E-LETTER on Systems, Control, and Signal Processing
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Welcome to the 343 issue of the Eletter, available electronically here.
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The next Eletter will be mailed out at the beginning of April 2017.

Contents

1. IEEE CSS Headlines
   1.1 IEEE Control Systems Society Publications Content Digest
   1.2 Inaugural IEEE Conference on Control Technology and Applications
   1.3 CFP: 2017 IEEE Conference on Decision and Control
   1.4 Call for Workshop Proposals: 2017 IEEE Conference on Decision and Control
   1.5 Corrected Table Of Contents on the Cover of February 2017 Issue of TAC
   1.6 IEEE Transactions on Control Systems Technology
   1.7 CFP: IEEE-CSS Outreach Fund
   1.8 IEEE Control Systems Society Technically Cosponsored Conferences

2. Summer and PhD Schools
   2.1 TEMPO Summer School on Hardware Implementation of Embedded Optimisation
   2.2 oCPS PhD School on Cyber-Physical Systems

3. Books
   3.1 Adaptive Dynamic Programming with Applications in Optimal Control
   3.2 A Mathematical Perspective on Flight Dynamics and Control
   3.3 Cooperative Synchronization in Distributed Microgrid Control

4. Journals
   4.1 Newly Launched: IFAC Journal of Systems and Control
   4.2 Contents: Automatica
   4.3 Contents: Control Theory and Technology
   4.4 Contents: International Journal of Control
   4.5 Contents: Systems & Control Letters
   4.6 Contents: Journal of Process Control
   4.7 Contents: Engineering Applications of Artificial Intelligence
   4.8 Contents: Mechatronics
   4.9 Contents: Asian Journal of Control
   4.11 Contents: Control Engineering Practice
4.12 CFP: IEEE Transactions on Control Systems Technology
4.13 CFP: IEEE Transactions on Robotics

5. Conferences
5.1 Annual Allerton Conference on Communication, Control, and Computing
5.2 IEEE International Conference on Automation Science and Engineering
5.3 IEEE Colombian Conference on Automatic Control
5.4 International Symposium on Multi-Robot and Multi-Agent Systems
5.5 International Conference on Methods and Models in Automation and Robotics
5.6 International Conference on Control, Automation and Systems
5.7 Workshop on Brain Dynamics and Neurocontrol Engineering

6. Positions
6.1 PhD: Grenoble Institute of Technology & GIPSA-lab, France
6.2 PhD: University of Texas at Dallas, USA
6.3 PhD: University of Luxembourg, Luxembourg
6.4 PostDoc: Chalmers University of Technology, Sweden
6.5 PostDoc: Nanyang Technological University, Singapore
6.6 PostDoc: Université Libre de Bruxelles, Belgium
6.7 PostDoc: Shanghai Jiao Tong University, China
6.8 PostDoc: Washington University in St. Louis, USA
6.9 PostDoc: University of Southampton, UK
6.10 PostDoc: University of Melbourne, Australia
6.11 Faculty: Zhejiang University of Technology, China
6.12 Faculty: Washington University in St. Louis, USA
6.13 Control System Engineers: nuTonomy
6.14 Research Scientist: Rockwell Automation, USA
1. IEEE CSS Headlines

1.1. IEEE Control Systems Society Publications Content Digest
Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

CSS Publications Content Digest 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.

1.2. Inaugural IEEE Conference on Control Technology and Applications
Contributed by: Steve Yurkovich, steve.yurkovich@utdallas.edu

IEEE CSS – CCTA 2017 – Submission deadline approaching!
1st IEEE Conference on Control Technology and Applications August 27-30, 2017
The Mauna Lani Bay Hotel and Bungalows Kohala Coast, Hawaii
Please visit: ccta2017.ieeecss.org

The inaugural 2017 IEEE Conference on Control Technology and Applications will be held on the beautiful Big Island of Hawaii. This new conference follows in the evolution of the former IEEE Conference on Control Applications to recent successful MSC venues, the last of which was held in 2016. The CCTA 2017 technical program will focus on all aspects of control engineering for practical control systems, from analysis and design, through simulation and hardware, as well as application-driven contributions of control theory. Major themes of energy, healthcare, manufacturing, and transportation will feature applications of control technology for robotic, automotive, biomechanical, aerospace, power and energy systems, control of networks, and many others.
The deadline for submission of contributed and invited papers is March 1, 2017, and submission is now open. For more information on the venue, technical program and paper submission, please visit ccta2017.ieeecss.org.

1.3. CFP: 2017 IEEE Conference on Decision and Control
Contributed by: Sergio Galeani, sergio.galeani@uniroma2.it

2017 Conference on Decision and Control
CDC is going down under! The 56th IEEE Conference on Decision and Control will be held Tuesday through Friday, December 12-15, 2017 at the Melbourne Convention Center, Melbourne, Australia. The conference will be preceded by technical workshops on Sunday, December 10, and Monday, December 11, 2017. The workshops will be held at the Parkville Campus of the University of Melbourne, which is also sponsoring the event.
The CDC is recognized as the premier scientific and engineering conference dedicated to the advancement of the theory and practice of systems and control. The CDC annually brings together an international community of researchers and practitioners in the field of automatic control to discuss new research results,
perspectives on future developments, and innovative applications relevant to decision making, systems and control, and related areas.

The IEEE CDC is hosted by the IEEE Control Systems Society (CSS) in cooperation with the Society for Industrial and Applied Mathematics (SIAM), the Institute for Operations Research and the Management Sciences (INFORMS), the Japanese Society for Instrument and Control Engineers (SICE), and the European Union Control Association (EUCA).

The 2017 CDC technical program will include regular and invited sessions, tutorial sessions, and special sessions along with workshops and exhibits.

Aside from the technical sessions, the 2017 CDC will feature three plenary lectures and the Bode Lecture.

The Bode Lecture will be presented by Prof. Naomi E. Leonard of the Mechanical and Aerospace Engineering Department, Princeton University.

The Plenary speakers will be:
- Prof. Graham C. Goodwin of the School of Electrical & Computer Engineering, University of Newcastle, Australia.
- Prof. Pablo Parrilo of the Electrical Engineering and Computer Science Department at the Massachusetts Institute of Technology, USA.
- Prof. Anna G. Stefanopoulou of the Department of Mechanical Engineering, University of Michigan, USA.

Important deadlines:
- Invited Session Proposals Due: March 10
- Initial Paper Submissions Due: March 20
- Workshop Proposals Due: May 1

Further details can be found at the CDC2017 website:
http://cdc2017.ieeecss.org/

1.4. Call for Workshop Proposals: 2017 IEEE Conference on Decision and Control
Contributed by: Sergio Galeani, sergio.galeani@uniroma2.it

CALL FOR WORKSHOP PROPOSALS AT 2017 CONFERENCE ON DECISION AND CONTROL

The Technical program of 2017 CDC will include half day and full day workshops, in addition to regular and invited sessions, tutorial sessions, and special sessions along with exhibits. The technical workshops will be held on Sunday, December 10, and Monday, December 11, 2017, prior to the conference start on Tuesday, December 12. The workshops will be held at the Parkville Campus of the University of Melbourne, which is also sponsoring the event.

A Workshop proposal should focus on a specific theme related to the main conference topics, describing objectives and expected outcomes, including expected attendance. The workshop proposal should include the workshop presenters’ short bio and contact information, and the list of speakers. Proposals should be submitted through PaperPlaza by the workshop proposals due date, May 1, 2017.

Further details can be found at the CDC2017 website:
http://cdc2017.ieeecss.org/workshops.php
1.5. Corrected Table Of Contents on the Cover of February 2017 Issue of TAC
   Contributed by: Elizabeth Kovacs, ekovacs2@nd.edu

Corrected February TOC on TAC cover

There has been an error in the Table Of Contents on the cover of the February 2017 issue of IEEE Transactions on Automatic Control. The issue is correct, only the TOC contains the error. Note the TOC in IEEEXplore is the correct one and the correct February TOC is included in the March printed issue. This error occurred at the IEEE level during processing of the papers. Our apologies.

Back to the contents

1.6. IEEE Transactions on Control Systems Technology
   Contributed by: Andrea Serrani, serrani.1@osu.edu

Table of Contents
IEEE Transactions on Control Systems Technology
Volume 25 (2017), Issue 2 (March)
EDITORIAL
Editorial, A. Serrani, page 385
2016 IEEE Transactions on Control Systems Technology Outstanding Paper Award, page 387
Regular papers

- Economic Model Predictive Control and Applications for Diesel Generators, T. Broomhead, C. Manzie, P. Hield, R. Shekhar, and M. Brear, page 388
- Guidance and Attitude Control of Unstable Rigid Bodies With Single-Use Thrusters, H. Ashrafiuon, page 401
- Robust PID Design Based on QFT and Convex-Concave Optimization, P. Mercader, K. J. Åström, A. Baños, and T. Hägglund, page 441
- Battery State Estimation for a Single Particle Model With Electrolyte Dynamics, S. J. Moura, F. B. Argomedo, R. Klein, A. Mirtabatabaei, and M. Krstic, page 453
- Two-Level Hierarchical Model-Based Predictive Control for Large-Scale Urban Traffic Networks, Z. Zhou, B. De Schutter, S. Lin, and Y. Xi, page 496
- Robust Lyapunov Control Design for Bioinspired Pursuit With Autonomous Hovercraft, D. Shishika, J. K. Yim, and D. A. Paley, page 509
- Explicit MIMO Model Predictive Boost Pressure Control of a Two-Stage Turbocharged Diesel Engine, M. E. Emekli and B. Aksun Güvenç, page 521
- Hybrid Modeling and Robust Control for Layer-by-Layer Manufacturing Processes
  - A. Yebi and B. Ayalew, page 550
- A Mean Field Game Computational Methodology for Decentralized Cellular Network Optimization, M. Aziz and P. E. Caines, page 563
- Relaxing LMI Conservatism Using Nyquist Plots and Its Application to Robust Mechatronics Synthesis, Y. Z. Tan and C. K. Pang, page 600

