Welcome to Issue 367 of the CSS E-letter available [here](#).
- To submit new articles, visit article submissions on the E-Letter website.
- To subscribe, send an empty email to eletter-css-join@lists.it.utsa.edu and you will be automatically subscribed to the CSS E-Letter.
- To unsubscribe, please send me an email at ahmad.taha@utsa.edu with the subject line Unsubscribe.

The next E-Letter will be mailed out at the beginning of April 2019.

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6.35 PhD: Delft University of Technology, The Netherlands
6.36 PhD: University of Western Ontario, Canada
6.37 PhD: Zhejiang University, Hangzhou, China
6.38 Research Associate/Fellow: Curtin University, Australia
6.39 Research Scientist: Rockwell Automation, USA
1 IEEE CSS Headlines

1.1. CSS Social Media Accounts
Contributed by: Ahmad Taha and Ankush Chakrabarty ahmad.taha@utsa.edu, chakrabarty@merl.com

Follow us on Twitter https://twitter.com/CSSIEEE
Like us on Facebook https://facebook.com/CSSIEEE/

1.2. CSS Technically Cosponsored Events
Contributed by: Luca Zaccarian, CSS AE Conferences, zaccarian@laas.fr

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


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

1.3. IEEE Control Systems Society Publications Content Digest
Contributed by: Kaiwen Chen, kaiwen.chen16@imperial.ac.uk

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.

1.4. IEEE Transactions on Automatic Control
Contributed by: Alessandro Astolfi, ieeetac@imperial.ac.uk

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1.5. IEEE Transactions on Control Systems Technology
Contributed by: M. Colasanti, ieeetcst@osu.edu

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

The IEEE Control Systems Society (CSS) Outreach Fund provides grants for projects that will benefit CSS members and the controls community in general. Since its inception in 2011, the Fund has funded over 60 grants on behalf of a diverse group of CSS member-led activities.

The CSS Outreach Task Force is pleased to announce that the window for proposal submission for its 2019 spring solicitation will be held from May 1 to 24, 2019. Because of inherent delays in proposal evaluation and processing, any CSS members interested in pursuing an Outreach-funded project during 2020 need to apply during this solicitation. Information regarding the program, which includes proposal requirements and descriptions of current and past funded projects, can be found in:
http://www.ieeecss.org/general/control-systems-society-outreach-fund

Potential applicants are encouraged to watch a 10-minute video describing the CSS Outreach Fund that is available from IEEE.tv:
https://ieeetv.ieee.org/conference-highlights/daniel-e-rivera-the-css-outreach-program-providing-community-serviceUDIO-

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

2.1. Summer School: Technical University of Denmark
Contributed by: Morten Herget Christensen, mhchriselektro.dtu.dk

Center for Electric Power and Energy at the Technical University of Denmark is pleased to announce that the 4th DTU CEE Summer School (16-21 June 2019) is now open for applications. The focus of this summer school will be on “Data-driven analytics and optimization for energy systems.”

Center for Electric Power and Energy invite PhD and MSc students, postdocs and researchers in industry to submit their applications by March 15, 2019 through our webpage: http://www.energy-markets-school.dk/ DTU CEE Summer School 2019 brings together academics and industry professionals from around the world, in an intensive 5-day course, where they learn about the latest developments in data-driven optimization and methods for energy systems, connect, and exchange ideas. Distinguished lecturers from the US and Europe, excelling both in research and teaching, are invited to give 4-hour lectures both providing the fundamentals and introducing advanced topics in their field. Every lecture will be followed by a 2-hour hands-on exercise session.

Topics covered:
- A Marketplace for Data, Munther A. Dahleh (Professor at Massachusetts Institute of Technology)
- The Opportunities and Challenges of Big Data, Dolores Romero Morales (Professor at Copenhagen Business School)
- Data-driven distributionally robust optimization, Johanna L. Mathieu (Assistant Professor at University of Michigan)
- Data-Driven Optimization in Power Systems, Andrea Simonetto (Researcher at IBM Research Ireland)
- Introduction to Statistical and Machine Learning, Hélène Le Cadre (Senior Researcher at VITO/EnergyVille)
- Data-driven Control in Power Distribution Grids, Saverio Bolognani (Senior Researcher at Swiss Federal Institute of Technology - ETH)
- Data-driven Methods for Power System Security Assessment, Spyros Chatzivasileiadis (Associate Professor at Technical University of Denmark - DTU)
- Statistical and Machine Learning for Forecasting, Pierre Pinson (Professor at Technical University of Denmark - DTU)
- Distributed optimization, Jalal Kazempour (Assistant Professor at Technical University of Denmark - DTU)

We are looking forward to welcoming you at DTU!

2.2. Summer School: Cold Spring Harbor Labs, New York
Contributed by: Elisa Franco, efranco@seas.ucla.edu

2019 Summer School in Synthetic Biology at Cold Spring Harbor Labs
We are now accepting applications for the 2019 Cold Spring Harbor Laboratory Summer Course in Synthetic Biology (July 23 - August 5, 2019). We encourage you, your colleagues, and/or your trainees to apply if:
You are a scientist whose training is well underway (senior graduate student to junior faculty and beyond). You are interested in steering your research in a new direction, towards synthetic biology. You are interested in a multi-disciplinary approach to biology and bioengineering. We encourage students of all backgrounds, whether the very biological or very theoretical, to apply! You work in the field of synthetic biology and are interested in new techniques.

Since the course began in 2013, industry professionals, graduate students, postdocs, science educators, and faculty have completed our immersive two-week laboratory class. The Course will focus on how the complexity of biological systems, combined with traditional engineering approaches, results in the emergence of new design principles for synthetic biology. Students will work in teams to learn the practical and theoretical underpinnings of cutting edge research in the area of Synthetic Biology. In addition, students will gain a broad overview of current applications of synthetic biology by interacting with a panel of internationally-recognized speakers from academia and industry during seminars, lab work, social activities.

Scholarships: Several stipend awards are available for applicants who are accepted into the course. Please read details about the available stipend awards at: https://meetings.cshl.edu/sponsors.aspx?course=c-synbio&year=19 In order to be considered for an award, you must specifically reference which one you are eligible for in the Stipend Request section of your application.

Course dates: July 23 - August 5, 2019
Application deadline: April 1, 2019
Application submission information:
https://meetings.cshl.edu/courses.aspx?course=c-synbio&year=19
Course blog & website: https://cshlsynbio.wordpress.com/
Organizers: James Chappell, Elisa Franco, Philip Romero, Michael Smanski, Ophelia Venturelli

2.3. Summer School: Network- and Data-driven Learning, Italy
Contributed by: Angelo Coluccia, angelo.coluccia@unisalento.it

The 2019 IEEE-EURASIP Summer School on “Network- and Data-driven Learning: Fundamentals and Applications,” will take place in Lecce, Italy. It will bring together researchers to share exciting advances in network and data sciences theory and applications.

The event will host students interested in signal processing, offering them opportunities to network with world-renowned professors and industry researchers as well as to engage in hands-on tutorials in signal processing and machine learning. In addition to the beautiful ambiance offered by “The Florence of the South of Italy,” attendants will benefit from a stimulating environment to learn about the latest advances in an exciting field. Students will have the possibility to present their current research work in a poster session.

The technical focus of this summer school is on fundamentals and algorithmic advances for learning from large volumes of data, with emphasis on network (i.e., graph) data. Topics covered go all the way from learning graph representations of complex signals, to tensor decompositions of multi-aspect data and learning efficient signal representations via state-of-the-art deep learning architectures. To better illustrate the
concepts taught, a gamut of diverse applications will be considered, including communication, social, brain, and power networks, Internet of Things technologies, and artificial intelligence.

Application Deadline: April 30, 2019
Please visit http://www.dtc.umn.edu/lecce2019school/ for more information.

2.4. Award: IFAC Mechatronics Systems Awards
Contributed by: Tsu-Chin Tsao, ttsao@seas.ucla.edu

Announcement on IFAC Mechatronics Systems Awards Due June 1, 2019:
Outstanding Young Researcher Award
Outstanding Investigator Award
Lifetime Achievement Award

Award selection criteria and nomination forms:
https://tc.ifac-control.org/4/2/tc-awards
3 Books

3.1. Observer Design for Nonlinear Systems
Contributed by: Laura Burgess, laura.burgess@springer.com

Observer Design for Nonlinear Systems by Pauline Bernard
ISBN: 978-3-030-11145-8
February 2019, Springer
Hardcover, 187 pages, $149.99 / 119.99 €

Observer Design for Nonlinear Systems deals with the design of observers for the large class of nonlinear continuous-time models. It contains a unified overview of a broad range of general designs, including the most recent results and their proofs, such as the homogeneous and nonlinear Luenberger design techniques. The book starts from the observation that most observer designs consist in looking for a reversible change of coordinates transforming the expression of the system dynamics into some specific structures, called normal forms, for which an observer is known. Therefore, the problem of observer design is broken down into three sub-problems:

- What are the available normal forms and their associated observers?
- Under which conditions can a system be transformed into one of these forms and through which transformation?
- How can an inverse transformation that recovers an estimate in the given initial coordinates be achieved?

This organisation allows the book to structure results within a united framework, highlighting the importance of the choice of the observer coordinates for nonlinear systems. In particular, the first part covers state-affine forms with their Luenberger or Kalman designs, and triangular forms with their homogeneous high-gain designs. The second part addresses the transformation into linear forms through linearization by output injection or in the context of a nonlinear Luenberger design, and into triangular forms under the well-known uniform and differential observability assumptions. Finally, the third part presents some recently developed methods for avoiding the numerically challenging inversion of the transformation. Observer Design for Nonlinear Systems addresses students and researchers looking for an introduction to or an overview of the state of the art in observer design for nonlinear continuous-time dynamical systems. The book gathers the most important results focusing on a large and diffuse literature on general observer designs with global convergence, and is a valuable source of information for academics and practitioners.

Contents
1. Nonlinear Observability and the Observer Design Problem
2. Introduction
3. State-Affine Normal Forms
4. Triangular Forms
5. Introduction
6. Transformations into State-Affine Normal Forms
7. Transformation into Triangular Forms
8. Motivation and Problem Statement
3.2. Adaptive Control of Hyperbolic PDEs
Contributed by: Laura Burgess, laura.burgess@springer.com

Adaptive Control of Hyperbolic PDEs by Henrik Anfinsen and Ole Morten Aamo
ISBN: 978-3-030-05878-4
March 2019, Springer
Hardcover, 478 pages, $179.99/€149.99

Adaptive Control of Linear Hyperbolic PDEs provides a comprehensive treatment of adaptive control of linear hyperbolic systems, using the backstepping method. It develops adaptive control strategies for different combinations of measurements and actuators, as well as for a range of different combinations of parameter uncertainty. The book treats boundary control of systems of hyperbolic partial differential equations (PDEs) with uncertain parameters.

The authors develop designs for single equations, as well as any number of coupled equations. The designs are accompanied by mathematical proofs, which allow the reader to gain insight into the technical challenges associated with adaptive control of hyperbolic PDEs, and to get an overview of problems that are still open for further research. Although stabilization of unstable systems by boundary control and boundary sensing are the particular focus, state-feedback designs are also presented. The book also includes simulation examples with implementational details and graphical displays, to give readers an insight into the performance of the proposed control algorithms, as well as the computational details involved. A library of MATLAB® code supplies ready-to-use implementations of the control and estimation algorithms developed in the book, allowing readers to tailor controllers for cases of their particular interest with little effort. These implementations can be used for many different applications, including pipe flows, traffic flow, electrical power lines, and more.

Adaptive Control of Linear Hyperbolic PDEs is of value to researchers and practitioners in applied mathematics, engineering and physics; it contains a rich set of adaptive control designs, including mathematical proofs and simulation demonstrations. The book is also of interest to students looking to expand their knowledge of hyperbolic PDEs.

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2. Part II: Scalar Systems - Introduction
3. Non-adaptive Schemes
4. Adaptive State-Feedback Controller
5. Adaptive Output-Feedback Controller
6. Model Reference Adaptive Control
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8. Non-adaptive Schemes
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10. Adaptive Output-Feedback: Uncertain Boundary Condition
11. Adaptive Output-Feedback: Uncertain In-Domain Parameters
12. Model Reference Adaptive Control
13. Part IV: n+1 Systems – Introduction
14. Non-adaptive Schemes
15. Adaptive State-Feedback Controller
17. Model Reference Adaptive Control
18. Part V: n+m Systems - Introduction
19. Non-adaptive Schemes
20. Adaptive Output-Feedback: Uncertain Boundary Condition

3.3. Modeling and Control of Infectious Diseases in the Host
Contributed by: Esteban Hernandez-Vargas, vargas@fias.uni-frankfurt.de

Modeling and Control of Infectious Diseases in the Host
1st Edition
ISBN: 9780128130520
Paperback - 78€

Modeling and Control of Infectious Diseases in the Host: With MATLAB and R provides a holistic understanding of health and disease by presenting topics on quantitative decision-making that influence the development of drugs. The book presents modeling advances in different viral infections, dissecting detailed contributions of key players, along with their respective interactions. By combining tailored in vivo experiments and mathematical modeling approaches, the book clarifies the relative contributions of different underlying mechanisms within hosts of the most lethal viral infections, including HIV, influenza and Ebola. Illustrative examples for parameter fitting, modeling and control engineering applications are explained using MATLAB and R.

