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Education

The Australian National University   *Canberra, Australia*

PhD in Engineering   *February 2007 - January 2011*

- Thesis Title: Coordination and Control of Autonomous Agent Formations

Shiraz University   *Shiraz, Iran*

BSc. Electrical and Electronics Engineering – Control Engineering   *September 2002 - September 2006*

Publications

Journal Papers

[J1] P Braun, G Giordano, CM Kellett, **I Shames**, L Zaccarian, "Optimizing shifted stabilizers with asymmetric input saturation", IEEE Transactions on Automatic Control, 2024

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[J18] AI Maass, C Manzie, D Nesic, JH Manton, **I Shames**, "Tracking and regret bounds for online zeroth-order Euclidean and Riemannian optimization", SIAM Journal on Optimization 32 (2), 445-469, 2022

[J19] D Selvaratnam, M Cantoni, J Davoren, **I Shames**, "Sampling Polynomial Trajectories for LTL Verification" Theoretical Computer Science, 897, 135-163, 2022.

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Book Chapters

[B1] Y Lin, F Farokhi, **I Shames**, D Nešić, "Secure networked control systems design using semi-homomorphic encryption", Safety, Security and Privacy for Cyber-Physical Systems, 257-285, 2021

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[B5] **I Shames**, B Fidan, B D O Anderson, and H Hmam, Position Location - Theory, Practice and Advances: A Handbook for Engineers and Academics, chapter 27, "Self-Localization of UAV Formations Using Bearing Measurements", John Wiley & Sons, 2011.

Conference Papers

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[C2] B Mafakheri, JH Manton, **I Shames**, "First order online optimisation using forward gradients in over-parameterised systems", 2024 European Control Conference (ECC), 2119–2124, 2024

[C3] AA Farzin, **I Shames**, "Minimisation of Polyak–Łojasewicz Functions Using Random Zeroth-Order Oracles", 2024 European Control Conference (ECC), 3207–3212, 2024

[C4] S Hyeon, **I Shames**, H Shim, "Multi-agent Target Position Estimation Using Bearing-only Measurements via Spatial Excitation", 2024 American Control Conference (ACC), 548-553

[C5] AX Wu, IR Petersen, V Ugrinovskii, I Shames, "A Generalized Accelerated Gradient Optimization Method", 2024 American Control Conference (ACC), 1904-1908, 2024.

[C6] B Mafakheri, JH Manton, **I Shames**, "A Decentralised Asynchronous Optimisation Algorithm with an Application to Phase Retrieval", 2024 IEEE 13rd Sensor Array and Multichannel Signal Processing Workshop (SAM)

[C7] O Biggar, I Shames, "The Attractor of the Replicator Dynamic in Zero-Sum Games", International Conference on Algorithmic Learning Theory, 161-17, 2024

[C8] E Flayac, **I Shames**, "Distributed Block Coordinate Moving Horizon Estimation for 2D Visual-Inertial-Odometry SLAM", 62nd IEEE Conference on Decision and Control (CDC), 2178-2183, 2024

[C9] Y Chen, TL Molloy, T Summers, **I Shames**, "Regret Analysis of Online LQR Control via Trajectory Prediction and Tracking", Learning for Dynamics and Control Conference, 248-258, 2023

[C10] F Farokhi, AS Leong, **I Shames**, M Zamani "A Computationally-Friendly Data-Driven Safety Filter for Control-Affine Discrete-Time Systems Subject to Unknown Process Noise", American Control Conference (ACC), 3951-3956, 2023

[C11] O Biggar, **I Shames**, "The replicator dynamic, chain components and the response graph", International Conference on Algorithmic Learning Theory, 237-258, 2023

[C12] D Selvaratnam, F Farokhi, **I Shames**, H Sandberg, "Manipulating the Posterior Support of a Discrete Bayesian Estimator Under Full Sensor Control", IFAC World Congress, IFAC-PapersOnLine 56 (2), 252-257, 2023

[C13] P Braun, **I Shames**, D Hubczenko, A Dostovalova, B Fraser ,"Capture the flag games: Observations from the 2022 Aquaticus competition", IFAC World Congress, IFAC-PapersOnLine 56 (2), 11363-11368, 2023