Brief papers

- Dynamics and Feedback Control of Electrospinning Processes, H.-T. Zhang, Q. Wang, Z. Chen, and F.-L. Wei, page 611
- Cascade-Like Modular Tracking Controller for non-Standard N-Trailers, M. M. Michalek, page 619
- Sinusoidal Servocompensator Implementations With Real-Time Requirements and Applications, M. Chang and G. Guo, page 645
- Receding Horizon Control for Convergent Navigation of a Differential Drive Mobile Robot, M. Seder, M. Baotic, and I. Petrovic, page 653
- Stability Analysis of a Set of Uncertain Large-Scale Dynamical Models With Saturations: Application to an Aircraft System, P. Vuillemin, F. Demourant, J.-M. Biannic, and C. Poussot-Vassal, page 661
- A Nonlinear, MPC-Based Motion Cueing Algorithm for a High-Performance, Nine-DOF Dynamic Simulator Platform, M. Bruschetta, F. Maran, and A. Beghi, page 686
- Model Predictive Control for Luminous Flux Tracking in Light-Emitting Diodes
- Synchronized Closed Path Following for a Differential Drive and Manipulator Robot, Y. Li and C. Nielsen, page 704
- New Schemes for GPS-Denied Source Localization Using a Nonholonomic Unicycle, M. A. Ghadiri-Mobarrez, M. Mojiri, and H. R. Z. Zangeneh, page 720
- Adaptive Sliding Mode Control With Parameter Estimation and Kalman Filter for Precision Motion Control of a Piezo-Driven Microgripper, Y. Zhang and Q. Xu, page 728
- Fast Model Predictive Control-Based Fuel Efficient Control Strategy for a Group of Connected Vehicles in Urban Road Conditions., B. HomChaudhuri, A. Vahidi, and P. Pisu, page 760

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

The IEEE CSS Outreach Task Force is providing notice that the window for submission of proposals to the IEEE-CSS Outreach Fund for its 2017 spring solicitation will be held from April 3 to 28, 2017. Please note that this time window is earlier than usual. Information regarding the program can be found in:
http://www.ieeecss.org/general/control-systems-society-outreach-fund

Requests for application forms (as well as inquiries and notices of intention to submit) should be made directly to Daniel E. Rivera, Outreach Task Force Chair, at daniel.rivera@asu.edu.

1.8. IEEE Control Systems Society Technically Cosponsored Conferences
Contributed by: Luca Zaccarian, CSS AE Conferences, zaccarian@laas.fr

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


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
2. Summer and PhD Schools

2.1. TEMPO Summer School on Hardware Implementation of Embedded Optimisation
Contributed by: Michal Kvasnica, michal.kvasnica@stuba.sk

TEMPO Summer School on Hardware Implementation of Embedded Optimisation
We would like to point your attention to the "TEMPO Summer School on Hardware Implementation of Embedded Optimisation", which will take place July 17 to July 21, 2017 in Bratislava, Slovakia. The aim of this intensive five-days summer school is to give hands-on experience in implementation of model predictive controllers (MPC) on embedded hardware like field-programmable gateway arrays (FPGAs), programmable logic controllers (PLCs), and Arduino microcontrollers. The course is recommended for both industrial and academic researchers as well as for master and PhD students of engineering, computer science, mathematics, and physics.

Web site: http://www.uiam.sk/temposchool17

Confirmed lecturers are:
* Eric Kerrigan (Imperial College, London)
* Michal Kvasnica (Slovak University of Technology in Bratislava)
* Gergely Takacs (Slovak University of Technology in Bratislava)

The total workload is 40 hours including lectures, exercises, project work, and self-study, and the course gives 3 ECTS credits. The final course evaluation is based on a successful defense of the project. A certificate of attendance can be given to participants not wishing to participate in the project.

Participation in the course is limited to 50 places. The registration fee is 250 EUR and covers printed and electronic course materials, guided lab tours, social dinner, coffee breaks, and a free Arduino board for each participant.

We welcome you, your students, and colleagues to this interesting and inspiring event!
Michal Kvasnica

2.2. oCPS PhD School on Cyber-Physical Systems
Contributed by: Maurice Heemels, m.heemels@tue.nl

The 7th oCPS PhD School on Cyber-Physical Systems
Dear colleague,

We would like to attract your attention to the "7th oCPS PhD School on Cyber-Physical Systems," which will take place Monday June 12 to Thursday June 15, 2017 in Lucca, Italy. The school is targeted at graduate students and researchers who want to learn the main concepts of cyber-physical systems (CPSs), as well as at graduate students and postgraduate researchers already working in the area. The school is an event organized by oCPS, which is a Training Network (Marie Curie) receiving funding from the European Union’s 2020 framework programme for research and innovation, see more on ocps.ele.tue.nl.

The following lecturers form the line-up for the school:
Prof. Alf Isaksson, ABB Corporate Research
Prof. Christos Cassandras, Boston University, USA
Prof. Joost-Pieter Katoen, RWTH Aachen University, Germany
Prof. Samarjit Chakraborty , TU Munich, Germany
Prof. Maurice Heemels, Eindhoven University of Technology, NL
These excellent speakers will lecture during the school covering the basic concepts and results on:
- Discrete-event and hybrid systems techniques for CPS
- Resource-aware control
- Formal methods for embedded control
- Machine Learning
- Security in control of CPS
- Model predictive control
- Approximate dynamic programming
- Fault-tolerant control of distributed CPS
- Multi-agent systems
- Industrial perspectives on CPS.

The program of the school includes four full days of lectures, interleaved by enough time slots to allow scientific discussions among the participants and with the speakers.

Registration deadline: April 15, 2017. First-come-first-serve basis. Registration fee: EUR 290 (including coffee breaks, banquet, etc).

The oCPS PhD school on Cyber-Physical Systems is also the 8th edition of a series of biannual PhD schools with a focus on hybrid, networked and cyber-physical systems, which educated over 500 PhD students (!) worldwide since 2003, see http://ocps17.imtlucca.it for earlier editions!!

The full program of the school, other information and the registration procedure can be found at http://ocps17.imtlucca.it/

We welcome you, your students and colleagues to this interesting and inspiring event!
Maurice Heemels Alberto Bemporad Samarjit Chakraborty

3. Books

3.1. Adaptive Dynamic Programming with Applications in Optimal Control
Contributed by: Derong Liu, derongliu@foxmail.com

Adaptive Dynamic Programming with Applications in Optimal Control
Authors: Derong Liu, Qinglai Wei, Ding Wang, Xiong Yang, Hongliang Li

This book covers the most recent developments in adaptive dynamic programming (ADP). The text begins with a thorough background review of ADP making sure that readers are sufficiently familiar with the fundamentals. In the core of the book, the authors address first discrete- and then continuous-time systems. Coverage of discrete-time systems starts with a more general form of value iteration to demonstrate its convergence, optimality, and stability with complete and thorough theoretical analysis. A more realistic form of value iteration is studied where value function approximations are assumed to have finite errors.
Adaptive Dynamic Programming also details another avenue of the ADP approach: policy iteration. Both basic and generalized forms of policy-iteration-based ADP are studied with complete and thorough theoretical analysis in terms of convergence, optimality, stability, and error bounds. Among continuous-time systems, the control of affine and nonaffine nonlinear systems is studied using the ADP approach which is then extended to other branches of control theory including decentralized control, robust and guaranteed cost control, and game theory. In the last part of the book the real-world significance of ADP theory is presented using three applications.

Table of contents (14 chapters)
01. Overview of Adaptive Dynamic Programming
02. Value Iteration ADP for Discrete-Time Nonlinear Systems
03. Finite Approximation Error-Based Value Iteration ADP
04. Policy Iteration for Optimal Control of Discrete-Time Nonlinear Systems
05. Generalized Policy Iteration ADP for Discrete-Time Nonlinear Systems
06. Error Bounds of Adaptive Dynamic Programming Algorithms
07. Online Optimal Control of Continuous-Time Affine Nonlinear Systems
08. Optimal Control of Unknown Continuous-Time Nonaffine Nonlinear Systems
09. Robust and Optimal Guaranteed Cost Control of Continuous-Time Nonlinear Systems
10. Decentralized Control of Continuous-Time Interconnected Nonlinear Systems
11. Learning Algorithms for Differential Games of Continuous-Time Systems
14. Data-Based Neuro-Optimal Temperature Control of Water Gas Shift Reaction

** Part of the series Advances in Industrial Control

3.2. A Mathematical Perspective on Flight Dynamics and Control
Contributed by: Andrea L’Afflitto, a.lafflitto@ou.edu

I would like to bring to your kind attention the newly published book "A Mathematical Perspective on Flight Dynamics and Control" by Dr. Andrea L’Afflitto published by Springer; for details, see http://www.springer.com/us/book/9783319474663.

The scope of this book is to complement classic books on flight dynamics and control and present in a concise, self-contained, and rigorous manner several aspects of flight control, which are usually omitted or briefly mentioned in textbooks. This monograph has been written for graduate students and practitioners with strong interest in control theory and applied mathematics, who desire to have a deeper and different insight into flight dynamics and control.

3.3. Cooperative Synchronization in Distributed Microgrid Control
Contributed by: Yasmin Brookes, yasmin.brookes@springer.com

Cooperative Synchronization in Distributed Microgrid Control
Ali Bidram, Vahidreza Nasirian, Ali Davoudi, Frank Lewis
ISBN: 978-3-319-50807-8
March 2017, Springer
Hardcover, 260 pages, $129.00/euro 114.99
This book brings together emerging objectives and paradigms in the control of both AC and DC microgrids; further, it facilitates the integration of renewable-energy and distribution systems through localization of generation, storage and consumption. The control objectives in a microgrid are addressed through the hierarchical control structure.

After providing a comprehensive survey on the state of the art in microgrid control, the book goes on to address the most recent control schemes for both AC and DC microgrids, which are based on the distributed cooperative control of multi-agent systems. The cooperative control structure discussed distributes the co-ordination and optimization tasks across all distributed generators. This does away with the need for a central controller, and the control system will not collapse in response to the outage of a single unit. This avoids adverse effects on system flexibility and configurability, as well as the reliability concerns in connection with single points of failure that arise in traditional, centralized microgrid control schemes.

Rigorous proofs develop each control methodology covered in the book, and simulation examples are provided to justify all of the proposed algorithms. Given its extensive yet self-contained content, the book offers a comprehensive source of information for graduate students, academic researchers, and practicing engineers working in the field of microgrid control and optimization.