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Chapter 2 Mathematical Modeling Principles
Chapter 3 Model Parameter Estimation
Chapter 4 Modeling Influenza Virus Infection
Chapter 5 Modeling Ebola Virus Infection
Chapter 6 Modeling HIV Infection
Chapter 7 HIV Evolution During Treatment
Chapter 8 Optimal Therapy Scheduling
Chapter 9 Suboptimal Therapy Scheduling
Chapter 10 PK/PD-based Impulsive Control
4  Journals

4.1. EECT Evolution Equations and Control Theory
Contributed by: Irena Lasiecka, lasiecka@memphis.edu

EECT-Evolution Equations and Control Theory
The new issue EECT 8-1 March 2019 special issue is now online.
http://aimsciences.org/journal/A0000-0000/2019/8/1

Special issue on nonlinear wave phenomena in continuum physics: Some recent findings
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4.2. Journal of Industrial & Management Optimization
Contributed by: Chao Xu, cxu@zju.edu.cn

Journal of Industrial & Management Optimization (JIMO)
Volume: 15, Number: 2 April 2019
http://aimsciences.org/journal/1547-5816/2019/15/2
2. Dynamic optimal decision making for manufacturers with limited attention based on sparse dynamic programming Pages: 445-464 Haiying Liu, Wenjie Bi, Kok Lay Teo and Naxing Liu doi: 10.3934/jimo.2018050
5. Exclusion sets in the ?-type eigenvalue inclusion set for tensors Pages: 507-516 Yaotang Li and Suhua Li doi: 10.3934/jimo.2018054
6. Optimal threshold strategies with capital injections in a spectrally negative Lévy risk model Pages: 517-535 Manman Li and George Yin doi: 10.3934/jimo.2018055
12. Immediate schedule adjustment and semidefinite relaxation Pages: 633-645 Jinling Zhao, Wei Chen and Su Zhang doi: 10.3934/jimo.2018062
17. A proximal alternating direction method for multi-block coupled convex optimization Pages: 723-737 Foxiang Liu, Lingling Xu, Yuehong Sun and Deren Han doi: 10.3934/jimo.2018067
20. Partially symmetric nonnegative rectangular tensors and copositive rectangular tensors Pages: 775-789 Yining Gu and Wei Wu doi: 10.3934/jimo.2018070
22. On the global optimal solution for linear quadratic problems of switched system Pages: 817-832 Jin Feng He, Wei Xu, Zhi Guo Feng and Xinsong Yang doi: 10.3934/jimo.2018072
25. Test of copositive tensors Pages: 881-891 Li Li, Xinzhen Zhang, Zheng-Hai Huang and Liqun Qi doi: 10.3934/jimo.2018075
29. Predicting 72-hour reattendance in emergency departments using discriminant analysis via mixed integer programming with electronic medical records Pages: 947-962 Fanwen Meng, Kiok Liang Teow, Kelvin Wee Sheng Teo, Chee Kheong Ooi and Seow Yan Tay doi: 10.3934/jimo.2018079

4.3. IET Control Theory & Applications
Contributed by: Alexandria Lipka, alipka@theiet.org

IET Control Theory & Applications
Volume 13
March 2019
http://digital-library.theiet.org/content/journals/iet-cta/13/4

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

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- Disturbance Observer Based Speed Control of PMSM Using Fractional Order PI Controller. A. Apte, U. Thakar, and V. Joshi, page 316

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

Vol.21, No.1 January, 2019
“Special Issue: SMC based observation, identification, uncertainties compensation and fault detection”
https://onlinelibrary.wiley.com/toc/19346093/2019/21/1

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   Authors: Yichun Niu, Li Sheng

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Contributed by: Fikret Aliev, chief_ed@acmij.az

Vol.18, No.1, February 2019  
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4.7. Systems and Control Letters  
Contributed by: Lusia Veksler, lveksler@ucsd.edu

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February 2019  

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4.8. International Journal of Control, Automation, and Systems
Contributed by: Keum-Shik Hong, journal@ijcas.com

International Journal of Control, Automation, and Systems (IJCAS)
ISSN: 1598-6446
http://www.springer.com/engineering/robotics/journal/12555
Indexed in: Science Citation Index Expanded (SciSearch), Journal Citation Reports/Science Edition, SCOPUS, INSPEC, Google Scholar, ProQuest, Academic OneFile, Current Contents/Engineering, Computing and Technology, EI-Compendex, OCLC, SCImago, Summon by Serial Solutions

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5 Conferences

5.1. International Symposium on Diagnostics for Electric Machines, France
Contributed by: Maussion Pascal, pascal.maussion@laplace.univ-tlse.fr

Symposium on Diagnostics for Electric Machines, Power Electronics and Drives (SDEMPED 2019)

SDEMPED 2019 will welcome you to Toulouse, the pink city in the sunny south-west part of France, for the 12th edition of the IEEE International Symposium on Diagnostics for Electric Machines, Power Electronics and Drives (SDEMPED 2019). This symposium aims to provide a high-level international forum for researchers, professionals, professors, PhD students and in general for specialists in diagnostics and monitoring of electrical systems, including machines, power electronics, adjustable speed drives, fuel cells and electrolysers, dielectric materials, signal processing methods, and related areas.

This is the 22th year since the first SDEMPED was established as the only international symposium entirely devoted to the diagnostics of electrical machines, power electronics and drives. SDEMPED is now a regular biennial event mainly organized in Europe. For this edition, SDEMPED 2019 is co-sponsored by IEEE Power Electronics Society, IEEE Industry Applications Society and IEEE Industrial Electronics Society.

Five Special Sessions are organized:
• “Stability and Reliability of Power Semiconductor Devices”, Dr Marina Antoniou and Dr. Neophytos Lophitis
• “PD measurements, a useful tool for the diagnosis of Electrical Equipment?”, Prof. David Malec and Dr Thierry Lebey
• “Electrical Machines Fault Diagnosis During Transient Operation”, Prof. Jose A. Antonino-Daviu and Dr Konstantinos N. Gyftakis
• “Resilience of hydrogen-energy systems”, Prof. Daniel Hissel and Prof. Marie-Cécile Pera
• “Artificial intelligence based fault detection and identification procedures applied to electromechanical systems”, Dr Roque A. Osornio Rios, Dr Antoine Picot and Dr Miguel Delgado Prieto

This edition of SDEMPED will be held in the historically-rich city of Toulouse, the largest city in southern France and appealing by its historical background but also exceptional scenic location, centrally located between the Mediterranean sea, Atlantic ocean and Pyrenees mountains. It can be easily accessed by plane from any major European city and is well connected to the train and highway networks. In the middle of an agricultural area, the development of Toulouse is strongly linked to airplane and space industries, which have driven the creation of several high level schools and have conferred to the city some intellectual and cultural attractiveness. Upon registration, participants will have the opportunity to visit the Airbus A380 or the Airbus A350 final assembly line.

Paper submission: Authors are kindly requested to submit a provisional version of the full paper, in English and with a limitation of 7 pages, including paper title, authors and affiliations, figures and references (maximum size 2MB). Only submissions in electronic form will be accepted. The best presented papers (up to 3) will receive the SDEMPED Best Paper Award during the conference. Accepted and presented papers will be published in IEEE Xplore® and the authors are encouraged to submit enhanced and journal quality papers to the Transactions of the IEEE sponsoring Societies.
Deadlines

- Special session and tutorial proposals: 2019, January 27th
- Provisional full paper and tutorials proposals: 2019, February 17th
- Acceptance notification: 2019, April 21
- Final submissions: 2019, June 2

Advance registration is highly recommended. All attendees must register. See website http://www.sdemped2019.com/ for registration fees and other details.

5.2. **International Symposium on Multi-Robot and Multi-Agent Systems, USA**

Contributed by: Kiril Solovey, kirilsol@stanford.edu

Call for Papers: The 2nd International Symposium on Multi-Robot and Multi-Agent Systems (MRS 2019)
August 22-23, 2019 - Rutgers University, New Brunswick, NJ, USA
Submission Deadline: March 15, 2019
Acceptance Notification: June 3, 2019
http://multirobotsystems.org/mrs2019

The International Symposium on Multi-Robot and Multi-Agent Systems (MRS) is a single-track conference to be held at Rutgers University, New Brunswick, NJ, USA, on 22-23 August, 2019. MRS is an initiative of the IEEE RAS Technical Committee on Multi-Robot Systems, and is technically co-sponsored by the IEEE Robotics and Automation Society (RAS). http://multirobotsystems.org/

The goal of the conference is to bring together researchers who are in the field of multi-robot systems both directly and indirectly, to cross-fertilize ideas. Typically MRS research is spread across large conferences, and this makes it difficult for MRS researchers to keep up to date on new findings and meet others in the area. The intent of the conference is to bring those researchers together with a high-quality symposium to highlight the best in the field. We would like to see the top advances in multi-robot and multi-agent research represented at MRS 2019.

The focus of the MRS conference is on all aspects of multi-robot and multi-agent systems. We encourage high-quality papers from a broad range of topics in this area, ranging from design and analysis of algorithms to systems. Papers should contribute novel results that clearly advance the state-of-the-art, and should include analytical and/or experimental evaluation appropriate to the work. We would like to see the best of multi-robot and multi-agent research represented at MRS 2019. The fields of interest include the following general fields, but are not limited to:

- Modeling and Control of MRS/MAS
- Optimal Control and Optimization Methods for MRS/MAS
- Motion and Path Planning for MRS
- Bio-Inspired MRS and Swarm Intelligence/Robotics
- Distributed Perception and Estimation in MRS/MAS
- Planning and Decision Making for MRS/MAS
- Physical Interaction in/with MRS/MAS
- Cooperative/Collective Learning in MRS/MAS
- AI of Large-Scale Systems
- Applications of MRS/MAS
- Technological and Methodological Issues
- MRS for Cooperative Manipulation
- Micro/Nano Scale MRS
- Operating Systems and Cloud Technology for MRS/MAS
- Communication in MRS/MAS
- Performance Evaluation and Benchmarking in MRS/MAS
- Human-robot and Human-agent interaction
- Game theoretic approaches for MAS/MRS
- Teamwork, team formation, teamwork analysis

We invite submission of full papers (6 pages + references) or extended abstract (2 pages + references). Details on the submission process are available on the conference website: https://robotics.cs.rutgers.edu/mrs2019/contribute/

Accepted papers will be included in the conference proceedings available on the IEEE Xplore digital library. Top-quality papers will be invited for submission, in extended form, to a journal special issue after the conference.

General inquiries: mrs2019@laas.fr

Committee: General Chair: Kostas Bekris, Rutgers University, USA
Local Arrangements Chair: Jingjin Yu, Rutgers University, USA

Editor in Chief:
Lorenzo Sabattini, University of Modena and Reggio Emilia, Italy
Program Chairs:
Chris Amato, Northeastern University, USA
Robert Fitch, University of Technology, Sydney, Australia
Paolo Robuffo Giordano, IRISA-CNRS, France
Dylan A. Shell, Texas A&M University, USA

Publicity Chair:
Kiril Solovey, Stanford University, USA

Publications Chair:
Alberto Quattrini Li, Dartmouth College, USA

Finance Chair:
Nora Ayanian, University of Southern California, USA

Awards Chair:
5.3. **International Conference on Information Science and Technology, China**

Contributed by: Dr. Nian Zhang, nian.zhang6@gmail.com

Following the successes of previous events, the 9th International Conference on Information Science and Technology (ICIST 2019) will be held in Hulunbuir (Hulunbeier), Inner Mongolia, China during August 2-5, 2019. Situated in northeastern China near the borders of Russia and Mongolia, Hulunbuir features picturesque grassland and nomadic culture. Call for Papers: https://conference.cs.cityu.edu.hk/icist/

ICIST 2019 aims to provide a high-level international forum for scientists, engineers, and educators to present the state of the art of research and applications in related fields. The conference will feature plenary
speeches given by world renowned scholars, regular sessions with broad coverage, and special sessions focusing on popular topics.

Authors are invited to submit full-length papers (8 pages maximum) by the submission deadline through the online submission system. In addition, proposals for special sessions within the technical scopes of the conference are solicited. Special session organizers are invited to enlist six or more papers with cohesive topics to form special sessions. The Proceedings has been contracted to be included in IEEE Xplore Digital Library and will be submitted for EI indexing.