[C14] TL Molloy, **I Shames**, "Minimum-Time Escape from a Circular Region for a Dubins Car", NOLCOS, IFAC-PapersOnLine 56 (1), 43-48, 2023

[C15] T Summers, K Ganapathy, **I Shames**, MH de Badyn, "Self-Tuning Network Control Architectures", IEEE 61st Conference on Decision and Control (CDC), 5876-5881, 2022

[C16] S Hyeon, **I Shames**, H Shim, "Multi-agent Target Position Estimation Using Bearing-only Measurements via Spatial Excitation", 2024 American Control Conference (ACC), 548-553

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[C55] A Pavlov, M Müller, C Manzie, **I Shames**, "Complexity minimisation of suboptimal MPC without terminal constraints ", to appear in IFAC World Congress, Berlin, Germany, July 2020.

[C56] R Chin, S I Maass, N Ulapane, C Manzie, **I Shames**, D Nešić, J Rowe, H Nakada, "Active Learning for Linear Parameter-Varying System Identification", to appear in IFAC World Congress, Berlin, Germany, July 2020.

[C57] A I Maass, C Manzie, **I Shames**, R Chin, D Nešić, N Ulapane, H Nakada, "Tuning of model predictive engine controllers over transient drive cycles", to appear in IFAC World Congress, Berlin, Germany, July 2020.

[C58] Y Lin, **I Shames**, D Nešić, "Asynchronous Distributed Optimization via Dual Decomposition and Block Coordinate Ascent", in the Proc. of the IEEE Conference on Decision and Control (CDC), Nice, France, Dec. 2019.

[C59] M Khoo, T Wood, C Manzie, **I Shames**, "Distributed Algorithm for Solving the Bottleneck Assignment Problem", in the Proc. of the IEEE Conference on Decision and Control (CDC), Nice, France, Dec. 2019.

[C60] H Nasir, E Weyer, **I Shames**, M Cantoni, "Towards Redundant Constraint Removal in Scenario Approximation of Optimal Control Problems with Multiplicative Model Uncertainty", in the Proc. of the IEEE Conference on Decision and Control (CDC), Nice, France, Dec. 2019.

[C61] W Wang, R Postoyan, D Nešić, **I Shames**, W P M H Heemels, "State-Feedback Event-Holding Control for Nonlinear Systems", in the Proc. of the IEEE Conference on Decision and Control (CDC), Nice, France, Dec. 2019.

[C62] M Yuan, C Manzie, L Gan, M Good, **I Shames**, "Modelling and Contouring Error Bounded Control of a Biaxial Industrial Gantry Machine", in Proc. of The 3rd IEEE Conference on Control Technology and Applications (CCTA 2019), Hong Kong, 2019.

[C63] A Pavlov, **I Shames**, C Manzie, "Enhancing computational efficiency for a class of NMPC solvers", European Control Conference, Napoli, Italy, June 23 – 25, 2019.

[C64] E Michael, T Wood, C Manzie, **I Shames**, "Uncertainty Intervals for Robust Bottleneck Assignment", European Control Conference, Napoli, Italy, June 23 – 25, 2019.

[C65] Z Ju, **I Shames**, D Nešić, "Communication Connectivity in Multi-agent Systems with Multiple Uncooperative Agents", Asian Control Conference, Japan, June 09-11, 2019

[C66] M Yuan, C Manzie, M Good, **I Shames**, F Keynejad, T Robinette, "Bounded Error Tracking Control for Contouring Systems with End Effector Measurements", in the Proc. 20th IEEE International Conference on Industrial Technology (ICIT 2019), Melbourne, Australia, February 13-15, 2019.

[C67] F Farokhi, **I Shames**, "Bilateral Trade under Information Asymmetry and Quantized Measurements", in the Proc. of the IEEE Conference on Decision and Control (CDC), Fontainebleau, Miami Beach, FL, USA on Dec. 17-19, 2018.

[C68] Y Lin, F Farokhi, **I Shames**, D Nešić, "Secure Control of Nonlinear Systems Using Semi-Homomorphic Encryption", in the Proc. of the IEEE Conference on Decision and Control (CDC), Fontainebleau, Miami Beach, FL, USA on Dec. 17-19, 2018.