Contents
1 Introduction
2 Control and Modeling of Microgrids
   2.1 Control of AC Microgrids
   2.2 Dynamic Modeling of AC Microgrids
   2.3 Control of DC Microgrids
3 Introduction to Multi-agent Cooperative Control
   3.1 Synchronization in Nature, Social Systems, and Coupled Oscillators
   3.2 Communication Graphs for Interconnected Systems
   3.3 Cooperative Control of Multi-agent Systems on Communication Graphs
   3.4 Time-Varying Edge Weights and Switched Graphs
4 Distributed Control of AC Microgrids
   4.1 Distributed Secondary Frequency Control
   4.2 Distributed Secondary Frequency and Power Control
   4.3 Distributed Secondary Voltage Control of AC Microgrids
   4.4 Distributed Secondary Voltage and Reactive Power Control of AC Microgrids
5 Multi-objective and Adaptive Distributed Control of AC Microgrids
   5.1 Multi-objective and Two-Layer Control Framework for AC Microgrids
   5.2 Adaptive and Distributed Voltage Control for AC Microgrids
6 Droop-Free Distributed Control of AC Microgrids
   6.1 Droop-Free Cooperative Control Framework
   6.2 System-Level Modeling
   6.3 Experimental Verification
   6.4 Summary
7 Cooperative Control for DC Microgrids
   7.1 Distributed Cooperative Controller for DC Microgrids
   7.2 Analytical Model Development for DC Microgrids
   7.3 Distributed Adaptive Droop Control for DC Microgrids: An Alternative Solution
   7.4 Experimental Performance Evaluation
4. Journals

4.1. Newly Launched: IFAC Journal of Systems and Control

Contributed by: Alison Waldron, a.waldron@elsevier.com

Announcing the launch of a new journal:
IFAC Journal of Systems and Control
IFAC Journal of Systems & Control is a new IFAC journal published by Elsevier. Launched in January 2017, the journal is now open for submissions at: http://www.evise.com/evise/jrnl/IFACSC
The journal publishes high-quality research papers containing generalizable, extensible and transferable innovations across all aspects of the field of control and automation.
4 reasons to publish in the journal are that it will:
• Deliver high quality, ground breaking research with relevance to the broader IFAC community.
• Facilitate interdisciplinary communication across the technical areas of IFAC.
• Benefit from informed high quality peer review by experts.
• High visibility via Elsevier’s platform, ScienceDirect

The Editor-in-Chief, Dr. Bob Bitmead, draws on a personal wealth of experience across many aspects of Automation and Control, from fundamental theory to modeling to implementation across many application sectors: aerospace, telecommunications, sonar, sugar, steel, and photolithography. He was awarded the 2014 ASME Rufus Oldenburger Medal and the 2015 IEEE Control Systems Society Transition to Practice Award.

For the full Aims & Scope and more information about this new exciting journal please visit the journal homepage: https://www.journals.elsevier.com/ifac-journal-of-systems-and-control/
Throughout 2017 papers published in IFAC Journal of Systems and Control will be made freely available online on ScienceDirect.

4.2. Contents: Automatica

Contributed by: Elisa Capello, elisa.capello@polito.it

Table of Contents
Automatica
Vol. 77, March 2017
http://www.sciencedirect.com/science/journal/00051098/77

- Do Wan Kim, “Further refinement on controller design for linear systems with input saturation”, pages 14-17.
- Yongduan Song, Beibei Zhang, Kai Zhao, “Indirect neuroadaptive control of unknown MIMO systems tracking uncertain target under sensor failures”, pages 103-111.
- Raghvendra V. Cowladi, “Hierarchical trajectory optimization for a class of hybrid dynamical systems”, pages 112-119.
- Zhiguang Feng, Peng Shi, “Two equivalent sets: Application to singular systems”, pages 198-205.
- Fanghong Guo, Changyun Wen, Jianfeng Mao, Guoqi Li, Yong-Duan Song, “A distributed hierarchical algorithm for multi-cluster constrained optimization”, pages 230-238.
- Fengwei Chen, Juan C. Agüero, Marion Gilson, Hugues Garnier, Tao Liu, “EM-based identification of continuous-time ARMA Models from irregularly sampled data”, pages 293-301.
- Biqiang Mu, Er-Wei Bai, Wei Xing Zheng, Quanmin Zhu, “A globally consistent nonlinear least squares estimator for identification of nonlinear rational systems”, pages 322-335.
- Duc N. Tran, Christopher M. Kellett, Peter M. Dower, “Qualitative equivalences of ISS and image-gain stability properties for discrete-time nonlinear systems”, pages 360-369.
- Shihong Ding, Shihua Li, “Second-order sliding mode controller design subject to mismatched term”, pages 388-392.

Back to the contents
4.3. Contents: Control Theory and Technology
Contributed by: Zou Tiefeng, tfzou@scut.edu.cn

Control Theory and Technology
Vol. 15, No. 1, February 2017
ISSN: 2095-6983 CODEN: CTTOAM

http://jcta.alljournals.ac.cn/cta_en/ch/index.aspx
http://www.springer.com/engineering/control/journal/11768

- On engineering game theory with its application in power systems, S. Mei, W. Wei, F. Liu P.1
- Global finite-time attitude regulation using bounded feedback for a rigid spacecraft, Y. Zhou, W. Zhu, H. Du P. 26
- Adaptive robust control for four-motor driving servo system with uncertain nonlinearities, W. Zhao, X. Ren P. 45
- Necessary and sufficient condition for modified Nevanlinna-Pick interpolation for closed-loop pole placement, B. Aruna, R. Devanathan P. 58
- Orthogonal projection based subspace identification against colored noise, J. Hou, T. Liu, F. Chen P. 69
- Research opportunities arising from control and optimization of smart buildings, Q. Zhao P. 78

4.4. Contents: International Journal of Control
Contributed by: Bing Chu, b.chu@soton.ac.uk

International Journal of Control
Volume 90, Issue 3, 2017
http://www.tandfonline.com/toc/tcon20/current

- Monotonic convergence of iterative learning control systems with variable pass length, Thomas Seel, Thomas Schauer & Jörg Raisch, pages: 409-422
- Stability of simultaneously block triangularisable switched systems with partial state reset, Isabel Brás, Ana C. Carapito & Paula Rocha, pages: 444-453
- On exponential stability of linear non-autonomous functional differential equations of neutral type, Pham Huu Anh Ngoc & Quang Ha, pages: 454-462
- A stochastic PID controller for a class of MIMO systems, Samer S. Saab, pages: 463-478
- Adaptive H2/Hp tracking control for a class of uncertain robotic systems, Yeong-Chan Chang, pages: 479-495
- A fast non-singular terminal sliding mode control based on perturbation estimation for piezoelectric actuators systems, A. Al-Ghanimi, J. Zheng & Z. Man, pages: 496-507
- Parameter identification of linear multi-delay systems via a hybrid of block-pulse functions and Taylor’s polynomials, Hamid Reza Marzban, pages: 520-534

Back to the contents
- Boolean network representation of a continuous-time system and finite-horizon optimal control: application to the single-gene regulatory system for the lac operon, Laura Menini, Corrado Possieri & Antonio Tornambè, pages: 535-568
- Stochastic switching for partially observable dynamics and optimal asset allocation, Juri Hinz & Jeremy Yee, pages: 569-581
- Improved synthesis conditions for mixed H2/H∞ gain-scheduling control subject to uncertain scheduling parameters, Ali Khudhair Al-Jiboory & Guoming G. Zhu, pages: 596-614
- H2 optimal model order reduction by two-sided technique on Grassmann manifold via the cross-gramian of bilinear systems, Kang-Li Xu, Yao-Lin Jiang & Zhi-Xia Yang, pages: 632-642
- Global existence and uniqueness of positive solutions and optimal control for a novel model of pest control, Huili Xiang & Bin Liu, pages: 643-655

4.5. Contents: Systems & Control Letters
Contributed by: John Coca, j.coca@elsevier.com

Systems & Control Letters
Volume 100
February 2017
- Juliang Yin, Suiyang Khoo, Zhihong Man, “Finite-time stability theorems of homogeneous stochastic nonlinear systems”, Pages 6-13
- Kyriakos G. Vamvoudakis, “Q-learning for continuous-time linear systems: A model-free infinite horizon optimal control approach”, Pages 14-20
- Bao-Zhu Guo, Ze-Hao Wu, “Output tracking for a class of nonlinear systems with mismatched uncertainties by active disturbance rejection control”, February 2017
- Parijat Bhownick, Sourav Patra, “On LTI output strictly negative-imaginary systems”, February 2017
- Olumuyiwa I. Olanrewaju, Jan M. Maciejowski, “Implications of dissipativity on stability of economic model predictive control—The indefinite linear quadratic case”, February 2017
- Junwei Wang, Kairui Chen, Frank L. Lewis, “Coordination of multi-agent systems on interacting physical and communication topologies”, Pages 56-65
- Jieqiong Wu, Xianzheng Zhu, Shugen Chai, “Controllability for one-dimensional nonlinear wave equations with degenerate damping”, Pages 66-72

4.6. Contents: Journal of Process Control
Contributed by: John Coca, j.coca@elsevier.com
4.7. Contents: Engineering Applications of Artificial Intelligence
Contributed by: John Coca, j.coca@elsevier.com

Engineering Applications of Artificial Intelligence
Volume 59
March 2017
- Fei Chao, Yuxuan Huang, Xin Zhang, Changjing Shang, Longzhi Yang, Changle Zhou, Huosheng Hu, Chih-Min Lin, “A robot calligraphy system: From simple to complex writing by human gestures”, Pages 1-14
- David Sánchez, Montserrat Batet, “Toward sensitive document release with privacy guarantees”, Pages 23-34
- Kamal Z. Zamli, Fakhrud Din, Salmi Baharom, Bestoun S. Ahmed, Fuzzy adaptive teaching learning-based optimization strategy for the problem of generating mixed strength t-way test suites, Pages 35-50
- Mariam Taktak, Slim Triki, Anas Kamoun, “Real time algorithm based on time series data abstraction and hybrid bond graph model for diagnosis of switched system”, Pages 51-72
- Fan Yang, Jingwei Li, Wei Lu, Jian Weng, “Copy-move forgery detection based on hybrid features”, Pages 73-83
- Zahra Salehi, Ashkan Sami, Mahboobe Ghasi, “MAAR: Robust features to detect malicious activity based on API calls, their arguments and return values”, Pages 93-102
- Aniello Minutolo, Massimo Esposito, Giuseppe De Pietro, “Optimization of rule-based systems in mHealth applications”, Pages 103-121
- T. Bindima, Elizabeth Elias, “A novel design and implementation technique for low complexity variable
digital filters using multi-objective artificial bee colony optimization and a minimal spanning tree approach”, Pages 133-147
- Josep Domingo-Ferrer, Sergio Martínez, David Sánchez, Jordi Soria-Comas, “Co-Utility: Self-Enforcing protocols for the mutual benefit of participants”, Pages 148-158
- Ammar Nayal, Hadi Jomaa, Mariette Awad, “KerMinSVM for imbalanced datasets with a case study on arabic comics classification”, Pages 159-169
- Alessandro Farinelli, Manuele Bicego, Filippo Bistaffa, Sarvapali D. Ramchurn, “A hierarchical clustering approach to large-scale near-optimal coalition formation with quality guarantees”, Pages 170-185
- Le Hoang Son, Tran Manh Tuan, “Dental segmentation from X-ray images using semi-supervised fuzzy clustering with spatial constraints”, Pages 186-195
- Reza Mohammadi Asl, Yashar Shabboei Haghi, Rainer Palm, “Robust control by adaptive Non-singular Terminal Sliding Mode”, Pages 205-217
- Héctor Quintián, Emilio Corchado, “Beta Scale Invariant Map”, Pages 218-235
- Mina Ghavipour, Mohammad Reza Meybodi, “Irregular cellular learning automata-based algorithm for sampling social networks”, Pages 244-259
- K. Verbert, R. Babuška, B. De Schutter, “Combining knowledge and historical data for system-level fault diagnosis of HVAC systems”, Pages 260-273