Important Dates
Special session proposals deadline: March 1, 2019
Paper submission deadline: April 1, 2019
Notification of acceptance: May 1, 2019
Camera-ready copy and author registration: June 1, 2019
Conference: August 2-5, 2019

5.4. International Conference on Methods in Automation and Robotics, Poland
Contributed by: Pawel Dworak, pawel.dworak@zut.edu.pl

24th International Conference on Methods and Models in Automation and Robotics 26-29 August 2019, Amber Baltic Hotel, Miedzyzdroje, Poland

It is our great pleasure to invite You to participate in the 24th International Conference on Methods and Models in Automation and Robotics, MMAR 2019 to be held in Miedzyzdroje, Poland, from August 26th to August 29th, 2019.

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 24th 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 24th 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 4, 2019: Paper submission
- May 20, 2019: Notification of acceptance
- June 24, 2019: Registration
- June 24, 2019: Camera-ready paper submission

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

5.5. ASME Dynamic Systems and Control Conference, USA
Contributed by: Zheng Chen, zchen43@central.uh.edu

ASME Dynamic Systems and Control Conference (DSCC 2019)
The 2019 Dynamic Systems and Control (DSC) Conference will be held on October 9 – 12, 2019 at the Grand Summit Hotel in Park City, Utah. Park City is a world-class resort town, famous for hosting the Sundance Film Festival and the 2002 Winter Olympics.

Conference Website: https://event.asme.org/DSCC
Paper Submission: Papers must be submitted electronically via the Web upload system only. The guidelines are given at the DSCC site: https://bit.ly/2Gi07K

Important Dates:
Draft Paper Submission: April 01, 2019
Notification of Acceptance/Rejection: May 27, 2019
Copyright Process Open: May 27, 2019
Copyright Agreements Completed: June 28, 2019
Final Paper Submission: July 01, 2019
Program Chair: Garrett Clayton, Villanova University, USA
General Chair: Kam K. Leang, University of Utah, USA

5.6. IFAC Workshop on Thermodynamic Foundation of Math. Systems, Belgium
Contributed by: Nicolas Hudon, nicolas.hudon@queensu.ca

The 3rd IFAC Workshop on Thermodynamic Foundation of Mathematical Systems Theory
Universite catholique de Louvain, Louvain-la-Neuve, Belgium
July 3-5, 2019
Second Call for Contribution: Deadline March 8, 2019.

Dear Colleagues,
The Organizing Committee has the pleasure to invite you to contribute and participate in the 3rd IFAC Workshop on Thermodynamic Foundation of Mathematical Systems Theory to be held in Louvain-la-Neuve, Belgium, on July 3-5, 2019.

TFMST is the triennial workshop of IFAC gathering researchers and practitioners interested in thermodynamics and systems theory. The aim of this workshop series is to explore connections between abstract systems theory and physical systems behavior when they are dynamically constrained by conservation laws and exhibit dissipation related to maximization of entropy-like functions. Application domains may include but are not limited to: Energy efficient chemical processes or processes related to the production
of smart materials at micro- or nano-scales; Biological phenomena from a cell (biochemical) level through tissue/organism behavior up to the ecological interactions between organisms; Behavior and control of particulate systems; Quantum control; and, Emergence of self-organizing behavior in networks of interacting agents where collective dynamics emerge from the consensus among a large number of ensemble members. Applications would cover fields such as ecology, robotics or socio-economy and more generally Cyber-Physical Systems, and control of large scale networked systems, such as chemical plants, integrating financial systems and sociological systems.

Three plenary talks will be presented by: Massimiliano Esposito (University of Luxembourg); Christian Jallut (Universite Claude–Bernard Lyon 1); and Arjan van der Schaft (University of Groningen). For more information, visit: https://sites.uclouvain.be/tfmst2019/

Important dates:
- Submission opening 01 March 2018
- Registration opening 01 May 2018
- Deadline for submission of draft regular papers 08 March 2019
- Authors notification 15 April 2019
- Final Paper due 01 May 2019 (subject to registration)
- Final Program 01 May 2019
- Workshop TFMST2019 03 to 05 July 2019

Nicolas Hudon, IPC Chair
Hector Ramirez, IPC Co-chair
Denis Dochain, NOC Chair
Jean-Charles Delvenne, NOC Co-chair

5.7. International Conference on System Theory, Control and Computing, Romania

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

23rd International Conference on System Theory, Control and Computing - ICSTCC 2019
October 9-11, 2019, Sinaia, Romania
Website: http://icstcc2019.cs.upt.ro/

ICSTCC 2019 aims at bringing together under a unique forum, scientists from academia and industry, to discuss the state of the art and the new trends in System Theory, Control and Computer Engineering, promoting professional interactions and fellowship.

ICSTCC 2019 is technically co-sponsored by the IEEE Control Systems Society. In accordance with the Letter of Acquisition signed with IEEE, the Proceedings of ICSTCC 2019 will be submitted for inclusion in IEEE Xplore Digital Library. The Proceedings will also be submitted for indexing in Clarivate Analytics Conference Proceedings Citation Index (formerly ISI Proceedings).

ICSTCC 2019 conference will be hosted by the beautiful Palace Hotel, Sinaia. Sinaia is one of the most fa-
mous and oldest mountain tourist resorts in Romania, known as “The Carpathian Pearl”. It is best known for being the summer residence of the Romanian Royal family. We are planning a number of field trips: Bran Castle (Dracula’s Castle) and Peles Castle.

Confirmed keynote speakers:
Maria Elena Valcher (University of Padova, Italy)
Marios M. Polycarpou (University of Cyprus, Cyprus)
Marcin Paprzycki (Polish Academy of Sciences, Poland)
Gianluca Tempesta (University of York, UK)

Important dates:
- April 19, 2019: Submission of proposals for invited sessions
- April 26, 2019: Initial submission of papers
- June 28, 2019: Notification of acceptance for papers
- July 26, 2019: Final camera ready manuscript and registration payment

The main areas of interest are: Automation and Robotics; Computer Science and Engineering; Electronics and Instrumentation. All papers should be submitted via the online submission system at http://controls.papercept.net/conferences/scripts/start.pl#STCC19

For further information please contact the organizing committee at: icstcc2019@cs.upt.ro.

5.8. IFAC Workshop on Distributed Estimation and Control, USA
Contributed by: Shreyas Sundaram, sundara2@purdue.edu

8th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NECSYS 2019)
September 16-17, 2019
Chicago, Illinois, United States of America
http://necsys2019.csl.illinois.edu

Invitation:
The Organizing Committee has the pleasure of inviting you to participate in the 8th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NECSYS 2019), which will be held on September 16-17, 2019. The workshop venue will be Wintrust Hall near Downtown Chicago, located a few minutes from the Magnificent Mile, the Loop, and Lake Michigan.

Scope:
Networked systems and complex dynamical systems are 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 science, such as sensor networks, autonomous robots and vehicles, Internet of Things, smart manufacturing, power networks, biological networks, and animal groups.

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.

Program & 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 exciting lineup of plenary speakers includes:
- Domitilla del Vecchio (MIT)
- Emilio Frazzoli (ETH/nuTonomy)
- Fredrik Gustafsson (Linköping)
- Maurice Heemels (Eindhoven)
- Mihailo Jovanovic (USC)
- Naomi Leonard (Princeton)
- Ben Recht (Berkeley)
- Sri Sarma (Johns Hopkins)
- Alireza Tahbaz-Salehi (Northwestern)
- Dawn Tilbury (Michigan/NSF)

Important Dates:
* Paper submission deadline: April 30, 2019
* Notification of acceptance: July 9, 2019
* Final paper submission deadline: July 31, 2019

Committees:
Conference Chair
* Geir Dullerud (University of Illinois at Urbana-Champaign, USA)

Conference Co-chairs:
* Mohamed Ali Belabbas (University of Illinois at Urbana-Champaign, USA)
* Shreyas Sundaram (Purdue University, USA)

Program Committee Chair:
* Henrik Sandberg (KTH Royal Institute of Technology, Sweden)

Program Committee Co-chairs:
* Bart Besselink (University of Groningen, Netherlands)
* Dennice Gayme (Johns Hopkins University, USA)

5.9. IEEE Information Theory Workshop, Sweden
Contributed by: Tobias Oechtering, oech@kth.se

Call for Papers: 2019 IEEE Information Theory Workshop (ITW)
25-28 August 2019, in Visby, Gotland, Sweden
We seek original, unpublished contributions in all areas of information theory, including but not limited to the focus topics listed below.

1. Cyber-Physical Systems
   - Interaction of information and control
   - Time-sensitive source and channel coding
   - Networked control systems
   - Entropy in control, dynamics, and information theory

2. Security, Privacy, and Trust
   - Physical layer security
   - Private information retrieval
   - Security and privacy in distributed storage
   - Security and privacy in machine learning

3. Modern Coding Theory
   - Graph based codes and iterative decoding
   - Spatially coupled codes
   - Polar codes

In addition, papers that broaden the reach of information theory, including emerging fields and novel applications of information theory, are encouraged.

Important dates:
Paper submission deadline: April 1
Acceptance notification: June 10

The Hanseatic city Visby is located on the island of Gotland in the Baltic sea. It is one of the best-preserved medieval cities in Scandinavia with its 3.4km long town wall and several church ruins in the old city center. Visby is listed on the UNESCO World Heritage Site since 1995 and Gotland is a very popular summer vacation destination for Scandinavians. The airport is very close to the city as well as ferries arriving in Visby connect Gotland with the mainland. The conference provides many opportunities for informal interaction through social events, including the planned welcome reception in the Gotland Museum on August 25 and a workshop banquet on August 27.

We are looking forward to welcoming you in Visby!

5.10. IFAC Workshop on Linear Parameter-Varying Systems, The Netherlands
Contributed by: Maarten Schoukens, m.schoukens@tue.nl

3rd IFAC Workshop on Linear Parameter-Varying Systems (LPVS’19)
November 4-6, 2019
Eindhoven, The Netherlands  
http://lpvs2019.tue.nl

The Organizing Committee has the pleasure to invite you to participate in the 3rd IFAC Workshop on Linear Parameter-Varying Systems (LPVS’19) to be held in Eindhoven, The Netherlands, November 4-6, 2019.

The workshop aims at attracting researchers interested in the field of Linear Parameter-Varying systems and their applications in engineering problems, as well as experts interested in discussing new trends, exchange new ideas, establish fruitful contacts, and promote interactions among relevant fields of interest. Submissions dealing with the application of LPV modelling and control approaches to emerging applications and industrial contributions are strongly encouraged together with tutorials and software demonstrations.

BACKGROUND AND SCOPE: The topics of the workshop will cover the general area for the modelling, analysis, observation and control of LPV systems:
* Modelling and identification of LPV systems
* Analysis with LPV tools
* Observation and diagnosis by LPV methods
* LPV control of systems
* Applications of LPV modeling and control

PROGRAM AND PLENARY SPEAKERS: Please visit the conference website for an up-to-date list of plenary speakers and the workshop program: http://lpvs2019.tue.nl

YOUNG AUTHOR AWARD: An IFAC Young Author Award will be awarded to an author for the best paper and presentation at the conference. This award is intended to stimulate the involvement of young scientist and engineers in the area of systems and control.

VENUE: LPVS’19 will be held at the Eindhoven University of Technology campus in Eindhoven, The Netherlands. Eindhoven is listed as the most inventive city by Forbes due to the presence of many high-tech and automotive companies in the vicinity. Eindhoven provides excellent opportunities for touristic activities, and easily accessible via close connections to airports.

IMPORTANT DEADLINES
April 4, 2019: Draft paper submission deadline
June 4, 2019: Acceptance notification, registration opens
July 4, 2019: Final manuscript submission deadline

Submission instructions can be found on:
https://lpvs2019.tue.nl/submission-instructions/

For more information visit: https://lpvs2019.tue.nl

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5.11. Quantum Science, Engineering and Technology Conference, Australia
Contributed by: Daoyi Dong, daoyidong@gmail.com

The Quantum Science, Engineering and Technology Conference (qSET) aims to bring together leading experts and students in the fields of quantum science, engineering and technology to present their best research and share their knowledge, in the form of plenary talks, keynote talks, invited talks, posters and pre-conference workshops. The conference covers a broad range of topics within quantum science and technology, including quantum computation, quantum communication, quantum control, quantum engineering, quantum sensing, quantum simulation and quantum navigation.

The first conference will take place in Canberra, Australia, 8-11 April 2019. Attendees are strongly encouraged to complete their registration at their earliest convenience. Participants are welcome to submit poster abstracts for reviewing and are also welcome to organize half-day or one-day pre-conference workshops (on 8 April 2019). The conference website is https://www.unsw.adfa.edu.au/conferences/qset. For all enquiries please contact local qSET 2019 organizers at qset2019@gmail.com.