[C69] C Murguia, **I Shames**, F Farokhi, D Nešić, "On Privacy of Quantized Sensor Measurements through Additive Noise", in the Proc. of the IEEE Conference on Decision and Control (CDC), Fontainebleau, Miami Beach, FL, USA on Dec. 17-19, 2018.

[C70] D Selvaratnam, **I Shames**, J Manton, M Zamani, "Numerical Optimisation of Time-Varying Strongly Convex Functions Subject to Time-Varying Constraints", in the Proc. of the IEEE Conference on Decision and Control (CDC), Fontainebleau, Miami Beach, FL, USA on Dec. 17-19, 2018.

[C71] W Wang, D Nešić, **I Shames**, "Periodic event-triggered supervisory control of nonlinear systems: dwell-time switching logic", in the Proc. of the IEEE Conference on Decision and Control (CDC), Fontainebleau, Miami Beach, FL, USA on Dec. 17Nonlinear Dual control based on Fast Moving Horizon estimation and Model Predictive Control with an observability constraint E Flayac, G Nair, I Shames 2021 60th IEEE Conference on Decision and Control (CDC), 3030-3035 2021 Data-driven covert-attack strategies and countermeasures for cyber-physical systems M Taheri, K Khorasani, I Shames, N Meskin 2021 60th IEEE Conference on Decision and Control (CDC), 4170-4175-19, 2018.

[C72] A S Ira, **I Shames**, C Manzie, R Chin, D Nešić, H Nakada, T Sano, "A Machine Learning Approach for Tuning Model Predictive Controllers", in the Proc. of the 15th International Conference on Control, Automation, Robotics and Vision (ICARCV), Singapore, November 18 – 21, 2018.

[C73] A Lang, **I Shames**, M Cantoni, "Structure in Total Least Squares Parameter Estimation for Electrical Networks", in the Proc. of the 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems, The Netherlands, Aug, 2018

[C74] F Farokhi, **I Shames**, "Compressive Sensing in Fault Detection", in the Proc. of the American Control Conference, Milwaukee, WI, USA, June 2018

[C75] **I Shames**, A Dostovalova, J Kim, H Hmam, "Task Allocation and Motion Control for Threat-Seduction Decoys," in the Proc. of the 56th IEEE Conference on Decision and Control, Melbourne, Australia, Dec, 2017

[C76] D Selvaratnam, **I Shames**, D V Dimarogonas, J H Manton, B Ristić, "Co-operative Estimation for Source Localisation using Binary Sensors," in the Proc. of the 56th IEEE Conference on Decision and Control, Melbourne, Australia, Dec, 2017

[C77] F Farokhi, **I Shames**, K H Johansson, "Private and Secure Coordination of Match-Making for Heavy-Duty Vehicle Platooning," in the Proc. of the 20th IFAC World Congress, Toulouse, France, July 2017.

[C78] **I Shames**, F Farokhi, M Cantoni, "Guaranteed maximum power point tracking by scalar iterations with quadratic convergence rate ", in Proc. of the 55th IEEE Conference on Decision and Control, Las Vegas, USA, Dec, 2016.

[C79] F Farokhi, **I Shames**, "Preserving Privacy of Agents in Participatory-Sensing Schemes for Traffic Estimation ", in Proc. of the 55th IEEE Conference on Decision and Control, Las Vegas, USA, Dec, 2016.

[C80] Z Ju, **I Shames**, D Nešić, "Ensuring Communication Connectivity in Multi-agent Systems in the Presence of Uncooperative Clients ", in Proc.

of the 55th IEEE Conference on Decision and Control, Las Vegas, USA, Dec, 2016.

[C81] M Deghat, V Ugrinovskii, **I Shames**, C Langbort, "Detection of Biasing Attacks on Distributed Estimation Networks", in Proc. of the 55th IEEE Conference on Decision and Control, Las Vegas, USA, Dec, 2016.

[C82] M Cantoni, F Farokhi, E Kerrigan, **I Shames**, "A Scalable QP Solver for Optimal Control of Cascades with Constraints", in Proceedings of the Australian Control Conference (AUCC 2016), Newcastle, Australia, November 3-4, 2016.