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

Mechatronics
Volume 41
February 2017
- Kees Verbaan, Stan van der Meulen, Maarten Steinbuch, “Broadband damping of high-precision motion stages”, Pages 1-16
- Vladimír Kučera, Dan Pilbauer, Tomáš Vyhlídal, Nejat Olgac, “Extended delayed resonators – Design and experimental verification”, Pages 29-44
- Qing Shi, Chang Li, Chunbao Wang, Haibo Luo, Qiang Huang, Toshio Fukuda, “Design and implementation of an omnidirectional vision system for robot perception”, Pages 58-66
- Inseong Jo, Joonbum Bae, “Design and control of a wearable and force-controllable hand exoskeleton
4.9. Contents: Asian Journal of Control
Contributed by: Lichen Fu, lichen@ntu.edu.tw

Asian Journal of Control
Vol.19, No.1 January, 2017

CONTENTS
[Regular Paper]
1. Paper Title: Mixed Event/Time-Triggered Static Output Feedback L2-Gain Control for Networked Control Systems (pages 1–10)
Authors: Sheng-Hsiung Yang and Jenq-Lang Wu
2. Paper Title: Stabilization for Switched LPV Systems with Markovian Jump Parameters and Its Application (pages 11–21)
Authors: Dong Yang and Jun Zhao
3. Paper Title: Frequency Interval Cross Gramians for Linear and Bilinear Systems (pages 22–34)
Authors: Ahmad Jazlan, Victor Sreeram, Hamid Reza Shaker, Roberto Togneri and Ha Binh Minh
4. Paper Title: Quadratic stabilizability and $H_\infty$ control of linear discrete-time stochastic uncertain systems (pages 35–46)
Authors: Xiushan Jiang, Xuemin Tian, Tianliang Zhang and Weihai Zhang
5. Paper Title: Robust Minimum Variance Lower Bound Estimation by Uncertainty Modeling Using Interval Type-2 Fuzzy set (pages 47–56)
Authors: Yousef Alipouri and Javad Poshtan
6. Paper Title: Design of Smith Predictor and Fuzzy Decoupling for Mimo Chemical Processes with Time Delays (pages 57–66)
Authors: M. Hamdy and A. Ramadan
7. Paper Title: Stabilization of Discrete-time Switched Systems with State Constraints Based on Mode-Dependent Average Dwell Time (pages 67–73)
Authors: Qingyu Su, Peipei Wang, Jian Li and Honghai Liu
Authors: Fengqi Yao, Jinde Cao, Li Qiu and Pei Cheng
9. Paper Title: Finite-time Stability on a Class of Non-autonomous SICNNs with Multi-proportional Delays (pages 87–94)
Author: Yuehua Yu
10. Paper Title: Fixed-Time Consensus of Multi-Agent Systems with Directed and Intermittent Communications (pages 95–105)
Authors: Qingling Wang, Yuanda Wang and Changyin Sun
11. Paper Title: Stability and Control of Fractional Chaotic Complex Networks with Mixed Interval Uncertainties (pages 106–115)
Authors: Hao Zhang, Xing-yuan Wang and Xiao-hui Lin
12. Paper Title: Redundant Input Safety Tracking for Omnidirectional Rehabilitative Training Walker with Control Constraints (pages 116–130)
Authors: Ping Sun and Shuoyu Wang

13. Paper Title: Synchronization Criteria for Complex Dynamical Networks with State and Coupling Time-Delays (pages 131–138)
Author: Ali Kazemy

14. Paper Title: Improved Robust Stability Criteria for Time-Delay Lur’e System (pages 139–150)
Authors: Wenyong Duan, Xiaorong Fu, Zhengfan Liu and Xiaodong Yang

15. Paper Title: A Family of Robust Simultaneous Controllers With Tuning Parameters Design for a Set of Port-Controlled Hamiltonian Systems (pages 151–163)
Authors: Zhong Cao, Xiaorong Hou and Wenjing Zhao

Author: Masoud Hajarian

17. Paper Title: Practical Robust Neural Path Following Control for Underactuated Marine Vessels with Actuators Uncertainties (pages 173–187)
Authors: Guoqing Zhang and Xianku Zhang

Authors: Di Huang, Zhisheng Duan and Yuqing Hao

19. Paper Title: Anti-Synchronization and Intermittent Anti-Synchronization of Two Identical Delay Hyperchaotic Chua Systems Via Linear Control (pages 202–214)
Authors: Hong-Li Li, Zuolei Wang, Yao-Lin Jiang, Long Zhang and Zhidong Teng

20. Paper Title: Multiple Information Feedback Control Scheme for an Improved Car-Following Model (pages 215–223)
Authors: Ya-zhou Zheng, Rong-jun Cheng and Hong-Xia Ge

Authors: Jian Li, Zhengfan Song and Qingyu Su

22. Paper Title: Nonlinear State Estimation and Control for Freeway On-Ramp Metering (pages 233–244)
Authors: H. Aboua¨ıssa, H. Majid and D. Jolly

23. Paper Title: End-Point Regulation and Vibration Suppression of a Flexible Robotic Manipulator (pages 245–254)
Authors: Shuang Zhang and Deqing Huang

24. Paper Title: Real-Time Leak Isolation Based on State Estimation with Fitting Loss Coefficient Calibration in a Plastic Pipeline (pages 255–265)
Authors: Adrian Navarro, Ofelia Begovich, Juan Sánchez and Gildas Besancon

25. Paper Title: Type Number Based Steady-State Error Analysis on Fractional Order Control Systems (pages 266–278)
Authors: Jinwen Pan, Qing Gao, Jianbin Qiu and Yong Wang

26. Paper Title: Continuous Fractional-Order Sliding PI Control for Nonlinear Systems Subject to Non-Differentiable Disturbances (pages 279–288)
Authors: A. J. Muñoz-Vázquez, V. Parra-Vega and A. Sánchez-Orta

27. Paper Title: Minimal Volume Simplex (MVS) Polytopic Model Generation and Manipulation Methodology for TP Model Transformation (pages 289–301)
Authors: József Kuti, Péter Galambos and Péter Baranyi
28. Paper Title: Landing Auto-Pilots for Aircraft Motion in Longitudinal Plane using Adaptive Control Laws Based on Neural Networks and Dynamic Inversion (pages 302–315)
Authors: Mihai Lungu and Romulus Lungu
Authors: Shuang Wu and Lan Shu

[Brief Paper]
1. Paper Title: Stability Analysis and Design of Uncertain Discrete-time Switched Systems with Actuator Saturation Using Antiwindup and Multiple Lyapunov Functions Approach (pages 325–331)
Authors: Xinquan Zhang, Jun Zhao and Xiaoyin Li
2. Paper Title: Boundary Control of a Flexible Robotic Manipulator With Output Constraints (pages 332–345)
Authors: Zhijie Liu and Jinkun Liu
3. Paper Title: Observer-Based Adaptive L2 Disturbance Attenuation Control of Semi-Active Suspension with MR Damper (pages 346–355)
Authors: Ming-Xing Cheng and Xiao-Hong Jiao
4. Paper Title: Adaptive Observer for Simultaneous State and Parameter Estimations for an Output Depending Normal Form (pages 356–361)
Authors: Lei Yu, Gang Zheng and Driss Boutat
5. Paper Title: Simultaneous Actuator and Sensor Faults Reconstruction Based on Robust Sliding Mode Observer for a Class of Nonlinear Systems (pages 362–371)
Authors: Ali Ben Brahim, Slim Dhahri, Fayçal Ben Hmida and Anis Sellami
6. Paper Title: Integral Sliding Mode Fault-Tolerant Control for Spacecraft With Uncertainties and Saturation (pages 372–381)
Authors: Duan Wenjie, Wang Dayi and Liu Chengrui
7. Paper Title: Lower Eigenvalue Bounds on Summation for the Solution of the Lyapunov Matrix Differential Equation (pages 382–390)
Authors: Juan Zhang, Jianzhou Liu and Hao Huang
8. Paper Title: A Parameter Dependent Controller Design Approach for Delayed LPV System (pages 391–398)
Authors: Hai Yin, Jinwu Gao and Zhiyuan Liu
9. Paper Title: Finite-Time Sliding Mode Trajectory Tracking Control of Uncertain Mechanical Systems (pages 399–404)
Authors: Liang Sun and Zewei Zheng
10. Paper Title: Recursive Stochastic H2/H∞ Control Problem for Delay Systems Involving Continuous and Impulse Controls (pages 405–413)
Authors: Zhang Qixia and Sun Qiliang

Back to the contents

Contributed by: Fikret A Aliev, chief ed@acmij.az

Applied and Computational Mathematics an International Journal
Vol.16, No.1, February 2017
CONTENTS
- I. Gutman, On Two Laplacian-Spectrum-Based Graph Invariants and their Relation: A Review, pages: 3-11
- H. Demiray, Exact Solution Of Perturbed KDV Equation with Variable Dissipation Coefficient, pages: 12-16
- M.A. Noor, K.I. Noor, A.G. Khan, Merit Functions for Quasi Variational Inequalities, pages: 17-30
- Ekrem Savaş, A Generalized Statistical Convergent Functions via Ideals in Intuitionistic Fuzzy Normed Spaces, pages: 31-38
- Gökçe Kuralay, Hitay Özbay, Design of First Order Controllers for a Flexible Robot Arm with Time Delays, pages: 48-58
- S.S. Dragomir, Inequalities for the Riemann-Stieltjes Integral of s-Dominated Integrators with Applications (II), pages: 59-77