Plenary Speakers
- Professor Michelle Simmons, University of New South Wales, Australia
- Professor Marlan O. Scully, Princeton University, USA
- Professor Franco Nori, RIKEN, Japan and University of Michigan, USA

Keynote Speakers
- Professor David J. Reilly, Microsoft Corporation and University of Sydney, Australia
- Professor Hideo Mabuchi, Stanford University, USA
- Professor Cass Sackett, University of Virginia, USA
- Professor Pierre Rouchon, Mines-ParisTech, PSL Research University, France
- Professor Meera Parish, Monash University, Australia
- Professor Chao-Yang Lu, University of Science and Technology of China
- Professor Jiangfeng Du, University of Science and Technology of China

Organising Committee
- A/Prof Daoyi Dong (General Chair), UNSW Canberra, Email: d.dong@unsw.edu.au
- Prof Ian Petersen (General Co-Chair), Australian National University, Email: ian.petersen@anu.edu.au
- Prof John Close (General Co-Chair), Australian National University, Email: John.Close@anu.edu.au
- Dr Hidehiro Yonezawa (Local Organising Committee Chair), ARC Centre of Excellence for Quantum Computation and Communication Technology, UNSW Canberra, Email: h.yonezawa@unsw.edu.au

5.12. International Conference on Systems and Control, Morocco
Contributed by: Driss Mehdi, driss.mehdi@univ-poitiers.fr

The 8th International Conference on Systems and Control (ICSC 2019)
The 8th edition of the International Conference on Systems and Control, technically co-sponsored by IEEE-CSS, will be held on October 23-25, 2019, at the University of Caddi Ayyad, Marrakech, Morocco.
Paper submission: Papers must be submitted electronically via the Web upload system only. The guidelines are given at the ICSC’19 Web site.

Authors are invited to submit the full version of their manuscripts through the online paper submission https://controls.papercept.net/conferences/scripts/start.pl

Important Dates:
Contributed papers, invited session papers: April 30, 2019
Notification of Acceptance / Rejection: June 30, 2019
Final, Camera ready papers due: July 30, 2019
Conference opening: October 23, 2019

Websites:
http://lias.labo.univ-poitiers.fr/icsc/icsc2019/

Program Chairs
Fouad Mesquine, Morocco
Fernando Tadeo, Spain

General Chairs:
Abdellah Benzaouia, Morocco
Mohamed Msaad, France

For more information please feel free to contact Prof. Driss Mehdi (driss.mehdi@univ-poitiers.fr).

5.13. IEEE Colombian Conference on Automatic Control, Colombia
Contributed by: Jhon Isaza, jhonisaza@itm.edu.co

4th IEEE Colombian Conference on Automatic Control
Second call for papers.

Scope: The 4th IEEE Colombian Conference on Automatic Control (CCAC) will be held on October 15-18, 2019 in Medellin-Colombia. This is the fourth in a series that have been successfully established in the Colombian and Latin American region. The objective of the conference is to gather academics and industrial researchers and practitioners to discuss the state of the art, research, and developments in technological advances and applications of control engineering to encourage technology development in Colombia and the Latin American region. The conference includes all aspects around control engineering, from analysis and design to simulation and hardware. Major topics for the event include, but are not limited to, the following:

Applied control for industrial and non-industrial areas, applied control for robots, hybrid systems, intelligent control, mechatronics, mobile robots, modeling of dynamic systems, multi-robot systems, control of power systems, process control and automation, process optimization, sensing and sensor fusion, system
identification, systems and signals, control of biological systems and biochemical processes.

Important Dates:
- Paper submission deadline: (March 17 2019) April 1 2019
- Paper decision notification: June 03 2019
- Camera-ready final manuscripts: July 15 2019

Paper submission: The program committee invites you to submit 4 to 6 pages long papers in English through www.ieeeccac2019.com.

Submitted papers to CCAC must be original, not previously published or accepted for publication elsewhere and must not be submitted to any other event or publisher during the entire review process. IEEE policy regarding plagiarism and duplicate submission/publication will be strictly enforced. Accepted and presented papers will be published in the IEEE CCAC 2019 Conference Proceedings and submitted to IEEE Xplore®. Only English versions will be published in IEEE Xplore®.

Venue: The 4th IEEE CCAC 2019 will be held in Medellin from the 15th to 18th of October 2019. Medellin, the 2nd largest city in Colombia, is a vibrant city that offers a wide variety of tourist, gastronomic and cultural attractions.

Contact: Additional details and Conference updates are available at: www.ieeeccac2019.com
Inquiries about the conference may be addressed to: contact@ieeeccac2019.com

5.14. International Conference on Control, Automation and Systems, South Korea
Contributed by: Zee Yeon Lee, conference@icros.org

2019 19th International Conference on Control, Automation and Systems (ICCAS 2019), October 15–18, 2019
Call for Papers: http://icros.org/data/download/ICCAS2019/ICCAS2019_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, 2019: Submission of Regular Papers (3-6 pages)
- June 30, 2019: Submission of Organized Session/Mini-symposium Proposal with Papers and Research Poster Papers (1-2 pages)
- July 31, 2019: Notification of Acceptance
- August 31, 2019: Submission of Final Camera-ready Papers

PAPER SUBMISSION:
Indexed in: IEEE Xplore, EI compendex, and SCOPUS
PLENARY SPEAKERS
- Frank Doyle (Harvard Univ., USA)
- Jun-Ichi Imura (Tokyo Institute of Technology, Japan)
- Eduardo F. Camacho (Univ. of Seville, Spain)
- Tianyou Chai (Northeastern Univ., China)
- Dawn Tilbury (Univ. of Michigan, USA)

ICCAS 2019 will be held on October 15–18, 2019 at ICC Jeju in Jeju, Korea. Jeju is a very beautiful and relaxing island, and selected as the World Natural Heritage. The aim of ICCAS 2019 is to bring together professors, researchers, engineers and students worldwide to present their recent works and discuss the state-of-the-art technologies related to control, automation, robotics and systems.

General Chair: Chung Choo Chung (Hanyang Univ., Korea)
General Co-Chair: Jay H. Lee (KAIST, Korea)
Program Chair: Dong Eui Chang (KAIST, Korea)
Organized by Institute of Control, Robotics and Systems (ICROS)

5.15. International Conference of Intelligent Unmanned System, China
Contributed by: Youmin Zhang, Youmin.Zhang@concordia.ca

Call-for-Papers: The 15th International Conference of Intelligent Unmanned System (ICIUS 2019), August 27-29, 2019, Beijing (http://icius2019.org/)

On behalf of the ISAS 2019 Organizing Committee, this is to invite you to submit your contributions to The 15th International Conference of Intelligent Unmanned System (ICIUS 2019), to be held on August 27-29, in the Techart Plaza which is situated in a famous location in the heart of Beijing.

The ICIUS 2019 is organized by the International Society of Intelligent Unmanned System (ISIUS) and Univ. Sci. and Tech. Beijing, China, and technically co-sponsored by the ISIUS, IEEE SMC (Beijing) and ISME (Taiwan). The ICIUS 2019 offers a unique and interesting platform for scientists, engineers and practitioners throughout the world to present and share their most recent research and innovative ideas in the areas of unmanned systems, robotics, automation, and intelligent systems. The topics of interests include, but are not limited to:

- Unmanned Systems: Micro air vehicle, Micro-satellite, Unmanned aerial vehicle, Underwater vehicle, Multi-agent systems, Autonomous ground vehicle, Blimp, Swarm intelligence
- Robotics and Biomimetics: Artificial muscle actuators, Smart sensors, Design and applications of MEMS and NEMS system, Intelligent robot systems, evolutionary algorithm, Control of biological systems, Biological learning control systems, Neural networks, Bioinspired systems
- Control and Computation: Distributed and embedded systems, Complex systems, Embedded intelligent control, Pervasive computing, Soft computing, Discrete event systems, Hybrid systems, Networked control systems, Delay systems, Identification and estimation, Nonlinear systems, Precision motion control, Control applications, Control engineering education, Computer Architecture & VLSI, Signal, image and multimedia processing
- Intelligent Systems: Ubiquitous computing, Algorithms, Distributed intelligence, Distributed and decen-
entralized intelligent control, Fuzzy systems, AI and expert systems, Virtual reality, Wearable computers, Information systems and retrieval, Software engineering, Knowledge data engineering, Data communications and compression
- Space Robots: Aircraft flight dynamics and control, Space navigation and guidance, Spacecraft cooperative and control, Real-time distributed simulation, Orbital servicing technology in space, Traffic management and controls.

Invited Sessions:
The conference will feature invited sessions on new topics and innovative applications. These sessions will consist of 5-8 articles and undergo a regular review process. Prospective organizers should include a brief statement of purpose for the session as well as the abstracts of the papers.

Organized Sessions:
The conference organizing committee encourages participants to host multiple sessions, which address specific topics of high current interest related to various aspects of ICIUS. Each Organized Session should include at least five presentations in principle. Submit your proposal(s) to online by February 1, 2019. The results for acceptance will be notified by March 1, 2019.

Important Dates:
- Abstract submission — April 1, 2019
- Full paper submission — May 1, 2019
- Acceptance notification — June 1, 2019
- Final paper submission — June 31, 2019
- Early bird registration — July 7, 2019
- Hotel registration — July 7, 2019

Steering Committee:
Muljowidodo, Institute of Technology Bandung
Kenzo Nonami, Chiba University
Kwang-Joon Yoon, Konkuk Univ.
Hoon Cheol Park, Konkuk Univ.

General Chairs:
Wei He, Univ. Sci. and Tech. Beijing
Lung-Jieh Yang, Tamkang Univ.

Program Chair:
Youmin Zhang, Concordia
Bin Jiang, Nanjing Univ. of Aeronautics and Astronautics

Contact:
Xinxing Mu
Email: muxinxing@gmail.com
6 Positions

6.1. Faculty: University of Texas at Dallas, USA
Contributed by: Mario Rotea, rotea@utdallas.edu

The Erik Jonsson School of Engineering and Computer Science at The University of Texas at Dallas (UTD) invites applications for three faculty positions in Mechanical Engineering at the rank of Assistant, Associate, or full Professor.

Candidates must have a strong commitment to undergraduate and graduate education and strong potential to develop an externally funded research program. Candidates for the positions at the associate or full professor levels must have strong records of scholarly and professional achievements.

Position #1 – Control Systems: Applications of interest include robotics and drone technologies with applications to energy, ecology and inspection, control of complex fluid phenomena. Preference will be given to candidates with foundation in control theory, familiarity with machine learning, and demonstrated experience in the areas of interest. Application materials should be submitted at http://jobs.utdallas.edu/postings/11234.

Position #2 – Experimental Fluid Mechanics: Domains of interest include wind engineering, wind energy, and environmental flows. Preference will be given to candidates who can support the analysis, design and control of engineered systems involving complex fluid flows, while leveraging the new boundary layer and subsonic wind tunnel (BLAST). Application materials should be submitted at http://jobs.utdallas.edu/postings/11226.

Position #3 – Advanced Manufacturing/Mechanics & Materials: Manufacturing areas of interest include subtractive and additive manufacturing, materials processing, automation and systems, metrology, and manufacturing across length scales. Mechanics & Materials areas of interest include advanced materials and applications, such as soft materials for biomedical applications and electronics, metamaterials for manipulating waves, materials for energy storage, sensing & actuation, as well as other multiscale structured materials for bio, defense, or energy applications. Application materials should be submitted at http://jobs.utdallas.edu/postings/11227.

The Department of Mechanical Engineering is among the fastest growing programs at UTD. The department offers ABET-accredited BS, as well as MS and PhD degree programs in mechanical engineering. The department was founded in 2008 and currently has 1278 students enrolled, including 195 graduate students. There are 26 tenure-system faculty members and 6 teaching faculty members. Research expenditures neared $8 million in fiscal year 2017. The junior faculty are highly decorated and include three NSF CAREER awardees, five DoD Young Investigator Program awardees and one awardee of the NIH Director’s Program. The department is primarily housed in a brand new building with 200,000 square feet for teaching and research.

Review of applicants will begin immediately and will continue until the positions are filled. Indication of gender and ethnicity for affirmative action statistical purposes is requested as part of the application.
To apply, applicants should submit:

(a) A current curriculum vitae

(b) Letters of research and teaching interest

(c) Contact data for five academic or professional references

The University of Texas at Dallas is an Equal Opportunity / Equal Access / Affirmative Action Employer committed to achieving a diverse and inclusive community.

6.2. Faculty: Norwegian University of Science and Technology, Norway
Contributed by: Morten Breivik, morten.breivik@ntnu.no

The Norwegian University of Science and Technology (NTNU, http://www.ntnu.edu/) is establishing a new professorship in Assurance of Autonomous Systems, in collaboration with the leading quality assurance and risk management company DNV GL (https://www.dnvgl.com/).

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

ITK has 29 professors, 15 adjunct professors, about 15 postdocs and researchers as well as 70 PhD candidates. Approximately 170 candidates graduate annually from the three MSc programs in cybernetics, which comprise over 800 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).