[C83] F Farokhi, M Cantoni, and **I Shames**, "A Game-Theoretic Approach to Scheduling Rigid Demands on Dynamical Systems", in Proceedings of the Australian Control Conference (AUCC 2016), Newcastle, Australia, November 3-4, 2016.

[C84] F Farokhi, **I Shames**, N Batterham, "Secure and Private Cloud-Based Control Using Semi-Homomorphic Encryption", in Proc. of the 6th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys'16), Tokyo, Japan, Sept 2016.

[C85] T H Summers, **I Shames**, "Convex relaxations and Gramian rank constraints for sensor and actuator selection", in Proc. of the International Symposium on Intelligent Control (ISIC), Buenos Aires, Argentina, Sept 2016.

[C86] D D Selvaratnam, **I Shames**, B Ristic, J Manton, "The Effect of Sensor Modality on Posterior Cramer-Rao Bounds for Simultaneous Localisation and Mapping" to appear in the Proc. of the 9th IFAC Symposium on Intelligent Autonomous Vehicles, Messe Leipzig, Germany, June-July, 2016.

[C87] Y Zhu, **I Shames**, C Manzie, "Stability Analysis for Distributed Perimeter Controlled Traffic Networks" to appear in the American Control Conference, Boston MA, July, 2016.

[C88] **I Shames**, T H Summers, F Farokhi, R C Shekhar, "Conditions and Strategies for Uniqueness of the Solutions to Cooperative Localization and Mapping Problems Using Rigidity Theory," In Proc. of the 54th IEEE Conference on Decision and Control (CDC 2015), Osaka, Japan, Dec., 2015.

[C89] F Farokhi, M Cantoni, "Scheduling Rigid Demands on Continuous-Time Linear Shift-Invariant Systems," In Proc. of the 54th IEEE Conference on Decision and Control (CDC 2015), Osaka, Japan, Dec., 2015.

[C90] F Farokhi, H Sandberg, **I Shames**, M. Cantoni, "Quadratic Gaussian Privacy Game," In Proc. of the 54th IEEE Conference on Decision and Control (CDC 2015), Osaka, Japan, Dec., 2015.

[C91] R C Shekhar, M Kearney, **I Shames**, C Manzie, "Trajectory Planning and Execution Using Robust Funnels", In Proc. of the Australian Control Conference, Gold Coast, Australia, Nov., 2015

[C92] T H Summers, **I Shames**, J Lygeros, F Dorfler. "Topology design for optimal network coherence", In Proc. of the European Control Conference', 2015.

[C93] A Neshastehriz, M Cantoni, **I Shames**, "A Computationally Advantageous Reparameterisation Of A Robust Model Predictive Control Scheme", In Proc. of Australian Control Conference, Canberra, Australia, November 2014.

[C94] M Zamani, **I Shames**, V Ugrinovskii, "Minimum-Energy Distributed Consensus of Uncertain Agents", in Proc. of the IEEE Conference on Decision and Control, Los Angeles, USA, 2014.

[C95] **I Shames**, T H Summers, M Cantoni, "Manipulating Factions Evolved in Signed Networks", in Proc. of the 21st International Symposium on Mathematical Theory of Networks and Systems (MTNS), Groningen, the Netherlands, July 2014.

[C96] **I Shames**, M Cantoni, "Constrained Linear Quadratic Control in Networks with Limited Model-Information Sharing", in Proc. of the 21st International Symposium on Mathematical Theory of Networks and Systems (MTNS), Groningen, the Netherlands, July 2014.

[C97] C Briat, A Gupta, **I Shames**, M H Khammash, "Scalable Tests for Ergodicity Analysis of Large-scale Interconnected Stochastic Reaction Networks", in Proc. of the 21st International Symposium on Mathematical Theory of Networks and Systems (MTNS), Groningen, the Netherlands, July 2014.

[C98] **I Shames**, T H Summers, "Network Design Via Modular Functions Optimization in Localization Problems", in Proc. of the 8th IEEE Sensor Array And Multichannel Signal Processing Workshop (SAM14), A Cruna, Spain, 2014.

[C99] A Neshastehriz, M Cantoni, **I Shames**, "Water-level reference planning for automated irrigation channels via robust MPC", in Proc. of the European Control Conference, Strasbourg, France, June 2014.