4.11. Contents: Control Engineering Practice
Contributed by: Martin Böck, cep@acin.tuwien.ac.at

Control Engineering Practice
Volume 60
March 2017
- Timothy I. Salsbury, Carlos F. Alcala, A method for setpoint alarming using a normalized index, Pages 1-6
- Konstantin Schaab, Jannik Hahn, Maksim Wolkov, Olaf Stursberg, Robust control for voltage and transient stability of power grids relying on wind power, Pages 7-17
- Bernd Kolar, Hubert Rams, Kurt Schlacher, Time-optimal flatness based control of a gantry crane, Pages 18-27
- B. Mavkov, E. Wittrant, C. Prieur, D. Moreau, Multi-experiment state-space identification of coupled magnetic and kinetic parameters in tokamak plasmas, Pages 28-38
- Jakob M. Hansen, Thor I. Fossen, Tor Arne Johansen, Nonlinear observer design for GNSS-aided inertial navigation systems with time-delayed GNSS measurements, Pages 39-50
- Sergio Lucia, Alexandru Tatulea-Codrean, Christian Schooppmeyer, Sebastian Engell, Rapid development of modular and sustainable nonlinear model predictive control solutions, Pages 51-62
- Nahla Alamoodi, Prodromos Daoutidis, Nonlinear control of coal-fired steam power plants, Pages 63-75
- Hélöi F.G. Genari, Nazih Mechbal, Gérard Coffignal, Eurípedes G.O. Nóbrega, Damage-tolerant active control using a modal Hinf-norm-based methodology, Pages 76-86
- C. Du, A.R. Plummer, D.N. Johnston, Performance analysis of a new energy-efficient variable supply pressure electro-hydraulic motion control method, Pages 87-98
- Martin Klauco, Martin Kalíž, Michal Kvasnica, Real-time implementation of an explicit MPC-based reference governor for control of a magnetic levitation system, Pages 99-105
- Felipe Núñez, Yongqiang Wang, David Grasing, Sachi Desai, George Cakiades, Francis J. Doyle III, Pulse-coupled time synchronization for distributed acoustic event detection using wireless sensor networks, Pages...
4.12. CFP: IEEE Transactions on Control Systems Technology
Contributed by: Guillaume Mercère, guillaume.mercere@univ-poitiers.fr

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

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

Only contributions that include significant results based on analysis of real data or experimental validation will be included. Papers must contain high-quality original contributions and be prepared in accordance with the IEEE Transactions on Control Systems Technology standards. Prospective authors should state in their cover letter and in the notes section of the submission site that their manuscript is intended for the special issue on “system identification and control in biomedical applications.” Submitted manuscripts must not have been previously published or be under review for possible publication elsewhere.

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

Authors can submit their manuscripts via https://mc.manuscriptcentral.com/tcst
Information for Authors prior to submitting a paper is available via http://www.ieeecss.org/publications/tcst/information-authors

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

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

4.13. CFP: IEEE Transactions on Robotics
Contributed by: Soon-Jo Chung, sjchung@caltech.edu

Call for Papers
IEEE Transactions on Robotics
Special Issue on Aerial Swarm Robotics

Guest Editors:
Prof. Soon-Jo Chung, Caltech and Jet Propulsion Laboratory, Pasadena, CA
Prof. Vijay Kumar, University of Pennsylvania, Philadelphia, PA
Dr. Aditya Paranjape, Imperial College London, London, UK
Prof. Philip Dames, Temple University, Philadelphia, PA
Prof. Shaojie Shen, Hong Kong University of Science and Technology, Hong Kong

Aerial robotics has been one of the most active areas of research within the robotics community, and recently there has been a surge of interest in aerial swarm systems. This IEEE T-RO special issue reflects on advances
in aerial robotics and unmanned aerial vehicles, and aims to put together a cohesive set of research goals and visions towards realizing fully autonomous aerial swarm systems. In the near future, our airspace will be shared by a large number of aerial robots and autonomous aircraft, performing complex tasks that would be not possible for a single ground robot. A number of technological gaps need to be bridged in order to achieve full autonomy and reliable and safe operation of swarms of aerial robots. The papers selected for this special issue will represent the most promising ideas to address such research issues in modeling, design, control, sensing, planning, and computation of aerial swarms, with an emphasis on enhanced scalability, adaptability, robustness, and autonomy.

Contributions must have a direct connection to the central themes of the special issue: swarms of aerial robots flying in a three-dimensional (3-D) world. Each contribution should emphasize how to address challenges in transitioning from 2-D to 3-D in areas such as SWaP (size, weight, and power), swarm coordination or collaboration, and use of 3-D vehicle dynamics.

Topics of interest include the following:
- Aerial swarming: modeling, design, and control
- Motion planning, guidance, and control of distributed aerial systems
- Algorithmic innovation enabling control of large-scale swarms of aerial robots
- Novel system-level or hardware design concepts for aerial swarms
- Distributed sensing or estimation techniques leveraging aerial swarm platforms
- Real-world results and lessons learned from testing state-of-the-art techniques
- Real-time optimal control, planning, and decision making for aerial swarms
- Scalability, stability, and robustness issues in distributed aerial systems
- Planning and control using vision-based sensing
- Traffic control of swarms of drones in indoor or outdoor environments
- Human-swarm interaction
- Long-term autonomy of aerial swarms
- Research issues in large-scale deployment of aerial swarms
- Enabling applications using aerial swarms
- Verification and validation of multi-agent systems and algorithms
- Decentralized planning and its applications to aerial swarms

Interested authors are encouraged to contact the special issue editors with an abstract of their paper to confirm that their submission is within the scope of the special issue. Abstracts should be sent via email to sjchung@caltech.edu, vijay.kumar@seas.upenn.edu, a.paranjape@imperial.ac.uk, pdames@temple.edu, and eeshaojie@ust.hk.

Important Dates:
Call for Papers: February 24, 2017
Deadline for Initial Paper Submission: May 31, 2017
Notification of First Round Decision: September 1, 2017
Deadline for Revised Paper Submission: October 1, 2017
Target Publication Date: February 2018

5. Conferences

5.1. Annual Allerton Conference on Communication, Control, and Computing
Contributed by: Rachel Palmisano, rep2@illinois.edu
FIFTY-FIFTH ANNUAL ALLERTON CONFERENCE ON COMMUNICATION, CONTROL, AND COMPUTING

October 3, 2017 – Opening Tutorials
October 4-6, 2017 – Conference Sessions

CALL FOR PAPERS

The Fifty-Fifth Annual Allerton Conference on Communication, Control, and Computing will kick off with Opening Tutorials being held on Tuesday, October 3, 2017 at the Coordinated Science Laboratory. The conference sessions will start on Wednesday, October 4, 2017 through Friday, October 6, 2017, at the Allerton Park and Retreat Center. The Allerton House is located twenty-six miles southwest of the Urbana-Champaign campus of the University of Illinois in a wooded area on the Sangamon River. It is part of the fifteen-hundred acre Robert Allerton Park, a complex of natural and man-made beauty designated as a National natural landmark. Allerton Park has twenty miles of well-maintained trails and a living gallery of formal gardens, studded with sculptures collected from around the world.

Papers presenting original research are solicited in the areas of:
bioinformation systems
coding techniques and applications
coding theory
data storage
information theory
multiuser detection and estimation
network information theory
sensor networks in communications
wireless communication systems
intrusion/anomaly detection and diagnosis
network coding
network games and algorithms
performance analysis
pricing and congestion control
reliability, security and trust
decentralized control systems
robust and nonlinear control
adaptive control and automation
robotics
distributed and large-scale systems
complex networked systems
optimization
dynamic games
machine learning and learning theory
signal models and representations
signal acquisition, coding, and retrieval
detection and estimation
learning and inference
statistical signal processing
sensor networks
data analytics

Final versions of papers that are presented at the conference are required to be submitted electronically by October 8, 2017 in order to appear in the Conference Proceedings and IEEE Xplore.

PLENARY LECTURE is scheduled for Friday, October 6, 2017 at the Allerton Park and Retreat Center. (we will add the speaker info when confirmed)

OPENING TUTORIAL LECTURES will be presented on Tuesday, October 3, 2017 at the Coordinated Science Laboratory, University of Illinois at Urbana-Champaign. (we will add the speakers info when confirmed)

INFORMATION FOR AUTHORS: Regular papers suitable for presentation in twenty minutes are solicited. Regular papers will be published in full (subject to a maximum length of eight 8.5” x 11” pages, in two column format) in the Conference Proceedings. Only papers that are actually presented at the conference and uploaded as final manuscripts can be included in the proceedings, which will be available after the conference on IEEE Xplore.

For reviewing purposes of papers, a title and a five to ten page extended abstract, including references and sufficient detail to permit careful reviewing, are required.

Manuscripts can be submitted during June 16-July 10, 2017 with the submission deadline of July 10th being firm. Please follow the instructions at the Conference website: http://www.csl.illinois.edu/allerton/.

Authors will be notified of acceptance via e-mail by August 7, 2017, at which time they will also be sent detailed instructions for the preparation of their papers for the Proceedings.

Important Dates:
Submission Deadline: July 10, 2017
Acceptance Date: August 7, 2017
Registration Opens: after August 7, 2017
Conference Dates: October 3-6, 2017
Final Submission Deadline: October 8, 2017
Conference Co-Chairs: Naira Hovakimyan and Negar Kiyavash
Email: amellis@illinois.edu URL: www.csl.illinois.edu/allerton/

5.2. IEEE International Conference on Automation Science and Engineering

Contributed by: (Samuel) Qing-Shan Jia, jiaqs@tsinghua.edu.cn

The deadline for regular/special session submissions at CASE2017 has been extended to March 15, 2017!!! There will not be any further extensions. The list of special sessions is available at http://case2017.org/submission/special_sessions.html

We invite you to submit papers (including regular/special session/presentation-only submissions) in time!

The 13th IEEE International Conference on Automation Science and Engineering (IEEE CASE 2017, http://www.case2017.org ), sponsored by the IEEE Robotics and Automation Society (RAS), will be held in Xi’an, China, August 20 to 23, 2017. IEEE CASE is a flagship automation conference of the IEEE RAS and constitutes the primary forum for cross-industry and multi-disciplinary research in automation. Its goal is to provide a broad coverage and dissemination of foundational research in automation among researchers, academics, and practitioners.
The technical program of IEEE CASE 2017 will consist of tutorials/workshops, keynote/plenary speeches, automation forums, and oral presentations. Papers describing original work on abstractions, algorithms, theories, methodologies, and case studies are invited. There is a track on International Symposium on Assembly and Manufacturing (ISAM). Accepted and presented papers will be published in the conference proceedings, and submitted for inclusion into IEEEXplore as well as other Abstracting and Indexing (A&I) databases. IEEE CASE is an offspring of the journal IEEE Transactions on Automation Science and Engineering. The journal will publish a Special CASE Issue of top-rated papers.