The term assurance is defined as being “ground for justified confidence”, and the level of required confidence depends on a system’s criticality. Confidence is established by providing evidence that the system meets defined requirements, and this evidence should be complete, correct, relevant and objective. The challenges of being able to address assurance of autonomous systems is related to their inherent complexity, since their requirements call for advanced knowledge/model representations with mechanisms such as learning, adaptation, reasoning and optimization leading to complex software and human-machine interaction.

Together with specifications and requirements, performance metrics will form the basis for standards, rules, regulations, testing, verification, validation and certification. The professor should have competence and motivation for research in this area, with impact both on improving the performance of autonomous systems in terms of safety, robustness and reliability, as well as developing a solid foundation for testing, verification and validation of such systems.

In particular, research competence in the following areas is regarded as relevant for the position:

- Autonomous systems, robotics and artificial intelligence
- Optimization, systems and control theory
- Big data analytics
- Decision support systems
- Human-machine interaction
- Risk modelling, analysis and management
Research activities are expected to have a strong international profile and impact, with a long-term perspective and to be concentrated around basic challenges and enabling technologies with relevance and importance for applications and industry.

The department has strong relationships to Norwegian and international industry, with numerous joint research projects including applications in the maritime, offshore, energy, process, aquaculture and medical industries.

The research activities at the department rely mainly on external funding, and the development of educational programs may also receive external funding. The successful applicant is expected to engage extensively in applications for external research funding, e.g. from the Research Council of Norway, European research and educational agencies, the industry sector, and other available sources.

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

The full announcement can be found at https://www.jobbnorge.no/en/available-jobs/job/164047/professor-associate-professor-in-assurance-of-autonomous-systems, with application deadline on Sunday April 7.

6.3. Faculty: Embry-Riddle Aeronautical University, USA

Contributed by: Wendalyn Prather, pratherw@erau.edu

Tenure Track Faculty Position in Engineering Physics

The Department of Physical Sciences at Embry-Riddle Aeronautical University Daytona Beach Campus invites applications for a Tenure-Track faculty position emphasizing space- or ground-based instrumentation and systems engineering in the areas of atmospheric, geospace, planetary or astronomical sciences. This 9-month tenure-track position will be at the rank of assistant professor. Candidates must have a Ph.D. in any related discipline and be available by August 15, 2019. The successful candidate must demonstrate the ability to develop a productive and vigorous externally-funded research program, as well as possess the enthusiasm and drive to teach and mentor both undergraduate and graduate students.

The Physical Sciences Department, comprising approximately 35 faculty members, is home to one of the leading ABET-accredited undergraduate Engineering Physics programs in the US, as well as growing BS Space Physics, BS Astronomy & Astrophysics, MS Engineering Physics, and PhD Engineering Physics programs. The Department also delivers physics, astronomy and chemistry service courses to other majors.

Applications are currently under consideration, and the position will remain open until filled. Please submit applications online, including a cover letter, full CV, statements of teaching philosophy and research interests, as well as the names, telephone numbers and email addresses of at least three professional references. Please submit all application materials at http://careers.erau.edu, requisition #190125.
Embry-Riddle Aeronautical University is committed to providing equal employment opportunity and affirmative action for qualified individuals. The university does not tolerate discrimination on the basis of race, creed, color, religion, national origin, gender, sexual orientation, age, gender identity, genetic information, disability, protected veteran status, or any other status protected by federal, state, or local law. Embry-Riddle is also committed to diversity and inclusion in higher education. We continually strive to recognize, respect and celebrate the differences and cultural identities among individuals as we recruit, support, and embrace our diverse community. We work to provide a safe environment where self-expression is welcome. We strive to create a campus climate free of discrimination so that networks, partnerships and cultural competency continue to be fostered through leadership, integrity, care and respect.

Inquiries may be addressed to:
Terry D. Oswalt, Ph.D.
Chair, Dept. Physical Sciences
Office: (386) 226-7571
terry.oswalt@erau.edu

6.4. Faculty: University of Virginia, USA
Contributed by: Gang Tao, gt9s@virginia.edu

Faculty position in Autonomous Platforms at University of Virginia

The Department of Mechanical and Aerospace Engineering at the University of Virginia is seeking candidates for an Open Rank tenure-track or tenured faculty position. Candidates with expertise in Autonomous Platforms are encouraged to apply, particularly to address problems related to ground, air, sea and space systems such as:
- Safe and reliable on-demand mobility platforms for transportation of people and/or cargo
- Technology and control for robotics and autonomous machine systems
- Dynamic scalability of software and autonomy algorithms for cyber-physical systems
- Autonomous platforms for in-space assembly and operations
- Autonomous platforms for Earth and Space Science measurement and operations
- Energy-harvesting and energy-efficient technologies for autonomous systems

For the details of this position, please go to
https://hr.virginia.edu/careers-uva/job-openings
visit “Find Faculty Jobs posted prior to January 2019” and see the job listing:
“0624558, Open Rank - Autonomous Platforms, Department of Mechanical and Aerospace Engineering, School of Engineering and Applied Science, 12-03-2018 (open date).”

6.5. Faculty: Technion, Israel
Contributed by: Leonid Mirkin, mirkin@technion.ac.il

The Faculty of Mechanical Engineering at the Technion – Israel Institute of Technology, Haifa, Israel invites applications for a tenure-track faculty position in the general area of control engineering. Initial appoint-
ments will be at the assistant or untenured associate professor level. In special cases, more senior or tenured faculty appointment may be possible. The new faculty is expected to develop an independent and funded research program, to teach at undergraduate and graduate levels (former, eventually in Hebrew), to mentor graduate students and postdocs, to participate in all aspects of department’s activities, and to serve the profession.

Applications, including an academic CV and the names of at least three referees, and inquiries should be submitted to Dean Oleg Gendelman (medean@me.technion.ac.il). Evaluation of the applications starts immediately and continues until the position is filled.

6.6. Faculty: Eindhoven University of Technology, The Netherlands
Contributed by: Maurice Heemels, m.heemels@tue.nl

Multiple Faculty Positions at Eindhoven University of Technology (TU/e)

The Department of Mechanical Engineering of the Eindhoven University of Technology (TU/e) invites applications for multiple outstanding faculty members at all levels (Assistant/Associate/Full Professor) within the field of Dynamics, Decision and Control in general and with a particular focus on the following areas:
- Modeling, Optimization and Control of Networked Cyber-Physical Systems
- Data-based Dynamical Modelling and Control
- Control for Autonomous and Cooperative Vehicles
- Autonomous Robotics
- Distributed Sensing, Sensor Fusion in Combination with AI

Candidates are required to have a background (PhD) and track record in Systems and Control Theory and Engineering or a related discipline. The successful candidate is expected to establish an independent research program and to contribute effectively to the department’s undergraduate and graduate teaching programs. The Eindhoven University of Technology is particularly interested in candidates who can contribute, through their research, teaching and/or service, to the diversity and excellence of the academic community. More information regarding the positions (vacancy number V35.3291) can be found at


or contact
- prof.dr.ir. Maurice Heemels (email: m.heemels@tue.nl)
- dr. ir. Tom Oomen (email: t.a.e.oomen@tue.nl)
- prof.dr.ir Ines Lopez Arteaga (email: i.lopez@tue.nl)
- prof.dr.ir. Nathan van de Wouw (email: n.v.d.wouw@tue.nl)

or through the HR department
- drs. S. van Heijst (email: s.van.heijst@tue.nl)

How to apply:
If you are interested in this position and would like to apply, we request you to use the button “Apply for
this job” in the link below
Please upload your written application consisting of a letter of motivation, a statement of present and future research plans, a statement of teaching experience and interest, and detailed curriculum vitae including photograph and publications list, through the “apply now” button. Recommendation letters are highly appreciated.

6.7. Postdoc: University of Texas at Dallas, USA
Contributed by: Mario Rotea, rotea@utdallas.edu

The wind energy team at UT Dallas seeks to fill a postdoctoral research associate position in control of wind turbines with emphasis on the reduction of aerodynamic loads on rotor blades. The successful candidate will be part of a team of faculty members, graduate students and industry partners developing methodology and new technologies to reduce blade mechanical fatigue and enable the design of larger and cheaper blades. The project is funded by ARPA-E with an expected duration of three years. The project team is led by an actuator manufacturer, and it includes UT Dallas, a manufacturer of wind turbine blades and Sandia National Laboratories.

The ideal candidate will have a strong background in the analysis and design of robust control systems, optimization for aeromechanical components involving passive and active load control and familiarity with wind turbine control systems. The candidate should also have effective writing and oral communication skills.

The position is available immediately. Interested candidates should submit their application to https://jobs.utdallas.edu/postings/11732 and email rotea@utdallas.edu after successfully submitting an application.

6.8. Postdoc: University of Minnesota, USA
Contributed by: Wyatt Dopke, doep0013@umn.edu

Postdoctoral Associate: Clinical Research on Closed-Loop DBS: This placement will focus on the design, implementation, and testing of feedback control techniques aimed to optimize DBS therapies in Parkinson’s disease patients. The postdoctoral researcher working in this position will have the opportunity to be involved in clinical research with patients receiving DBS implants.

Required Qualifications:
- PhD in control engineering or related science/engineering field with background in:
  - Feedback control systems
  - Signal processing and data analysis
  - System identification and mathematical modeling of dynamical systems

Desired Qualifications:
- Systems neuroscience
The Neuromodulation Research Center (NMRC), directed by Dr. Jerrold Vitek MD, PhD, seeks three postdoctoral researchers to join its interdisciplinary team. Interested candidates will join dedicated, collaborative researchers working to advance neuromodulation therapies for those living with neurological disorders. In the heart of Minnesota’s ‘Medical Alley, our translational research brings together experts from neurology, neurosurgery, neuroscience, engineering, radiology, and beyond. The NMRC is part of the Morris K. Udall Center for Excellence in Parkinson’s Research awarded to the University of Minnesota in 2016. For more information, visit nmrc.umn.edu.

Successful candidates for these positions will apply engineering techniques to the analysis of neuronal population dynamics in Parkinson’s disease and the development of feedback control techniques for patient-specific deep brain stimulation (DBS) therapies in pre-clinical and clinical settings. Candidates for these positions should apply for one of three research areas described as follows.

6.9. Postdoc: University of Minnesota, USA
Contributed by: Wyatt Dopke, doep0013@umn.edu

Postdoctoral Associate: Pre-clinical Research on Neuronal Population Dynamics: The postdoctoral researcher working in this placement will study the collective dynamics of neuronal populations in Parkinson’s disease and the effect of DBS therapy on these dynamics. The postdoctoral researcher will have the opportunity to access and analyze large sets of neural data available in the NMRC.

Required Qualifications:
- PhD in engineering, applied mathematics, neuroscience or related field with background in:
  - Signal processing and data analysis
  - System identification and mathematical modeling of dynamical systems
  - Graduate-level linear algebra and differential equations

Desired Qualifications:
- Systems neuroscience
- Brain machine interfaces
- Kinematic analysis
- Development of software tools using MATLAB/Simulink

The Neuromodulation Research Center (NMRC), directed by Dr. Jerrold Vitek MD, PhD, seeks three postdoctoral researchers to join its interdisciplinary team. Interested candidates will join dedicated, collaborative researchers working to advance neuromodulation therapies for those living with neurological disorders. In the heart of Minnesota’s ‘Medical Alley, our translational research brings together experts from neurology, neurosurgery, neuroscience, engineering, radiology, and beyond. The NMRC is part of the Morris K. Udall Center for Excellence in Parkinson’s Research awarded to the University of Minnesota in 2016. For more information, visit nmrc.umn.edu.
Successful candidates for these positions will apply engineering techniques to the analysis of neuronal population dynamics in Parkinson’s disease and the development of feedback control techniques for patient-specific deep brain stimulation (DBS) therapies in pre-clinical and clinical settings. Candidates for these positions should apply for one of three research areas described as follows.

If you are interested in this position or would like to know more about it, please contact Dr. David Escobar at descobar@umn.edu. Please include your CV. All formal applications must be made through the University of Minnesota job portal at https://humanresources.umn.edu/content/find-job under job code 328604.

6.10. Postdoc: University of Minnesota, USA
Contributed by: Wyatt Dopke, doep0013@umn.edu

Postdoctoral Associate: **Pre-clinical Research in Brain Connectivity and Feedback Control to Optimize DBS.** The postdoctoral researcher working in this placement will focus on studying how Parkinson’s disease alters effective connectivity in brain circuits responsible for movement control and investigating feedback control techniques aimed to restore function in these circuits. The postdoctoral researcher will have the opportunity to apply engineering methods to the development and testing of next generation DBS therapies.