[C100] A M H Teixeira, E Ghadimi, **I Shames**, H Sandberg, M Johansson, "Optimal scaling of the ADMM algorithm for distributed quadratic programming", In Proc. of IEEE Conference on Decision and Control (CDC'13), Florence, Italy, December 2013.

[C101] A Neshastehriz, **I Shames**, M Cantoni, "Model predictive control for a class of systems with uncertainty in scheduled load", In Proc. of Australian Control Conference, pp 301-306, Perth, Australia, November 2013.

[C102] **I Shames**, M Cantoni, "Structured Computation of Constrained Quadratic Optimal Controls for Heterogeneous Networks", In Proc. IFAC Workshop on Estimation and Control of Networked Systems NecSys, pp. 43-48, Germany, September 2013.

[C103] **I Shames**, M Cantoni, "On Computing Quadratic Controls for Acyclic Networks of Heterogeneous Systems", In Proc. of the European Control Conference, pp. 3306-3311, Zurich, Switzerland, July 2013.

[C104] T Alpcan, **I Shames**, M Cantoni, G Nair, "Learning and Information for Dual Control", In Proc. of the Asian Control Conference, pp. 1-6, Istanbul, Turkey, June 2013.

[C105] T H Summers, **I Shames**, "Active Influence in Dynamical Models of Structural Balance in Social Networks", Workshop for Information and Decisions in Social Networks (WIDS 2012), Cambridge, MA, November 2012.

[C106] J Weimer, A Ahmadi, J Araujo, F Mele, D Papale, **I Shames**, H Sandberg, K H Johansson, "Active Actuator Fault Detection and Diagnostics in HVAC Systems", Fourth ACM Workshop On Embedded Sensing Systems For Energy-Eciency In Buildings 2012, Toronto, Canada, November 2012.

[C107] **I Shames**, T Charalambous, C Hadjicostis, M Johansson, "Distributed Network Size Estimation and Average Degree Estimation and Control in Networks Isomorphic to Directed Graphs", In Proc. 50th Annual Allerton Conference on Communication, Control, and Computing, pp. 1885-1892, 2012.

[C108] A Teixeira, **I Shames**, H Sandberg, K H Johansson, "Revealing Stealthy Attacks in Control Systems", In Proc. of 50th Annual Allerton Conference on Communication, Control, and Computing, pp. 1806-1813, 2012.

[C109] S A Ahmadi, **I Shames**, F Scotton, L Huang, H Sandberg, K H Johansson, B. Wahlberg, "Towards More Efficient Building Energy Management Systems", In Proc. 7th International Conference on Knowledge, Information and Creativity Support Systems Melbourne, Australia, November 8 - 10, 2012.

[C110] E Ghadimi, A M H Teixeira, **I Shames** and M Johansson, "On the Optimal Step-size Selection for the Alternating Direction Method of Multipliers", In Proc. IFAC Workshop on Estimation and Control of Networked Systems, pp. 139-144, Santa Barbara, CA, USA, September, 2012.

[C111] **I Shames**, B Fidan, B D O Anderson, "Reduction of Self-localization Errors in Multi-Agent Autonomous Formations", in Proc. 17th World Congress of Int. Federation of Automatic Control (IFAC'08), pp. 6578-6583, Seoul, Korea, July 2008.

[C112] **I Shames**, B Fidan, B D O Anderson, H Hmam, "Self-localization of Mobile Agents in the Plane", in IEEE Int. Symposium on Wireless Pervasive Computing, pp. 116-120, Santorini, Greece, May 2008.

[C113] **I Shames**, C Yu, B Fidan, B D O Anderson, "Externally Excited Coordination of Autonomous Formations", in Proc. 15th Mediterranean Conference on Control and Automation, Athens, Greece, June 2007.

[C114] C Yu, B Fidan, **I Shames**, S Sandeep, B D O Anderson, "Collision Free Coordination of Autonomous Multiagent System", in Proc. European Control Conference, pp. 900-907, Kos, Greece, July 2007.