Regular papers and special session papers should be submitted online at https://ras.papercept.net. One new feature of CASE 2017 is that the authors of the papers published or accepted in and after 2016 by IEEE Transactions on Automation Science and Engineering or IEEE Transactions on Robotics can request presentation of their papers at the conference in the newly organized "transaction paper sessions". General inquiries should be addressed via Email to the Program Chair, Prof. (Samuel) Qing-Shan JIA at jiaqs@mail.tsinghua.edu.cn. The best conference paper award, the best application paper award, and the best student paper award will be selected.

The organizing committee of CASE 2017 cordially invite you to submit full paper contributions and hope to see you in Xi’an, China in August 2017!

5.3. IEEE Colombian Conference on Automatic Control

Contributed by: José García-Tirado, ieeeccac2017@gmail.com

Call for Papers
3rd IEEE Colombian Conference on Automatic Control 2017

Scope: The 3rd IEEE Colombian Conference on Automatic Control (CCAC) will be held on October 18-20, 2017 in Cartagena-Colombia. The objective of the Conference is to gather academic and industrial researchers and practitioners, to discuss the state of the art, research and developments in advance control-robotics and its applications for sharing and encouraging technology development in Colombia and the Latin American region. The thematic emphasis of the Conference will be covering the theory, the implementation issues and the experiences related to the applications of control, automation and robotics methods in research, academy and industry. The main 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, process and power systems, process automation, process optimization, sensing and sensor fusion, system identification, systems and signals, control in power electronics and electrical drives.

Important Dates:
- May 9, 2017 Papers submission deadline
- June 30, 2017 Papers acceptance notification
- August 11, 2017 Final manuscripts in camera-ready format

Paper submission: The program committee invites you to submit 4 to 6 pages long papers in English or Spanish through www.ieeeccac2017.org

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. The paper format and submission instructions are available at the website of the conference. All articles will be published in the Conference Proceedings. Only English versions will be published in IEEEXplore.
Venue: The conference will be held at Cartagena de Indias, city on the northern coast of Colombia in the Caribbean Coast Region and capital of the Bolívar Department. It is the fifth-largest city in Colombia and the second largest in the region, after Barranquilla. The Cartagena urban area is also the fifth-largest urban area in the country. Economic activities include maritime and petrochemicals industry, as well as tourism. During the colonial period Cartagena served a key role in administration and expansion of the Spanish empire. It was a center of political and economic activity due to the presence of royalty and wealthy viceroys. In 1984, Cartagena’s colonial walled city and fortress were designated a UNESCO World Heritage Site.

Contact: Additional details and Conference updates are available at: http://www.ieeeccac2017.org Inquiries and doubts about the Conference may be addressed to: info@ieeeccac2017.org

5.4. International Symposium on Multi-Robot and Multi-Agent Systems
Contributed by: Antonio Franchi, antonio.franchi@laas.fr

International Symposium on Multi-Robot and Multi-Agent Systems (MRS 2017)
4-5 December 2017
University of Southern California, Los Angeles, USA
http://multirobotsystems.org/mrs2017
Submissions due: 27 May 2017
General inquiries: mrs2017@laas.fr

The International Symposium on Multi-Robot and Multi-Agent Systems (MRS) is a new, single-track conference to be inaugurated at the University of Southern California, USA on 4-5 December 2017. MRS is an initiative of the IEEE RAS Technical Committee on Multi-Robot Systems, and is technically co-sponsored by the IEEE.

The goal of the conference is to bring together researchers who are in the field of multi-robot and multi-agent systems, both directly and indirectly, to cross-fertilize ideas. Typically MRS research is spread across large conferences, and this makes it difficult for us 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 2017.

The focus of the MRS conference is on all aspects of multi-robot and multi-agent systems. We envision papers from a broad range of topics in this area, ranging from design and analysis of algorithms to systems. All accepted papers will be presented within technical sessions. The program will also include inspiring keynote talks, tutorials, and a student poster session, in addition to social events to promote networking among peers. Submission instructions will be provided when the call for papers is announced.

IMPORTANT DATES
27 May 2017: Full paper submission (US Pacific Standard Time)
2 September 2017: Notification to authors
4-5 December 2017: The inaugural MRS conference

ORGANIZING COMMITTEE
Conference Chair: Gaurav Sukhatme (USC)
Junior Conference Chair: Nora Ayanian (USC)
Finance Chair: M. Ani Hsieh (Drexel University, USA)
5.5. **International Conference on Methods and Models in Automation and Robotics**

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

22nd International Conference on Methods and Models in Automation and Robotics
28-31 August 2017
Amber Baltic Hotel, Miedzyzdroje, Poland

It is our great pleasure to invite You to participate in the 22nd International Conference on Methods and Models in Automation and Robotics, MMAR 2017 to be held in Miedzyzdroje, Poland, from August 28th to August 31st, 2017.

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 22nd 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 22nd International MMAR Conference in Miedzyzdroje, Poland.

Important Dates: (Please check the latest information at www.mmar.edu.pl)
6 March 2017 – Full Paper Submission
15 May 2017 – Notification of Acceptance
26 June 2017 – Author Registration and Payment
3 July 2017 – Camera-Ready Paper Submission

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).

For more information see http://www.mmar.edu.pl
5.6. International Conference on Control, Automation and Systems
Contributed by: Hye-Soo Kim, conference@icros.org

2017 17th International Conference on Control, Automation and Systems (ICCAS 2017)
October 18(WED)-21(SAT), 2017
Ramada Plaza, Jeju Island, Korea
http://2017.iccas.org


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
Proposal for Invited/Organized Session (Mini-symposium)
- June 10, 2017: Submission deadline
Regular Papers (3 - 6 pages) & Invited/Organized Session Papers (1 - 6 pages)
- June 15, 2017: Submission deadline
- August 1, 2017: Notification of acceptance
- August 31, 2017: Submission of final camera-ready papers
Research Poster Papers (1 - 2 pages)
- August 22, 2017: Submission deadline
- August 31, 2017: Notification of acceptance
- September 7, 2017: Submission of final camera-ready papers

PLENARY SPEAKERS
- Richard D. Braatz (Massachusetts Inst. of Tech., USA)
- Reza Moheimani (Univ. of Texas, USA)
- Antonella Ferrara (Univ. of Pavia, Italy)
- Huijun Gao (Harbin Inst. of Tech., China)
- Atsuo Takanishi (Waseda Univ., Japan)

Organized by Institute of Control, Robotics and Systems (ICROS)
General Chair: Dongil “Dan” Cho (Seoul Nat’l Univ., Korea / ICROS President)
Organizing Chair: Doyoung Jeon (Sogang Univ., Korea)
Program Chair: Hyosung Ahn (GIST, Korea)

5.7. Workshop on Brain Dynamics and Neurocontrol Engineering
Contributed by: ShiNung Ching, shinung@wustl.edu

2017 Workshop on Brain Dynamics and Neurocontrol Engineering, June 26-27, 2017
We are pleased to invite participants to the 2017 Workshop on Brain Dynamics and Neurocontrol Engineering at Washington University in St. Louis (St. Louis, MO, USA), to be held this summer (June 26-27).

** Travel awards are available for students, postdocs and junior faculty. **

Spurred by the development of both new technologies and new scientific initiatives, interest is coalescing around the use of dynamical systems and control theory to study the workings of the human brain. Neuroscience affords several research challenges and opportunities for the dynamics and control community, due to the immense complexity of the system at hand, the dynamics of which span many spatial and temporal scales. Understanding how these dynamics mediate brain function is a pivotal neuroscience question that
is well-aligned with methodological approaches innate to systems and control engineering. The goal of this workshop is to provide a focused forum for the discussion of research synergy between experts from the dynamics, control and neuroscience communities.

For full information, including speaker list, award and registration details, please visit: http://sites.wustl.edu/brain

6. Positions

6.1. PhD: Grenoble Institute of Technology & GIPSA-lab, France

Contributed by: Olivier Sename, olivier.sename@gipsa-lab.fr

PhD Position Grenoble Institute of Technology / GIPSA-lab (France)
Supervisors: Prof Olivier Sename and Mazen Alamir
Project title: Embedded modelling and control of vehicle dynamics: application to a small car pilot plant with ER dampers
DATE : June/July 2017 to June/July 2020
Description:
This thesis is part of the European project, EMPHYSIS (within the framework of ITEA3), whose European leader is Bosch, the French leader Siemens PL (see https://itea3.org/project/emphysis.html)
The major goal of the project is to enhance production code of embedded control systems in automotive vehicles in order to improve the performance of the underlying system: faster and safer operation, improved driving dynamics, driving automation, reduced energy consumption, reduced emission and reduced maintenance costs. Additionally, cost and time for the software development of these embedded systems shall be reduced. This is achieved by providing physics-based models in an automated way on electronic control units (ECU), micro controllers, or other embedded systems. The strategies developed by GIPSA-lab include the development of simplified modeling tools for vehicle dynamics (in various software contexts), synthesis of control laws and their integration into a real-time control system. In this framework, among many research works, we will consider robust/LPV and MPC approaches in order to account for non-linearities in the considered vehicle and subsystems models, for the adaptation of the vehicle behavior to critical situations and also for the road conditions.

The proposed study concerns more specifically the integration of physical modeling and synthesis of control law applied to automotive chassis. The proposed work plan is as follows:
• Study of existing Hinf control methods for Linear Parameter Varying Systems and Model Predictive Control (MPC), in particular applied to vehicles.
• Study of the existing models and of the "Automotive control" toolbox of GIPSA-lab. Study and training on LMS Imagine.Lab Amesim software for physical modeling of mechatronic systems.
• Development of control architectures for the chassis vertical dynamics (using semi-active suspensions), integrating physical models of the considered subsystems.
• Simulation validation on complete vehicle models and in real-time simulation HIL on DSPACE MicroAutoBox
• Experiments on the INOVE platform (www.gipsa-lab.fr/projet/inove/)

Candidates should have a strong background in mechanical engineering and/or control engineering with some experience in modelling physical systems.
6.2. PhD: University of Texas at Dallas, USA
Contributed by: Tyler Summers, tyler.summers@utdallas.edu

Multiple PhD positions in Control and Optimization in Cyber-Physical Networks

Description:
Several fully funded PhD positions for highly motivated students are available starting in Summer or Fall 2017 in the Control, Optimization, and Networks Laboratory (http://www.utdallas.edu/ tyler.summers) in the Departments of Mechanical and Electrical Engineering at the University of Texas at Dallas. The lab seeks to understand the rich interplay of dynamics, control, optimization, information, and uncertainty in large-scale networks. The research emphasizes theoretical analysis and computational tools and is strongly driven by various applications, including future power grids and distributed multi-robot systems.