**Required Qualifications:**
- PhD in control engineering or related science/engineering field with background in:
  - Feedback control systems
  - Signal processing and data analysis
  - System identification and mathematical modeling of dynamical systems
  - Real-time systems

**Desired Qualifications:**
- Systems neuroscience
- Kinematics and robotics
- Development of software tools using MATLAB/Simulink

The Neuromodulation Research Center (NMRC), directed by Dr. Jerrold Vitek MD, PhD, seeks three postdoctoral researchers to join its interdisciplinary team. Interested candidates will join dedicated, collaborative researchers working to advance neuromodulation therapies for those living with neurological disorders. In the heart of Minnesota’s ‘Medical Alley, our translational research brings together experts from neurology, neurosurgery, neuroscience, engineering, radiology, and beyond. The NMRC is part of the Morris K. Udall Center for Excellence in Parkinson’s Research awarded to the University of Minnesota in 2016. For more information, visit nmrc.umn.edu.

Successful candidates for these positions will apply engineering techniques to the analysis of neuronal population dynamics in Parkinson’s disease and the development of feedback control techniques for patient-specific deep brain stimulation (DBS) therapies in pre-clinical and clinical settings. Candidates for these positions should apply for one of three research areas described as follows.
If you are interested in this position or would like to know more about it, please contact Dr. David Escobar at descobar@umn.edu. Please include your CV. All formal applications must be made through the University of Minnesota job portal at https://humanresources.umn.edu/content/find-job under job code 328604.

6.11. Postdoc: Nanyang Technological University, Singapore  
Contributed by: C. C. Cheah, ecccheah@ntu.edu.sg

Job Opening for Postdoc Research Fellows in Robotics/Machine Learning: The School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore invites applications for postdoc research fellow positions in the following areas:
1) 3D modelling/reconstruction
2) Robot vision
3) Human tracking
4) Machine Learning

Applicants for the postdoc research fellow position should hold a Ph.D degree in relevant areas; have a track record of research experience in terms of publications; have a good command of English and are able to communicate well. Candidates with experience in construction robotics or system integrations will be an added advantage.

Application Procedure:
Suitably qualified candidates are invited to submit a CV, cover letter initially. Short-listed candidates will be notified for submission of full application packages. Electronic submission of application is encouraged and can be sent to:
Prof C. C. Cheah
Email: ECCCheah@ntu.edu.sg

Application closes when the positions are filled. Only shortlisted candidates will be notified for interview.

6.12. Postdoc: U.S. Army Research Laboratory, USA  
Contributed by: Jemin George, jemin.george.civ@mail.mil

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 (nonconvex) optimization, analysis of large datasets, machine learning, multi-agent optimization, and network analy-
sis. 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. Curriculum vita including a list of publications,
2. Research statement (no more than 3 pages); and
3. Names and contact information for three references.

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

6.13. Postdoc: University of Minnesota, USA
Contributed by: David Escobar, descobar@umn.edu

Postdoctoral Associate Positions to Conduct Research on Neuronal Population Dynamics and Neural Control Engineering

The Neuromodulation Research Center (NMRC), directed by Dr. Jerrold Vitek MD, PhD, seeks three postdoctoral researchers to join its interdisciplinary team. Interested candidates will join dedicated, collaborative researchers working to advance neuromodulation therapies for those living with neurological disorders. In the heart of Minnesota’s Medical Alley, our translational research brings together experts from neurology, neurosurgery, neuroscience, engineering, radiology, and beyond. The NMRC is part of the Morris K. Udall Center for Excellence in Parkinson’s Research awarded to the University of Minnesota in 2016. For more information, visit nmrc.umn.edu.

Successful candidates for these positions will apply control and systems engineering techniques to the analysis of neuronal population dynamics in Parkinson’s disease and the development of feedback control techniques for patient-specific deep brain stimulation (DBS) therapies in pre-clinical and clinical settings. Candidates for these positions should apply for one of three research areas described as follows.

1. Clinical Research on Closed-Loop DBS

This placement will focus on the design, implementation, and testing of feedback control techniques aimed to optimize DBS therapies in Parkinson’s disease patients. The postdoctoral researcher working in this position will have the opportunity to be involved in clinical research with patients receiving DBS implants.

Required Qualifications:
- PhD in control engineering or related science/engineering field with background in:
- Feedback control systems
- Signal processing and data analysis
- System identification and mathematical modeling of dynamical systems
Desired Qualifications:
- Systems neuroscience
- Kinematics and robotics
- Development of software tools using MATLAB/Simulink
- Real-time systems

2. Pre-clinical Research on Neuronal Population Dynamics

The postdoctoral researcher working in this placement will study the collective dynamics of neuronal populations in Parkinson’s disease and the effect of DBS therapy on these dynamics. The postdoctoral researcher will have the opportunity to access and analyze large sets of neural data available in the NMRC. Required Qualifications:
- PhD in engineering, applied mathematics, neuroscience or related field with background in:
  - Signal processing and data analysis
  - System identification and mathematical modeling of dynamical systems
  - Graduate-level linear algebra and differential equations
Desired Qualifications:
- Systems neuroscience
- Brain machine interfaces
- Kinematic analysis
- Development of software tools using MATLAB/Simulink

3. Pre-clinical Research in Brain Connectivity and Feedback Control to Optimize DBS

The postdoctoral researcher working in this placement will focus on studying how Parkinson’s disease alters effective connectivity in brain circuits responsible for movement control and investigating feedback control techniques aimed to restore function in these circuits. The postdoctoral researcher will have the opportunity to apply engineering methods to the development and testing of next generation DBS therapies. Required Qualifications:
- PhD in control engineering or related science/engineering field with background in:
  - Feedback control systems
  - Signal processing and data analysis
  - System identification and mathematical modeling of dynamical systems
  - Real-time systems
Desired Qualifications:
- Systems neuroscience
- Kinematics and robotics
- Development of software tools using MATLAB/Simulink

If you are interested in one of the aforementioned positions or would like to know more about them, please contact Dr. David Escobar at descobar@umn.edu. Please include your CV and indicate in which area you are most interested. All formal applications must be made through the University of Minnesota job portal at https://humanresources.umn.edu/content/find-job under job code 328604.
6.14. Postdoc: University of Waterloo, Canada
Contributed by: John Simpson-Porco, jwsimpson@uwaterloo.ca

Position: Postdoctoral fellowship
Project Title: Next Generation Grid Monitoring and Control
Location: University of Waterloo, Waterloo, ON, Canada

Description: Our group seeks a post-doctoral fellow in the area of decentralized control design for modern power systems. The broad research objective is to leverage the latest advances in controller synthesis and distributed optimization to design real-time controllers for power transmission (and eventually, distribution) systems. A distinguishing aspect of the project will be a focus on blending modern principled controller design procedures with both hierarchical control and distributed optimization approaches. Responsibilities will include the principled design of hierarchical control solutions for power systems, and the extensive validation of these control solutions using realistic power system models.

The successful candidate must hold a Ph.D. degree in either systems and control theory or power system dynamics and control, have an established track-record of academic publications in top venues, have exceptional written and verbal communication skills, and be highly motivated to make contributions in the area of decentralized power system control.

Starting Date: The position is available immediately. The contract duration is for one year, with an extension based on performance and project continuation. Salary will be competitive and commensurate with experience.

How to Apply: E-mail your CV, a Google Scholar link, two to three representative publications, and a list of three references to me at jwsimpson@uwaterloo.ca

Information on the PI: https://ece.uwaterloo.ca/ jwsimpso/

6.15. Postdoc: TU Delft, The Netherlands
Contributed by: Simone Baldi, s.baldi@tudelft.nl

The Delft Center for Systems and Control of Delft University of Technology, The Netherlands, is seeking qualified candidates for a two-year position (possibly extendable to three) as a post-doctoral fellow within the research area of modelling and control of heating, ventilation and air conditioning (HVAC) systems.

The challenge:
In the last years TU Delft has been building and developing “The Green Village”, an outdoor laboratory for experimenting new smart energy technologies. Within the lab premises, an experimental passive climate system is currently under construction, consisting in a climate tower that aims to combine various functionalities: integration of passive cooling / heating and ventilation, heat storage by integrated thermally active materials (phase change materials), regulation of solar access through blinds, etc. Because the design is experimental, a holistic thermal/energy model of the climate tower is to a large extent missing, let alone a control system that could seamlessly operate the subsystems with energy efficiency and thermal comfort.
guarantees. Providing the scientific understanding for modelling and control of this experimental climate system is the core goal of this position. The position is funded by the TKI Urban Energy project “CONVERGE.”

Requirements:
We are looking for a candidate with a PhD degree in Systems and Control, Energy Engineering, Mechanical Engineering or a closely related discipline, with a strong background in modelling and control of HVAC/smart energy systems, and with expertise in energy simulators such as EnergyPlus, TRNSYS, Modelica (or similar). An excellent publication record will be evaluated very positively. A good command of the English language is required.

Conditions of employment:
TU Delft offers an attractive benefits package, including a flexible work week and the option of assembling a customised compensation and benefits package (the ‘IKA’). Salary and benefits are in accordance with the Collective Labour Agreement (CAO) of the Association of Universities in the Netherlands (VSNU), and are depending on the qualifications and experience of the candidate selected.

Information and application:
For more information about this position, please contact Dr. Simone Baldi (s.baldi –at- tudelft.nl). Applicants should submit their letter of application along with a detailed curriculum vitae, a research statement indicating your background and interests and how they align with the position (around one page long), a list of publications, title and abstract of your PhD dissertation, the PDF files of two key publications, contact information for at least two academic references and all other information that might be relevant to your application to Dr. Simone Baldi. A first selection will be made based on the submitted material, and selected candidates will undergo a Skype interview.

The initial application deadline for the position is April 2, 2019, but the position will stay open until a suitable candidate has been appointed.
applied developments are targeted, with the goal of developing innovative mathematical methods and efficient numerical software for research works. The successful candidate will work in the Parisian premises of MINES ParisTech, 60 bd St Michel, 75272 Paris, in close collaboration with N. Petit and researchers from the Energy Department for application of the developed methods to the field of Efficient Energy Management in Buildings. Solid applied mathematical background and computer skills are required.

The application file should include:
• a cover letter presenting the candidate’s research project showing the connectivity with research conducted at CAS;
• a detailed CV;
• a list of research work and publications.

6.18. Postdoc: University of Applied Sciences and Arts, Switzerland
Contributed by: Dario Piga, dario.piga@supsi.ch

The University of Applied Sciences and Arts of Southern Switzerland (SUPSI) opens a position at the Dalle Molle Institute for Artificial Intelligence(IDSIA), for a Postdoctoral Researcher in the areas of System Identification, Machine Learning and Control. Occupancy degree: 100%. Duration of the contract: 2 years.

Tasks:
- Basic research, aimed at publications in top journals and conferences
- Applied research: collaboration with industrial partners in innovative projects
- Opportunity to be involved in teaching in Bachelor and/or Master courses

We offer:
- 2-year contract, with possibility of prolongation
- International working environment and collaboration with a strong team of researchers in Machine Learning, Statistics and Control (www.idsia.ch)
- Development of your own professional skills and career progression
- Funding travels in case of papers accepted to International Conferences - Salary: CHF 80,000 gross per year

Requirements:
- Master degree in Mechanical Engineering, Electric Engineering, Mechatronics, or Control Engineering
- PhD focused on modelling, identification and control of dynamical systems
- Experience in both theoretical and applied research
- Excellent programming skills and proficiency with state-of-the-art libraries for system identification, control and optimization
- Good knowledge of algorithms and software for machine learning
- Proficiency in written and spoken English

How to apply and further information:
- The positions will remain open until the 17th of March 2019. A link to the online application form is provided at:
6.19. Postdoc: University of British Columbia, Canada
Contributed by: Greg Stewart, greg.stewart@honeywell.com

Postdoctoral Research Position in Control Systems/Machine Learning at The University of British Columbia

Applications are invited for a three-year postdoctoral fellowship at the University of British Columbia. The successful candidate will conduct high quality research in machine learning with a focus on deep learning and reinforcement learning to address real world industrial control problems. The principal investigators, based in UBC’s Department of Chemical and Biological Engineering, the Institute of Applied Mathematics, and Honeywell, expect the research to have a significant influence on industrial practice. UBC and Honeywell have extensive experience in collaborating on advanced control technology. Previous projects have resulted in a series of academic innovations and industrial products recognized with awards from IEEE, IFAC, and NSERC.

Responsibilities: The postdoctoral fellow will be expected to
- Conduct high quality research in machine learning with a focus on deep learning and reinforcement learning.
- Coordinate the project with the industrial partners and prepare regular reports.
- Mentor PhD and undergraduate students.
- Travel to the sites of industrial partners and implement control/machine learning algorithms on real industrial processes.

Qualifications: The applications must have the following minimum qualifications
- A recent PhD in Control Systems and/or Machine Learning from a reputed program in Applied Mathematics, Computer Science or Engineering.
- Some experience with industrial control systems.
- Strong mathematical skills as they pertain to control theory and machine learning.
- Excellent programming skills in Matlab, Python and TensorFlow.
- Excellent written and oral communication skills.

Diversity: Equity and diversity are essential to academic excellence. An open and diverse community fosters the inclusion of voices that have been underrepresented or discouraged. We encourage applications from members of groups that have been marginalized on any grounds enumerated under the B.C. Human Rights Code, including sex, sexual orientation, gender identity or expression, racialization, disability, political belief, religion, marital or family status, age, and/or status as a First Nation, Metis, Inuit, or Indigenous person.

