and Mathematical Sciences and Engineering (CEMSE) Division at King Abdullah University of Science and Technology (KAUST) invites applications for faculty positions at all ranks (Assistant, Associate, and Full Professors), with preference for candidates at the Assistant Professor level. Candidates applying for a position of Assistant Professor should have an excellent potential for high impact research. Candidates applying for Associate and Full Professor positions should have a distinguished track record in research and a strong commitment to service and teaching at the graduate level.

We seek candidates in all fields pertaining to electrical engineering. Of particular interest are applicants in the areas of (i) robotics, (ii) computer vision, (iii) smart grid, and (iv) energy storage.

KAUST is an international, graduate research university dedicated to advancing science and technology through interdisciplinary research, education, and innovation. Located in Saudi Arabia, on the eastern shores of the Red Sea, KAUST offers superb research facilities, generous baseline research funding, and

internationally competitive salaries, together with unmatched living conditions for individuals and families. More information about KAUST academic programs, research activities, and community life are available at:

<https://www.kaust.edu.sa>

The EE program at KAUST is recognized for its vibrant research programs and collaborative environment. EE core research competencies in energy efficiency, nanoelectronics and nanotechnology, sensors, as well as communications, computer vision, and control systems, are strongly supported by KAUST's international research collaboration network and KAUST's advanced research facilities such as the Nanofabrication, the Imaging and Characterization, and the Supercomputing Core Facilities. More information about the EE program and CEMSE division are available at:

<https://cemse.kaust.edu.sa>

Interested persons will be required to complete a brief application form and upload a single PDF file including: (i) A complete curriculum vitae with a list of publications; (ii) Research and teaching statements; and (iii) The names and contact information for at least 3 references for an Assistant Professor position.

KAUST is committed to maintaining a diverse faculty body and encourages applications from women faculty candidates.

[Back to the contents](#)

7.39. Faculty: University of Groningen, The Netherlands

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

Tenure Track Assist. Prof. Optimisation & Operations Research Engineering (2 positions)

University of Groningen

Job description

Tenure Track position in optimization of engineering systems

The successful candidate is expected to develop research in areas optimization for engineering systems. The theoretical side of the optimization might involve convex optimization, game theory, cone programming, stochastic optimization or non-smooth optimization while the application domains include, but are not limited to, managing traffic and logistic systems, vehicle routing and task assignment, supply chain management, optimizing energy systems, decision-support for manufacturing systems, and automation of robotic systems. Other areas, e.g. learning and data mining, financial engineering and intelligent systems, might be considered as well in cases of exceptional applicants. It is particularly encouraged that the applicant's research areas have clear and close connection with various engineering data or processes in the context of smart cities, modern transportation, flow networks, energy systems, communication and computer networks, cyber-physical networks and manufacturing & service. The candidate will be embedded in the SMS-Cyberphysical System group in which research in cyber-physical systems, dynamical networks, nonlinear systems, hybrid and switched control is conducted, with applications ranging from smart grids, to data centres, water and heat networks, as well as adaptive optics.

Tenure Track position in operational research of engineering systems

The successful candidate is expected to develop research in areas operational research for engineering systems. The possible sub-research areas include, but are not limited to, managing traffic and logistic systems, vehicle routing and task assignment, supply chain management, optimizing energy systems, decision-support for manufacturing systems, and automation of robotic systems. Other areas, e.g. game theory, learning and data mining, financial engineering and forecasting for stochastic processes, might be considered as well in

cases of exceptional applicants. It is particularly encouraged that the applicant's research areas have clear and close connection with various engineering data or processes in the context of smart cities, modern transportation, flow networks, energy systems, communication and computer networks, cyber-physical networks and manufacturing & service. The candidate will be embedded in the DTPA (Discrete Technology and Production Automation) group in which research in energy networks, robotic systems, mechatronic systems, and nonlinear control is conducted, with applications ranging from power networks, to traffic systems, smart manufacturing, as well as logistic systems.

For more information about the research groups and institute:

<http://www.rug.nl/research/sms>

<http://www.rug.nl/research/dtpa>

<http://www.rug.nl/research/enteg>

Qualifications

Candidates have the following qualifications:

- a PhD degree in relevant areas such as optimization, operations research, industrial engineering, management science, systems and control, and decision science
- by the time the candidate is hired for the position, preferably two or more years of experience in a post-doctoral capacity abroad
- at least two years of experience at another educational institution than the University of Groningen
- excellent research qualities, as evidenced by a publication record in international peer-reviewed journals and renowned conferences, and a relevant international network
- research, teaching and organizational experience appropriate to career stage
- a working knowledge of the English language and willingness to learn Dutch within a time frame of two years
- evidence of experience in proposal writing for or successful acquisition of external funding appropriate to the career stage.