Applications from underrepresented minorities are encouraged.

Required qualifications:
(1) B.S. in mechanical engineering, electrical engineering, computer science, applied mathematics, or a related field
(2) Strong background in systems and control theory, optimization, and mathematics, including relevant coursework and/or work experience
(3) Excellent communication skills
(4) Proficiency in at least one scientific programming language, such as MATLAB, Python, Julia, C/C++, etc.

Preferred qualifications:
(1) M.S. degree
(2) Publication(s) in reputable control, optimization, robotics, or power systems conferences or journals
(3) Hands-on experience with robotic systems is a plus for candidates interested in robotics applications

To express interest:
Please send the following documents to tyler.summers@utdallas.edu
(1) One page cover letter describing your research interests, background, and professional goals
(2) CV or resume

6.3. PhD: University of Luxembourg, Luxembourg
Contributed by: Jorge Goncalves, jorge.goncalves@uni.lu
Two PhD Positions are available in the SYSTEM CONTROL GROUP of the Luxembourg Centre for Systems Biomedicine, Luxembourg University, Luxembourg, in the framework of the Doctoral Training Unit CriTiCS on Critical Transitions in Complex Systems.

PhD position #1: Classification and detection of critical transitions
PhD position #2: Using cardiac data for predicting atrial fibrillation and heart attack

Supervisor: Prof. Jorge Goncalves.
Start Date: flexible during 2017.
Closing date for applications: open until filled.
Funding: full funding available for 4 years, with a highly competitive salary.

These positions are inserted in the framework of the Doctoral Training Unit CriTiCS which encompasses 11 PhD positions and confronts the topic of critical transitions in complex systems within a range of disciplines including the areas of clinical science, immunology, biology and finance. More information at: www.critics.uni.lu.

Candidate profile:
- Hold a Master in Control Systems, Theoretical Machine Learning or Mathematics.
- Strong mathematical background is a requirement, biological knowledge is not essential.
- We will only consider students that graduate in their top 20% undergraduate and Master’s class rank (equivalent to a UK first class degree).
- Excellent working knowledge of English.

To apply and for further information: www.critics.uni.lu.
Informal inquiries: Dr. Stefano Magni, info.critics@uni.lu.

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

6.4. PostDoc: Chalmers University of Technology, Sweden
Contributed by: Balazs Kulcsar, kulcsar@chalmers.se

Information about the division
The Department of Signals and Systems within the Chalmers University of Technology, Gothenburg, Sweden, consists of several divisions such as Systems and Control, Communication Systems, Signal Processing and Biomedical Engineering, and Antennas. This research knowledge is complemented by a new initiative from Chalmers, through the Transport Area of Advance aiming at promoting cross-fertilized transportation research and by the SAFER Vehicle and Traffic Safety Center focusing on safe and efficient transportation solutions.

Major responsibilities
We invite candidates to apply for a post-doctoral position in the research field of decentralized sensing and control algorithms for large-scale transportation networks. Our main goal is to develop real-time vehicle routing strategies for a mixed human- and self-driven vehicular network, with emphasis on post-accident scenarios in large-scale road networks. We will rely on an inter-disciplinary approach between traffic theory, communication technologies and accident risk management. The topics include the duality of theoretical and application-oriented research. Her/his research activity will be shared between the Automatic Control, the Communication Systems, and the Vehicle Safety Groups (SAFER) at Chalmers University of Technology.

More information, and instructions how to apply, can be found at http://www.chalmers.se/en/about-chalmers/vacancies/Pages/default.aspx?rmpage=job&rmjob=4664
6.5. PostDoc: Nanyang Technological University, Singapore
Contributed by: C.C. Cheah, ecccheah@ntu.edu.sg

The School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore invites applications for one postdoc research fellow position and one PhD student position in the following areas:
1) Wireless sensor networks
2) Human motion tracking
3) Optimal sensor placements

Applicants for the postdoc research fellow position should hold a Ph.D degree in relevant areas; have a track record of competitive research experience in terms of journal publications; have a good command of English and are able to communicate well. The starting salary is about S$4,000/month and may be adjusted depending on experience.

General information about the research scholarships for PhD candidates at Nanyang Technological University, can be found at:
http://www.hss.ntu.edu.sg/Programmes/graduate/Scholarships/Pages/NTURSS.aspx

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
School of Electrical & Electronic Engineering
Nanyang Technological University
50 Nanyang Avenue
Block S1
Singapore 639798
E-mail Address for E-mailed Applications: ECCCheah@ntu.edu.sg

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

6.6. PostDoc: Université Libre de Bruxelles, Belgium
Contributed by: Emanuele Garone, egarone@ulb.ac.be

POSITIONS AVAILABLE : 2 Post-doc positions
SUPERVISOR : Emanuele Garone
DURATION: 24 months
SALARY: approximately 2150 Euros/months after taxes

DESCRIPTION: This postdoc is in the framework on the MIS project "optimization-free constrained control of nonlinear systems". The ideal candidate should have a strong background in control and should master at least one of the following subjects
- nonlinear control;
- Model Predictive Control;
- Continuous Optimization Methods;
- Set invariance;
- Sum of Squares;

STARTING DATE: Between July 2017

REQUIREMENTS: The candidate must have obtained the title of PhD less than 5 years before the date of start of the post-doc contract. He must have spent or worked in Belgium less than 24 months in the last 36 months.

TO APPLY: Send an email to Prof. Emanuele Garone (egarone@ulb.ac.be) with you curriculum vitae in English, as well as contact information of two referees.

6.7. PostDoc: Shanghai Jiao Tong University, China

Contributed by: Bowen Yi, yibowen@ymail.com

Postdoctoral position in Shanghai Jiao Tong University, China

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

The Engineer Research Center of Marine Automation, Shanghai Municipal Education Commission (in the Department of Automation, Shanghai Jiao Tong University, China) offers 3 postdoc positions in control engineering as soon as possible thereafter. We are interested in candidates in the broad areas of control engineering, marine engineering, unmanned autonomous systems, etc.

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

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

Salary and others:
- RMB 120-200k/year (approximately, 18-30kUSD)
- Apartment with very cheap rent
- It is a 2 year position and can be extended to 5 years

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

For further information, please contact Prof. Dr. Weidong Zhang, Email: wdzhang@sjtu.edu.cn, tel: +86-21-34204019. Address: Dongchuan Road 800, Shanghai Jiao Tong University, Shanghai 200240, China.
6.8. **PostDoc: Washington University in St. Louis, USA**  
Contributed by: ShiNung Ching, shinung@wustl.edu

Postdoctoral Opening: Optimal Control of Neural Activity

Postdoctoral positions are available at Washington University in St. Louis in the area of control and optimization with applications in brain dynamics. This position is a part of an NIH BRAIN initiative-funded project on stimulation protocols for neuron-level control.

This project will involve the development and implementation of optimal control methods for the precise manipulation of neuronal activity at the level of neurons and networks thereof. Candidates should have a strong background in the general areas of systems theory, control engineering, machine learning and/or optimization. Prior experience in neuroscience is not needed, but a general interest/curiosity about brain dynamics is a plus!

This project will be jointly supervised by Profs. ShiNung Ching and Jr-Shin Li in the Department of Electrical and Systems Engineering at Washington University. Interested applicants should send a CV and brief description of interests and goals to (shinung@wustl.edu) and (jsli@wustl.edu). Applications will be evaluated as soon as they are received, until the positions are filled.

6.9. **PostDoc: University of Southampton, UK**  
Contributed by: Bing Chu, b.chu@soton.ac.uk

Research Fellow in Control Systems, University of Southampton, UK

Full Time Fixed Term - 2 years  
Closing Date: Tuesday 04 April 2017  
Reference: 843017FP  
[https://jobs.soton.ac.uk/Vacancy.aspx?ref=843017FP](https://jobs.soton.ac.uk/Vacancy.aspx?ref=843017FP)

We are looking for a highly-motivated post-doctoral researcher in the field of control systems. The post holder will work under the guidance of Dr Bing Chu and Dr Chris Freeman in undertaking research on the development and assessment of novel control approaches. Some experience in the area of iterative learning control, model predictive control, networked dynamical systems, distributed optimisation, or optimal control is desirable but not essential. Experience in experimental implementation of control algorithms is also desirable (e.g. in robotics, automation, power inverters, or rehabilitation systems).

The post is split between 80% research and 20% teaching activities. The latter is expected to comprise:
- Supervising projects at postgraduate student level in the area of control systems
- Supervising laboratory experiments in the area of control systems
- Giving a limited number of lectures in the area of control systems at postgraduate level

It is also expected that candidates can provide evidence of the following:
- An awarded PhD or equivalent qualification related to control systems (theory and/or implementation)
- The ability to work independently and a good team work attribute
- A willingness and ability to assist with the supervision of postgraduate students
- Excellent communication and organisational skills and proven track record in journal publications and conference presentations
The job provides an opportunity for you to develop your academic career and gain a wide range of research experience; you will be supported by an experienced research team who are international leaders in their fields.

Further enquiries about the position should be directed to Dr Bing Chu (tel: +44 (0) 23 8059 6653; email: b.chu@ecs.soton.ac.uk) or Dr Chris Freeman (tel: +44 (0) 23 8059 3486; email: cf@ecs.soton.ac.uk)

Application procedure: You should submit your completed online application form at www.jobs.soton.ac.uk. The application deadline will be midnight on the closing date stated above. If you need any assistance, please call Suzanne Stone (Recruitment Team) on +44 (0) 23 8059 4043.

6.10. PostDoc: University of Melbourne, Australia
Contributed by: Michael Cantoni, cantoni@unimelb.edu.au

Research Fellow Positions: University of Melbourne, Australia.

Two post-doctoral positions are available to work on systems and control theory research that is relevant to the automation of large-scale gravity-powered water distribution networks. The ideal candidate has a PhD in engineering or applied mathematics, and expertise in one or more of the following topics:

(i) Modelling, identification and feedback control of distributed-parameter systems;
(ii) Robust control with decentralized information;
(iii) Fault monitoring and performance analysis for large-scale systems;
(iv) Robust / stochastic MPC for constrained control in the presence of uncertainty;
(v) Structured and distributed computation for optimization; and/or
(vi) Hierarchical control and scheduling for dynamical systems.