[C115] **I Shames**, N Najmaei, M Zamani, A A Safavi, "A New Intelligent Traffic Shaper for High Speed Networks", 18th IEEE International Conference on Tools for Artificial Intelligence, Arlington, VA, USA, 2006

[C116] B Moghtaderi, **I Shames** and L Djenidi "Application of Micro-PIV Technique in Examining the Mixing Behaviour in a Novel Micro-reactor", Fourth Australian Conference on Laser Diagnostics in Fluid Mechanics and Combustion, The University of Adelaide, South Australia, Australia, 2005.

Grants, Honors & Awards

2024	**Outstanding Paper Award for The Attractor of the Replicator Dynamic in Zero-Sum Games**, The 35th International Conference on Algorithmic Learning Theory	*ALT24*
2024 – 2027	**Solution Concepts and Performance Guarantees in Partial Information Multi-Player Games**, AFOSR-AOARD	*AFOSR-AOARD*
2019 – 2024	**NEURO-AUTONOMY: PERCEPTION, NAVIGATION AND SPATIAL AWARENESS FOR AUTONOMOUS ROBOTS (AUSMURI - Australia) US Defense Multidisciplinary University Research Initiative Program)**, DEPARTMENT OF INDUSTRY, INNOVATION AND SCIENCE	*AUSMURI*
2022 – 2024	**Risk Aware Motion Planning**, Defence Science & Technology Group	*CADR-RAS*
2022 – 2024	**Adversity - and Adversary - Robust Adaptive Positioning Systems with Integrity**, The Centre for Advanced Defence Research in Robotics and Autonomous Systems (CADR-RAS)	*CADR-RAS*
2021 – 2024	**Design of Real-time Optimisation Methods with Guaranteed Performance (DP210102454)**, Australian Research Council	*ARC*
2023	**National Electricity Grid Security and Resilience Facility (LE230100058)**, Australian Research Council	*ARC*
2021 – 2023	**Hierarchical Verification of Autonomy Architectures (MyIP10266)**, Defence Science & Technology Group	*DSTG*
2020 – 2022	**Development and demonstration of technologies for a trusted autonomous vehicle capable of understanding its environment, adapting to it and acting in it**, Trusted Autonomous Systems Defence CRC	*D-CRC*
2019	**School of EMI Emerging Leader Award**, University of Melbourne, School of Electrical, Mechanical, and Infrastructure Engineering	*UniMelb, EMI*
2020 – 2022	**Co-design and dynamic mission optimisation of hypersonic flight vehicles**, Australian Research Council and BAE Systems	*ARC - BAES*
2019 – 2020	**Verifiable Hierarchical Sensing, Planning and Control**, AFOSR – Defence Science & Technology Group	*AFOSR-DSTG*
2019 - 2021	**Trusted Scalable Effect Delivery by Expendable, Autonomous Swarms**, Trusted Autonomous Systems Defence CRC	*D-CRC*
2019 – 2021	**Protection/resilient control of cyber-physical systems against malicious attacks (G5479-MYP)**, NATO Science for Peace and Security (SPS) Programme	*NATO*
2018 – 2020	**Motion Planning and Task Allocation of Multiple Decoys for Ship Protection (Postdoc and PhD scholarships)**, Defence Science & Technology Group	*DSTG*
2017 – 2019	**Modeling, analysis and design of secure networked control systems (DP170104099)**, Australian Research Council	*ARC*
2017 – 2018	**Development of solution methods for coordinating multiple EW decoys for protection of naval task group against multiple threat missiles – with focus on motion planning and task allocation**, Defence Science & Technology Group	*DSTG*
2017 – 2018	**Tactical security and health in multi-modal sensor control and management**, Defence Science & Technology Group	*DSTG*
2016 – 2019	**Automatic control systems for low-energy pipelines in irrigation networks (LP160100666)**, Australian Research Council	*ARC*
2016 – 2019	**Practical model-based control for low emission and low cost diesel engines (LP160100650)**, Australian Research Council	*ARC*
2016 – 2017	**Tactical security and health management across intra-vehicle and inter-vehicle systems**, Defence Science & Technology Group	*DSTG*