This position is available immediately. The home academic unit at UBC will be one of Chemical and Biological Engineering, Mathematics, or Computer Science, depending on the profile of the successful applicant. More information is available from Prof. Bhushan Gopaluni (bhushan.gopaluni@ubc.ca) or Dr. Greg Stewart (greg.stewart@honeywell.com), Senior Fellow at Honeywell. Interested applicants should send a
covering letter, a Curriculum Vitae, and a list of three referees to the same address.

6.20. Postdoc: University of Western Ontario, Canada
Contributed by: Jin Jiang, jjiang@eng.uwo.ca

A number of postdoctoral fellowships (PDFs) are available in the Department of Electrical & Computer Engineering, the University of Western Ontario, Canada for qualified candidates with background or interests in control of electrical power systems, in particular, microgrids with renewable resources, nuclear power plants, including small modular reactors. Ideal candidates will be those with some relevant practical hand-on experience in control and power systems. The duration of the first contract will be one year and can be renewed depending on mutual agreements.

Interested applicants should contact Dr. Jin Jiang at jjiang@eng.uwo.ca with the following documents.
- detailed CV
- academic transcripts
- list of publications
- description of research interests with justifications of relevant backgrounds.

The positions are available immediately. Please note that, due to limited resources, unselected candidates will not be contacted individually.

6.21. Postdoc: KTH Royal Institute of Technology, Sweden
Contributed by: Dimos Dimarogonas, dimos@kth.se

The Division of Decision and Control Systems at the KTH Royal Institute of Technology in Stockholm, Sweden, is seeking up to two postdoc associates in Hybrid Control of Multi-Robot Systems. The full announcement can be found here:


Deadline for applications: March 15, 2018. Please contact Prof. Dimos Dimarogonas at dimos@kth.se for further information about the positions.

6.22. Postdoc: Chalmers University of Technology, Sweden
Contributed by: Paolo Falcone, falcone@chalmers.se

We invite applications for one post-doctoral position in networked control for Intelligent Transportation Systems. The successful candidate will join a team of post-docs and Ph. D. students, engaged in neighboring research and is expected to contribute to the design of control algorithms for constrained systems communicating through lossy channels with limited capacity. If possible and relevant, the achieved results will be demonstrated through experiments on full-scale vehicles and in collaboration with our industrial partners.
The research project is strongly connected with ongoing research projects within the Wallenberg Autonomous Systems Program (WASP). We are looking for candidates with strong background in control theory. A PhD (or close to completion) in control theory, optimization and constrained optimal control or neighboring relevant field is required. Experience with automotive control applications will be preferred. Ability to initiate new research collaborations is essential. Good communication skills in oral and written English are required.

The working time of post-doctoral staff is mainly devoted to research. Undergraduate teaching duties, not exceeding 20% of the working time, may include supervision of MSc students. The position is co-funded by the Chalmers Area of Advance in Transportation. The appointment is a full-time employment (not a scholarship) for a period of not more than two years (1+1).

For further information, please contact Paolo Falcone. E-mail: falcone@chalmers.se.
Link to the application: https://bit.ly/2EFRq51

6.23. Postdoc: Technion, Israel
Contributed by: Leonid Mirkin, mirkin@technion.ac.il

Applications are invited for a post-doctoral research fellow position in the area of optimal control in power systems at the Faculties of Electrical and Mechanical Engineering, Technion - IIT, Israel. The position is for a period of 1 year, with the possibility of renewal up to another year contingent on performance. Applicants are required to have a recently completed PhD in control or related areas and an experience in optimal control methods.

Applications (a motivation letter + CV with a list of publications) and enquiries should be addressed to Yoash Levron (yoashl@ee.technion.ac.il) or Leonid Mirkin (mirkin@technion.ac.il).

6.24. Postdoc: Nanyang Technological University, Singapore
Contributed by: Rong Su, rsu@ntu.edu.sg

Dear all,

I have two open positions on discrete-event based modelling and performance optimisation for on-demand manufacturing, which aim for template-based modelling that facilitates a drag-and-play design, and real-time synthesis for behavioural correctness and performance optimality. All developed results are required to be demonstrated in a real flexible manufacturing system.

Any candidate who has substantial knowledge on discrete event modelling, supervisory control and/or DES-based performance optimisation (in particular, on temporal metrics such as makespan) is welcome to apply. The salary is competitive including a base salary and an annual performance bonus, plus a free group medical insurance and other benefits. The tax rate in Singapore is very low, and a postdoc salary is almost tax-free. The first contract will be 1 year, but can be renewed up to 2.5 years. For any interested
applicant, please send your CV, a publication list, and at least two reference letters to rsu@ntu.edu.sg.

If you have any question or concern, please do not hesitate to contact me at rsu@ntu.edu.sg.

6.25. **Postdoc: Chalmers University of Technology, Sweden**
Contributed by: Jonas Sjöberg, jonas.sjoberg@chalmers.se

We invite applications for a post-doctoral position in design and validation methodology of safety systems for cyclists. A self-driving bike has been designed that will be used for validating active safety functions and testing algorithms for manual and self-driving vehicles. The bike is intended to be used in tests together with vehicles and control algorithms will be designed so that it behaves as realistically as possible with the ability to move dynamically and roll around curves. The bike must be self-balancing and be able to carry a dummy to closely resemble a human cyclist. The postdoc will be involved in developing models and algorithms for the bike and, in cooperation with partners, perform driving tests and evaluate the results from them. Possibly, the postdoc may be involved in developing new safety algorithms for the vehicles. This would then be in close connection with industrial partners.

The position is placed at the Mechatronics Group of the Electrical Engineering Department. We are engaged in both fundamental and applied research related to intelligent transportation systems. Ongoing research projects focus on the design and the experimental validation of control algorithms for different functions in a traffic system containing autonomous and manual driven vehicles operating in complex urban environments. The algorithms are based on predictions made on uncertain information from the sensor system and the design need to consider these aspects too. Our research is, where possible, validated through experiments on full-scale vehicles and in collaboration with industrial partners.

Ongoing research projects in this field focus, among others, on the design and the experimental validation of control algorithms for autonomous vehicles. The project is in cooperation with industrial partners and also with the Division of Crash Analysis and Prevention (CAP) in the Vehicle Safety where they are working on behavioral aspects in connection to safety for cyclists. Together with them, relevant test cases will be defined.

The research project is strongly connected with other ongoing research projects on autonomous vehicles, some of them within the WASP (Wallenberg Autonomous Systems Program). The appointment is a full-time employment (not a scholarship) for a period of not more than two years (1+1). We offer a dynamic and international work environment with about 200 employees from more than 20 countries, and with extensive national and international research collaborations with academia, industry and society. Read more at www.chalmers.se/en/departments/e2

Qualifications: A PhD (or close to completion) in control theory, optimization and constrained optimal control or neighboring relevant field. Interest and experience with traffic safety will be preferred. The degree should generally not be older than three years.

6.26. **Postdoc: University of Kansas, USA**  
Contributed by: Huazhen Fang, fang@ku.edu

Applications are cordially invited for a postdoctoral research fellow position in the Information & Smart Systems Laboratory (www.issl.space) at the University of Kansas. The position is expected to start between May and June 2019, with the exact beginning date negotiable. The research project will be concerned with fundamental estimation theory and machine learning. A background in the broad areas of machine learning, deep learning, estimation, signal processing, mathematics, and control will be desirable.

A successful candidate should have the following qualifications: a recent PhD degree with thesis research on machine learning, data science, estimation theory, control systems, mathematics or related subjects, solid mathematical skills, excellent programming (Matlab, TensorFlow, or Python) skills, excellent oral and written communication skills, and strong motivation to perform outstanding research.

The appointment is for one year, with possible extension contingent on availability of funds and research performance. The salary will be in accordance with the postdoctoral salary scale of the University of Kansas. Interested candidates can feel free to contact Dr. Huazhen Fang (fang@ku.edu) for further information and are encouraged to send: a curriculum vitae detailing research achievements, a list of three referees, and up to three research documents (e.g., thesis, journal articles, conference papers).

6.27. **PhD: International Max Planck Research School, Germany**  
Contributed by: Rolf Findeisen, rolf.findeisen@ovgu.de

Phd positions at the International Max Planck Research School for Advanced Methods in Process and Systems Engineering. The International Max Planck Research School for Advanced Methods in Process and Systems Engineering offers several new positions for doctoral students in Magdeburg.

The IMPRS ProEng is a structured PhD program which gives talented German and international young scientists the opportunity to obtain a doctorate under excellent research conditions, a multidisciplinary environment and close scientific supervision.

We are driven by challenging questions arising from the analysis, design, and optimization of chemical and biochemical processes. You will join students from various engineering disciplines, natural scientists and mathematicians who perform cutting-edge mathematical and systems-oriented engineering research, see https://www.mpi-magdeburg.mpg.de/3562034/research.

We look for students with a Master Degree (or degrees equivalent to the German Diploma) in the areas of chemical engineering & bioengineering, systems & control theory and mathematics. An extensive curriculum of both scientific and soft skills qualifies our students to lead the next generation of successful scientists and professionals. Furthermore, the IMPRS ProEng supports doctoral students in conducting part of their research at our international partner institutions.

Deadline for online applications: March 3, 2019. Applications can be submitted online via
6.28. **PhD: University of Lorraine, France**

Contributed by: Marc Jungers, marc.jungers@univ-lorraine.fr

A PhD position is available at CRAN, University of Lorraine, Nancy, France. The topic is about optimal output control. The aim of this thesis is to extend the results in optimal control for the controllability of a system output. More precisely, we aim to extend the results on optimal controllability in the case where we only have access to the system output. In fact, in this project, it will not be assumed that the state of the system is controllable. We will simply assume that the output of the system is controllable.

More details on this Ph.D. offer can be found at:
http://w3.cran.univ-lorraine.fr/jerome.loheac/
http://w3.cran.univ-lorraine.fr/perso/marc.jungers/

The successful candidate must have a Master degree and good skills in Control Theory and/or Applied Mathematics, excellent English language skills. The selection board will accept applications until the end of March 2019.

The application dossier has to be sent to marc.jungers@univ-lorraine.fr and jerome.loheac@univ-lorraine.fr and consists of the following documents:
- a CV, which in particular indicates if you already have or will have your Master 2 this summer, and your rank in your previous diplomas;
- your marks up to your last diploma;
- a copy of your passport mentioning you birth and place date and your current address;
- a motivation letter;
- some recommendation letters (send directly to us by the author of the letter) or persons to contact.

6.29. **PhD: Louisiana State University, USA**

Contributed by: Xiangyu Meng, xmeng5@lsu.edu

Two PhD positions are available in the Division of Electrical & Computer Engineering in the School of Electrical Engineering & Computer Science at Louisiana State University, Baton Rouge starting September 2019 or later (http://www.ece.lsu.edu). Applicants with electrical, mechanical and mathematical backgrounds are all encouraged to apply. Candidates with industrial experiences on robotics, UAVs, or autonomous vehicles are preferred but not mandatory. The successful candidates will work with Dr. Xiangyu Meng in ongoing research projects in the fields of connected and automated vehicles (CAVs), and distributed control/estimation/optimization of multi-agent systems.

All applicants must satisfy ECE Division graduate program admission requirements (https://www.lsu.edu/eng/ece/academics/graduate/admissions/index.php) with good GPAs, acceptable GRE scores and satisfactory TOEFL or IELTS scores for international applicants. Interested candidates
6.30. PhD: George Mason University, USA  
Contributed by: Ramin Bighamian, rbighami@gmu.edu

PhD positions are available at George Mason University (Controls in brain-computer interface and health-care). Applications are invited for PhD positions at the Algorithms in Medicine and Neuro-Technology Lab (AIMAN Lab) in the Department of Mechanical Engineering at George Mason University, Fairfax, VA.

Research:
The AIMAN Lab pursues fundamental breakthroughs in biomedical cyber-physical systems. The lab’s primary research focuses on application of mathematical modeling, controls and estimation theory, and machine learning in health information technology including decision support and automated care systems, with the intention of improving the quality of healthcare, as well as brain-computer interfaces to bring neuro-enhancements to the daily consumer.

Application:
Interested researchers with passion in digital healthcare and neuroscience are encouraged to send their CV to Dr. Ramin Bighamian at rbighami@gmu.edu.

Qualifications:
• Experience in controls engineering, estimation theory, machine learning, MATLAB
• A Master’s degree in mechanical engineering, electrical engineering, or other related disciplines.