Both positions are with the Department of Electrical and Electronic Engineering, for up to 24 months.

The closing date for applications is 10 March 2017.

For more details, including how to apply, search jobs.unimelb.edu.au for "systems and control" or "0042604". http://jobs.unimelb.edu.au/caw/en/job/889885/research-fellow-in-systems-and-control-2-positions-available

6.11. Faculty: Zhejiang University of Technology, China
Contributed by: Qiu Xiang, qiuxiang@zjut.edu.cn

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

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

Zhejiang University of Technology (ZJUT), sitting by the beautiful West Lake, Hangzhou, is a Zhejiang Province and the Ministry of Education co-supported, provincially governed key university, who owns one of the only 14 Collaborative Creation Centers in the first initiative of the state “2011 Program”. ZJUT has its beautiful campus covering more than 3000 mu, which accommodates 24 Colleges, more than 37,000 full-time students and more than 3,300 staffs. ZJUT is proudly to have 2 self-owned and 2 sharing Fellows of the Chinese Academy of Engineering, as well as more than 1400 faculties with senior professional titles. ZJUT has State Key Disciplines, State Engineering Research Centers, State University Science Parks, Centers for Postdocs, as well as the power of awarding Doctors, Masters, MBAs and recruiting foreign students and those from Hong Kong, Macao and Taiwan.
The Control Science and Engineering Discipline within the College of Information Engineering was one of the Priority-among-Priorities Disciplines (selected by Zhejiang Provincial Government in 2009), and is now one of the Zhejiang First-Class (Class A) Disciplines in the first initiative of the Program in 2015. The Discipline now has the Doctoral Program at the first-level discipline, the Center for Postdocs, and the Zhejiang Collaborated Key Laboratory of Embedded Systems. The College of Information Engineering where the Discipline is in has 5 undergraduate programs: Automation, Electrical Engineering and Its Automation, Electronic Information Engineering, Communication Engineering, and Electronic Science and Technology. The Discipline is now recruiting faculties in the following areas at the levels of State and Zhejiang Provincial “1000 Plan” high-level talents, Zhejiang “Qianjiang Scholars”, ZJUT “Yunhe Specially-Appointed Professors”, “ZJUT Professors”, outstanding PhDs and postdocs, etc.

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

A. Selection criteria

High-level talents (Changjiang Scholars, 1000 Plan Scholars, Qianjiang Scholars, etc.) You have major achievements and influence in your research area that have already been recognized by national and international researchers, or have great potentials of future development; You also meet the criteria of corresponding talents programs.

ZJUT Professors /Associate Professors You have a PhD degree obtained from a recognized university or research institutes with at least one year of oversea research experience in a well-known foreign institute; You have research achievements recognized by national and international researchers; Your application also passes the review process at the university level (ZJUT).

Outstanding PhDs/Postdocs You have a PhD degree obtained from a recognized university or research institute; You have high-quality research outputs and the professional skills required by a university lecturer, and great potentials of your future career.

B. Salary and welfare

2. National-Level Top Tier Talents: National “1000 Plan” Scholars (long-term), Changqiang Scholars, NSFC Distinguished Young Scholars, “Special Support Program” Outstanding Talents, winners (rank first) of three major national science awards, or other talents at the equivalent level. Salary (CNY):≥700K /Year; Housing Benefit(CNY):3M-5M; Startup Funds(CNY):Case by case.
3. National-Level Young Talents: “Special Support Program” Outstanding Young Talents, “1000 Plan” Young Scholars, “Changjiang Young Scholars, NSFC Outstanding Young Scholars, 973 Program Young Scholars, “Millions of Talents Program” Scholars, or other talents at the equivalent level. Salary (CNY):≥450K /Year; Housing Benefit(CNY):1.5M-2.5M; Startup Funds(CNY):1M-3M.
4. Provincial-and-Ministry-Level Talents,Yunhe Specially-Appointed Professors: CAS “100 Plan” Scholars, Zhejiang "Qianjiang Scholars", Zhejiang “1000 Plan” (long-term) Scholars, or other talents who have made significant academic contributions with great potentials of development and who are awarded “Yunhe Specially-Appointed Professors” after the review of ZJUT. Salary (CNY):≥350K /Year; Housing Bene-
(5) ZJUT Professors, ZJUT Associated Professors: You have a PhD degree obtained from a recognized university or research institutes with at least one year of oversea research experience in a well-known foreign institute; You have research achievements recognized by national and international colleges; Your application also passes the review process at the university level. Salary (CNY): Salaries at the appropriate levels; Housing Benefit (CNY): 0.4M-0.5M; Startup Funds (CNY): 0.1M-0.2M.

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

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

C. Required documents
(1) One self-recommendation letter covering your study and professional records, your teaching and research statements, your achievements, your work plan as well as your possible requirements from us.
(2) A list of your research funds, awards, and publications in the recent five years.

D. Contact us
Dr. Qiu,
Email: qiuxiang@zjut.edu.cn
Mobile: +86-13867469319
Address: Xiaoheshan College Park, College of Information Engineering, Zhejiang University of Technology, 310023
Zhejiang Control Science and Engineering First-Class (Class A) Discipline
Feb 02, 2017

6.12. Faculty: Washington University in St. Louis, USA
Contributed by: Hiro Mukai, facsearch@ese.wustl.edu

Tenured/Tenure-Track Faculty
Washington University in St. Louis
Electrical and Systems Engineering

The Preston M. Green Department of Electrical & Systems Engineering at Washington University in St. Louis invites applications for faculty positions at all levels, for fall 2017. The Electrical & Systems Engineering department enjoys a new building, Preston M. Green Hall, with state-of-the-art facilities. Candidates should be exceptionally strong, possess novel and creative visions of research, and commit gladly to teaching at both the undergraduate and graduate levels. They should have an earned doctorate in Electrical Engineering, Computer Science, Applied Physics, Systems Engineering, Mathematics, Statistics, Operations Research or related fields.

Technical areas of interest include, but are not limited to, applied physics, integrated circuits, nano devices, device packaging, imaging, signal processing, cyber-physical systems, control systems, operations research, optimization, applied mathematics, and applied statistics. Applications include biomedicine, robotics, financial engineering, and modeling of physical and complex systems. Successful candidates are expected to
conduct high-quality research and teaching, publish in peer-reviewed journals, and participate in department and university service.

Applications will be accepted immediately, and interviews will begin after January 1, 2017. The details of the application process and necessary documents are found at the following site:
http://ese.wustl.edu/aboutthedepartment/Pages/faculty-openings.aspx

Washington University in St. Louis is a medium-size private university, which is 19th in the national university ranking and 14th in the undergraduate teaching ranking, both according to the U.S. News & World Report.

Washington University in St. Louis is an Equal Opportunity and Affirmative Action employer, and invites applications from all qualified candidates. Employment eligibility verification required upon employment.

6.13. Control System Engineers: nuTonomy
Contributed by: Andrea Censi, censi@mit.edu

nuTonomy (self-driving cars) - Control Systems Engineers

nuTonomy is looking to expand its workforce, hiring dozens of people in all areas of robotics, and at all levels (from interns to management). nuTonomy has a presence in Cambridge, MA; Santa Monica, CA; Singapore; and Zurich. Today I would like to draw your attention to our positions open for Control System Engineer. Come help us make our ride safe and comfortable!

nuTonomy aims to be the first company in the world to launch an autonomous taxi system, and we are building up an awesome team to make this goal a reality. nuTonomy is developing the first-of-its-kind complete solution for providing point-to-point mobility via large fleets of autonomous vehicles. This includes software for autonomous vehicle navigation in urban environments, smartphone-based ride hailing, fleet routing and management, and controlling a vehicle remotely through teleoperation. The company’s software has been tested in the U.S., Singapore, and Europe.

We are seeking highly talented control system engineers to help ensure our vehicles are robust and perform at the highest levels. The ideal candidate will be a problem solver – someone who is able to track down and solve problem across an incredibly complex system of software and hardware.

Job Responsibilities
* Design and implement control systems for self-driving cars
* Debug problems arising from a complex interaction of hardware and software

Education and Experience
* PhD or MSc in Engineering or related field with focus on robotics / mechatronics
* 3+ years professional work experience at automotive company developing control systems for ADAS products or autonomous vehicle prototypes

Core Skills
* Expert in control system theory
* Familiarity with RTOS (real-time operating systems)
* Experience with real-time constraints, and hardware interfaces (e.g. Ethernet, UART, SPI, I2C)
* Good C/C++ development skills on Linux platforms
* Experience developing software as part of a team
* Experience with version control systems (e.g., Git)
* Desire to work in a fast-paced startup environment
6.14. Research Scientist: Rockwell Automation, USA

Contributed by: BIJAN SAYYARRODSARI, bsayyarrodsari@ra.rockwell.com

Research Scientist: Rockwell Automation, Strategic Development, USA

Rockwell Automation (http://www.rockwellautomation.com) has an open position for a research scientist within our corporate research group in Austin, TX. The successful candidate will join a dynamic research team to develop innovative solutions for a diverse range of applications. This position will put the candidate’s technical and creative skills to test. The specific activities will focus on the development of optimization algorithms and models for real-time analytics applications in the manufacturing and process industries.

Required Skills:
- Developed applications or algorithms, which required use of optimization theory.
- Developed applications or algorithms, which required use of complex modeling.
- Demonstrated experience to develop creative solutions for real world problems.
- Strong programming background, or demonstrated learning proficiency with programming languages. Specific languages of interest: Python, C/C++, nodejs.

Desired Skills:
- Experience in algorithmic development for optimization. Of special interest is the ability to analyze and enhance the robustness and computational efficiency of optimization algorithms for real-time applications.
- Experience in uncertainty modeling.
- Familiarity with statistical data analysis algorithms and concepts.
- Prior work with Big data is a plus.
- Familiarity with control theory.
- Ability to communicate effectively with people of diverse technical backgrounds and across technologies, disciplines and functions.

Education Requirements:
- Graduate degree (preferably Ph.D) in Engineering, Physics, or Computer Science specializing in one or more of the following: Optimization, Statistical Data Analysis, Learning Algorithms for Big data, Complex System Modeling, Control.

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

Please send your application (including a full CV) to Bijan Sayyar-Rodsari (bsayyarrodsari@ra.rockwell.com).