For more details please visit the page

<https://www.rug.nl/about-us/work-with-us/job-opportunities/overview?details=00347-02S00063SP>

Applications

You may apply for this position until 4 March / before 5 March 2018 Dutch local time by means of the application form. Click on "Apply" on the page

<https://www.rug.nl/about-us/work-with-us/job-opportunities/overview?details=00347-02S00063SP>

Interested candidates are invited to submit a complete application including:

- a letter of motivation
- a curriculum vitae, including a list of publications
- a list of five self-selected 'best papers'
- a statement about teaching goals and experience and a description of scientific interest and plans
- the names of three references complete with title and contact information.

Please make explicit if you want to apply for one of the positions in particular and refer to the vacancy number.

Unsolicited marketing is not appreciated.

Information

For information you can contact:

Prof. C. De Persis (particularly about the optimization position), c.de.persis@rug.nl

Prof. J.M.A. Scherpen (particularly about the operational research position), j.m.a.scherpen@rug.nl
(please do not use for applications)

[Back to the contents](#)

7.40. Research Scientist: Optikom, China

Contributed by: Daniel Chu, dchu@optikom.cn

A research scientist available at Optikom, Xiamen China

Responsibilities

- Algorithm Development
- Matlab/R Programming
- On-site Commissioning
- Be involved in the whole cycle of the software development: design, documentation, testing, alpha trial, beta trial, release, etc
- Customer support
- Publication and fund application

Requirements

- Have the Ph.D. degree in the area of process control, applied mathematics, chemical engineering, computer science, or the other related area.
- Be familiar with system identification, system failure prediction, abnormal detection, model based control, plant lifecycle management, and other related knowledge.
- Will be an asset to have experience of industrial project commissioning
- Will be an asset to have the experience with big data analysis
- The candidate with strong interests on the industrial applications using complicated algorithm development is highly recommended to apply.
- Fluent in both spoken and written Chinese

Interested applicants may send his/her CV to dchu@optikom.cn. Benefits included competitive salary package, plus health insurance, employee stock purchase plan, and housing allowance. For more information check www.optikom.cn. If you want to know how to used advanced control algorithms and cloud-based techniques to change the world, please do not hesitate to apply.

[Back to the contents](#)

7.41. Product Development Engineer: Arconic Fastening Systems and Rings, USA

Contributed by: Douglas Redman, douglas.redman@arconic.com

Arconic Fastening Systems and Rings (AFSR) is seeking a New Product Development (NPD) Engineer for our NPD Engineering team. This role will focus on the implementation of machining controls. The position is located at the AFSR fastener manufacturing plant in Carson, CA.

Arconic Fastening Systems and Rings (AFSR) holds the number one global market position in aerospace fastening systems and rings, and we're the North American leader in commercial transportation fasteners. Our rings and high-tech, multi-material fastening systems are found nose to tail on aircraft and aero engines. Our products are also critical components of industrial gas turbines, automobiles, commercial transportation vehicles, and construction and industrial equipment. Headquartered in Torrance, CA; AFSR employs over 7,500 people in 13 countries at 38 locations. AFSR is a business unit of Arconic (NYSE:ARNC).

Join Arconic and join a network of people who are passionate about industry-changing technology that advances the world. You'll have the opportunity to work with leading global companies that operate in world-changing industries—such as aerospace, automotive, building and construction, defense and commercial transportation. It's not just a job. It's a career and a path to the future. You'll be part of a diverse culture of learning, teaching and mentorship. Arconic is fully committed to developing people: providing employees with the resources, and learning and development opportunities they need to excel and build a career.

Key Responsibilities:

Work independently to design electromechanical systems of medium to advanced complexity. Develop mechanical parts, drawings and assemblies utilizing sound engineering and design for manufacturing principles. Apply control theory to develop software for remote control of robotic assemblies. Specify and source off the shelf components, including, sensors controllers, motors, gears, tools, etc. Optimize new and existing products and fabrication process using principles of Mechatronics Design, select and integrate sensors and actuators, develop control algorithms Plans and develops test programs and coordinates fabrication of the new products and process using efficient project management techniques
Basic Qualifications : M.S. In Mechanical Engineering, Control Engineering or Electrical Engineering
Minimum of 2 years of experience in mechatronics or robotic design and analysis. Employees must be legally authorized to work in the United States. Verification of employment eligibility will be required at the time of hire. Visa sponsorship is not available for this position. This position is subject to the International Traffic in Arms Regulations (ITAR) which requires U.S. person status. ITAR defines U.S. person as an U.S. Citizen, U.S. Permanent Resident (i.e. 'Green Card Holder'), Political Asylee, or Refugee.

Preferred Qualifications : Preferred Qualifications : M.S. In Mechanical Engineering, Control Engineering or Electrical Engineering ideally from a research university

Must have interest in robotic systems and desire to lead design projects
Ideal candidate will have experience with additive Manufacturing
Must be proficient in SolidWorks. Must have a firm grasp on GD&T per ASME Y14.5. Must have computer skills, including the ability to use MS Office applications. Must have suitable spoken and written communication skills, and be able to present technical information effectively in one-on-one and small group situations. Must have impeccable attention-to-detail and time-management skills.

Please apply at www.arconic.com

[Back to the contents](#)