6.31. PhD: IFP Energies Nouvelles, France  
Contributed by: Hoai-Nam Nguyen, hoai-nam.nguyen@ifp.fr

PhD position at IFP Energies nouvelles (IFPEN) in Mathematics  
Design of Real-time Estimation Algorithms for Fault Detection and Load Mitigation Control at the Wind Farms Scale

In the field of wind energy, operators are now focusing on using existing wind farms more efficiently, reducing farm-level mechanical stress and reducing maintenance costs through improved fault detection. In this context, our central question will be “How to design an algorithm capable of optimally and robustly estimate the wake and 3D wind field in real-time at the wind farm scale?”. Indeed, the estimation of these complex quantities is a necessary step to go further: once the state of the wind farm has been accurately estimated, it can be used to design new and better fault detection algorithms, and controllers for the distribution of the load on the farm. Up to now, most fault detection algorithms and load distribution controllers in the wind farm are based on a static assumption for wind direction and wind speed, and that the wind comes from two/three fixed directions. In addition, the classical approaches consist mainly of centralized estimation and parametric wake models and are unfortunately unable to answer our central question due to the inaccuracy of the estimation results and the complexity of the calculations. We are facing a sound scientific challenge. We will use methods of Gaussian Processes modeling and advanced filtering in a context of distributed computations.
The results of the thesis will allow two major advances:
1) Drastically improved estimation performance of complex quantities in real time (wake, 3D wind field) that can be used for fault detection and load mitigation control.
2) Drastically improved robustness against failures in the communication network.

Academic supervisor: Prof. Nicolas PETIT, CAS, MINES ParisTech
Doctoral School ED432 - Sciences des Métiers de l’Ingénieur
IFPEN supervisor: Dr. Olivier LEPREUX, Control, Signal, Systems Dpt., recruit.postdoc@ifpen.fr
PhD location: IFP Energies nouvelles, Lyon, France
Duration and start date: 3 years, starting preferably on October 1, 2019
Employer: IFP Energies nouvelles, Lyon, France
Academic requirements: University Master degree in mathematics, automatic control or signal processing.
Language requirements: Fluency in English
Gross monthly salary: 2245€(first year), 2430€(second year), 2580€(third year).

For more information or to submit an application, see theses.ifpen.fr or contact the IFPEN supervisor. About IFP Energies nouvelles: IFP Energies nouvelles is a French public-sector research, innovation and training center. Its mission is to develop efficient, economical, clean and sustainable technologies in the fields of energy, transport and the environment. For more information, see www.ifpen.fr. IFPEN offers a stimulating research environment, with access to first in class laboratory infrastructures and computing facilities. IFPEN offers competitive salary and benefits packages. All PhD students have access to dedicated seminars and training sessions.

6.32. PhD: Czech Technical University, Czech Republic
Contributed by: Vyacheslav Kungurtsev, vyacheslav.kungurtsev@fel.cvut.cz

Two PhD positions are available at the Department of Computer Science, Faculty of Electrical Engineering (FEL), Czech Technical University in Prague starting in September 2019.

One PhD position is available under the co-supervision of Drs. Vyacheslav Kungurtsev (Czech Technical University) and Jakub Marecek (IBM Research – Ireland). The focus will be on incorporating methods from control engineering in algorithms for non-convex optimization, such as in the training deep neural networks, as well as incorporating methods in machine learning for optimization-based process control engineering. Correspondingly, we are seeking applicants with a masters degree in Mathematics, Informatics, Control Engineering, Computer Science, or working towards one. We encourage applicants who have a familiarity with at least some of: 1) Machine learning , 2) Linear control theory (PID, integral-quadratic controllers, etc.) 3) Nonlinear control theory 4) Continuous optimization.

One PhD student position is available in the Department of Computer Science, Faculty of Electrical Engineering at Czech Technical University in Prague, under the co-supervision of Drs. Vyacheslav Kungurtsev (Czech Technical University), Jakub Marecek (IBM Research – Ireland), and Didier Henrion (LAAS-CNRS). The focus will be on semidefinite programming, which is a branch of convex optimization with extensive applications in control engineering, power systems, signal processing, and statistics. Potential topics include those related to time-dependent problems, semidefinite programming under uncertainty, distributed
solvers, and solvers specialised to low-rank problem, with details to be agreed upon. Correspondingly, we are seeking applicants with a Masters degree in Mathematics, Informatics, Computer Science, or similar, or working towards one, and with programming experience in MATLAB.

Funding is available for an internationally competitive salary and travel expenses for four years. Requests for further information and applications, including a cover letter and a CV, should be addressed to Dr. Vyacheslav Kungurtsev (vyacheslav.kungurtsev@fel.cvut.cz)

6.33. PhD: Université Polytechnique Hauts-de-France, France
Contributed by: Anh-Tu Nguyen, nguyen.trananhtu@gmail.com

A new PhD position in “Control design for large-size nonlinear systems and application to soft robotics” is open at the Université Polytechnique Hauts-de-France, France. Some details can be found in the following link: https://drive.google.com/file/d/19NcCsGrvvMQNXt3xelP65WHaeZ64Arj/view

Starting date: around September-October 2019. Application deadline: until filled.

Applicants must hold, or be near completion of a Master’s degree or equivalent in systems and controls, applied mathematics or a related subject, with strong theoretical background and interest in Control Engineering/Automatic Control. The candidate must show a strong interest to perform innovative high-profile research. Fluency in English is also required. Interested applicants feel free to contact us for further details.

Formal applications should be submitted with a CV, a brief statement of motivation and research interests, and with names and email addresses of at least two referees to thierry.guerra@uphf.fr, alexander.kruszewski@centralelille.fr and tnguyen@uphf.fr.

6.34. PhD: Lorraine University, France
Contributed by: Jean-Christophe Ponsart, jean-christophe.ponsart@univ-lorraine.fr

A PhD position in Fault and attack detection and identification for cyber-physical systems in Research Center for Automatic Control of Nancy (CRAN - www.cran.univ-lorraine.fr/anglais/) is opened from September 2019: https://bit.ly/2NpK6NU.

Application:
Applicants shall have a Master’s degree in systems and controls, applied Math or a related discipline. Please email your application to Pr JC Ponsart (jean-christophe.ponsart@univ-lorraine.fr). The application should include your detailed CV, a brief statement of research experience and interests, a list of publications, and the names of one to three references with eventually a recommendation letter. You need to join your academic transcripts.

Details of the work:
Cyber-physical systems are characterized by the integration of physical processes and computing and communication capabilities. For example, such systems can be found in various fluid transportation and distribution networks (gas, electricity, water, etc.). These systems are said to be cyber-physical since they
encompass a physical part (pipelines and drinking water tanks, pumping stations, for example) but also include sensing devices to measure physical growths (flow and pressure sensors in water network, physical and chemical measures of the water quality), information transmission networks, as well as control devices using the measured quantities to act on the physical part. These systems, in addition to their own potential failures (component degradation, information transmission faults, for example), have to deal with malicious external attacks that can severely degrade their operating. The monitoring of cyber-physical systems is therefore a major issue: it is essential to be able to detect, locate and identify these degradation and/or external attacks.

* Expected researches In order to take into account the material or information conservation laws in physical or communication networks, models of cyber-physical systems involve both dynamic models and static relationships. Modeling in descriptor form (one also speaks of algebro-differential or singular systems) is then natural. In the case of linear models, tools borrowed from the graph theory and automatic control theory respectively allow a structural analysis of attacks (detectability, distinguishability, etc.) and their estimation. The purpose of the thesis work would be to extend this approach to the more general nonlinear framework, thus allowing the application of these results to a larger number of cyber-physical systems or allowing this application to be more accurate by avoiding use models that are too simple and therefore too approximative to represent a complex reality. For this, the polytopic or LPV approach will be used to efficiently model nonlinear phenomena while benefiting from certain advantages of linear structures.

The detail of the proposed work can be seen at https://bit.ly/2NpK6NU

6.35. PhD: Delft University of Technology, The Netherlands
Contributed by: J. Alonso-Mora, j.alonsomora@tudelft.nl
PhD opening at TU Delft on: Multi-robot Motion Planning for Scene Understanding. More information and how to apply:
http://www.alonsomora.com/openings/19-PhD_vacancy_DISCERNERS.pdf
Obtaining accurate and comprehensive information from a complex scene is one of the most important and relevant problems in robotics. Yet extremely challenging. When robots are deployed in dynamic environments, they need to be aware of their surroundings to discern friend from foe, or to separate important events that require their immediate attention from those secondary and non-essential. Compared to a single robot acting individually, the optimal combination of information gathered by several robots can yield much better results. Especially, when robots are equipped with different sensors and they acquire information from different perspectives at the same time. Our goal is to develop novel motion planning and coordination methods for distributed information gathering and high-level scene reasoning with a large team of heterogeneous robots equipped with limited sensing and communication capabilities.
This vacancy is part of the program “Distributed high-level scene reasoning with teams of heterogeneous robots”, which is funded by the Office of Naval Research Global (ONRG). Collaboration with our partners in the project, namely Prof. E. Montijano (U. Zaragoza), Prof. M. Schwager (Stanford) and Prof. D. Rus (MIT) is expected. Cross collaborations also exist with the Amsterdam Institute for Advanced Metropolitan Solutions and other researchers from the TU Delft Robotics Institute. For a glimpse of our research see http://www.alonsomora.com/research.html.
A number of doctoral fellowships are available in the Department of Electrical & Computer Engineering, the University of Western Ontario, Canada for qualified candidates with background or interests in control of electrical power systems, in particular, microgrids with renewable resources, nuclear power plants, including small modular reactors. Ideal candidates will be those with some relevant practical hand-on experience in control and power systems. Once awarded, the fellowship will be guaranteed for a minimal period of 4 years. The amount of the fellowship is sufficient to cover tuition and living expenses for the candidate to complete the PhD program.

Interested applicants should contact Dr. Jin Jiang at jjiang@eng.uwo.ca with the following documents.
- detailed CV
- academic transcripts
- description of research interests with justifications of relevant backgrounds.

The positions are available immediately. Please note that, due to limited resources, unselected candidates will not be contacted individually.

The research group of Prof. Chao Xu at Zhejiang University (Hangzhou, China) invites applications of PhD positions sponsored by the Chinese Government Scholarship Program. The research focus is “controls of robotic vehicles and turbulence”, including computational optimal control, vehicular dynamics & optimal control, machine learning in fluids, and turbulence control, etc.


All applications should be submitted before the deadline: March 31st, 2019. If you want to know more information, do not hesitate to send an email to Chao Xu at cxu@zju.edu.cn.

Zhejiang University (ZJU, Hangzhou, China, http://www.zju.edu.cn/english/) is one of China’s top higher education institutions, as well as one of its oldest; its roots can be traced back to 1897 and the founding of the Qushi Academy. ZJU currently ranks among the top three in mainland China and within the top 70 in the Times Higher Education World Reputation Rankings (#67 in 2018) and QS World University Rankings (#68 in 2018). In the engineering field, ZJU is ranked #19 globally in the 2018 ARWU World University Rankings in the field of Automation & Control. More information about the College of Control Science & Engineering is available at http://www.cse.zju.edu.cn/english/
6.38. Research Associate/Fellow: Curtin University, Australia
Contributed by: Cheyenne McMullan, cheyenne.mcmullan@curtin.edu.au

Research associate/research fellow in optimal control is open at the School of Electrical, Engineering, Computing and Mathematical Sciences (EECMS) at Curtin University (Perth, Western Australia). The position is for 3 year fixed term, full time role. Please find the link to the job advertisement on Curtin university’s careers portal:
https://applynow.net.au/jobs/ni/CURTIN562-research-associate-research-fellow-optimal-control
Send any questions to Cheyenne McMullan at cheyenne.mcmullan@curtin.edu.au.

6.39. Research Scientist: Rockwell Automation, USA
Contributed by: Bijan Sayyarrodsari, bsayyarrodsari@ra.rockwell.com

The Strategic Development group at Rockwell Automation (http://www.rockwellautomation.com) has a research position available for a data scientist with interest in applying data science to complex real-world problems at its Austin, Texas location. The successful candidate will join a dynamic research and development team that is focused on creating advanced analytics solutions for manufacturing enterprises. The specific activities include interaction with customers, formulating customer problem, applying data science expertise to solve the identified problem, and encapsulating the successful solution in a manner that is usable by domain experts with lower data science expertise.

Required Skills:
• Strong Background in statistical data analysis (familiarity with Big data analysis is a plus).
• Strong background in machine learning. Of special interest is the ability to apply efficient machine learning solutions amenable to real-time deployment.
• Programming background with languages such as Python, C/C++.
• Willingness to deal with real-world datasets

Desired Skills:
• Familiarity with model-based machine learning.
• Familiarity with optimization theory and applications
• Ability to communicate effectively with people of diverse technical backgrounds and across technologies, disciplines and functions.

Education Requirements:
• Degree (Minimum of B.Sc. - M.Sc. or Ph.D is a plus) in Engineering, Physics, or Computer Science specializing in one or more of the following: Machine Learning, Statistical Data Analysis, Learning Algorithms for Big data.

Salary and contract conditions:
• Compensation package will be commensurate with the qualifications of the applicant.
• Minimal travel requirements.