2015 – 2016	**Demonstration of simultaneous localisation and mapping (SLAM) with compact sensors**, Defence Science & Technology Group	*DSTG*
2016	**Control engineering for high school students and teachers: an online platform development (IEEE-CSS Outreach Task Force), ,** Institute of Electrical and Electronic Engineers (IEEE)	*IEEE*
2013 – 2016	**Ensuring security and resilience in critical cyber-physical systems**, McKenzie Fellowship, University of Melbourne	*UoM*
2013	**Early Career Researcher Grant**, University of Melbourne	*UoM*
2011 – 2012	**ACCESS Linnaeus Postdoctoral Fellowship**, KTH Royal Institute of Technology	*KTH*
2010	**Selected as one of the 3 PhD Students from ANU to attend UniLead Leadership Program**, The Australian National University	*ANU*
2010	**International Alliance of Research Universities Travel Grant and Selected as 2 of PhD Students from ANU to Attend ANU-KU UniGo exchange program**, The Australian National University	*ANU*
2008, 2010	**Vice-Chancellor Travel Grant**, The Australian National University	*ANU*
2008	**International Alliance of Research Universities Travel Grant**, The Australian National University	*ANU*
2008	**ICE-EM/AMSI Financial Aid**, ICE-EM/AMSI	*AMSI*
2008	**Endeavor International Post-Graduate Research Scholarship (EIPRS)**, Endeavour Programme	*EIPRS*
2003 – 2005	**Vice Chancellor's Commendation for Academic Performance and Achievement**, Shiraz University	*ShirazU*

Teaching Experience

School of Engineering, ANU   *Canberra, Australia*
Lecturer and Convenor   *2021 – present*

Advanced Topics in Robotics and Autonomous Systems	*Winter/Spring 2024*
Power Electronics and Power Systems, ENGN4625/6625	*Winter/Spring 2024, Winter/Spring 2023, Winter/Spring 2022, Winter/Spring 2021*
System Dynamics, ENGN3331	*Summer/Autumn 2022*

Department of Electrical and Electronic Engineering, University of Melbourne   *Melbourne, Australia*
Lecturer and Subject Coordinator   *2014 – 2021*

Secure Cyber-physical Systems, ELEN90080	*Summer/Autumn 2017*
Power Electronics, ELEN90075	*Winter/Spring 2015 – 2018*
Introduction to Optimisation, ELEN90026	*Winter/Spring 2013, 2014, 2016 – 2019*
Embedded Systems Design, ELEN90066	*Summer/Autumn 2020*

School of Electrical Engineering, KTH Royal Institute of Technology   *Stockholm, Sweden*
Co-Lecturer, Graduate Course on Networked and Multi-Agent Control Systems, EL3330   *2011*

College of Engineering and Computer Science, The Australian National University   *Canberra, Australia*
Teaching Assistant   *2014 – present*

Engineering System Analysis	*2008 – 2010*
Control Systems	*2009*
Digital Signal Processing and Control	*2007*

Employment

Academic

The Australian National University   *Canberra, Australia*
                                                                                                            January 2021 – present

Professor of Mechatronics	*January 2021 – present*

University of Melbourne *Melbourne, Australia*
August 2012 – January 2021

Associate Professor and Control and Signal Processing Group Leader *January 2020 – January 2021*
Senior Lecturer (Assistant Professor) *October 2014 – December 2019*
McKenzie Fellow *January 2013 – January 2016*
Research Fellow *August 2012 – January 2013*

KTH Royal Institute of Technology *Stockholm, Sweden*
POSTDOCTORAL RESEARCHER AT ACCESS LINNAEUS CENTRE *February 2011 – August 2012*

NON-ACADEMIC

Burgmann College, The Australian National University *Canberra, Australia*
ASSISTANT NETWORK ADMINISTRATOR *2008- 2009*

Foolade Shiraz Ltd. *Shiraz, Iran*
NETWORKING CONSULTANT *2004 – 2005*

Pourab Co. *Shiraz, Iran*
NETWORKING CONSULTANT *2004 – 2005*

Professional Activities and Service

UNIVERSITY SERVICE ROLES

January 2024 – present	**Member**, College of Engineering, Computing, and Cybernetics Local Promotion Committee	*CECC, ANU*
January 2021 – present	**Discipline Lead**, Mechatronics Discipline– Responsible for the Mechatronics Major teaching program; *ex officio* member of the School of Engineering executive committee; *ex officio* member of the School of Engineering Curriculum Development Committee	*ANU*
May 2023 – present	**Member**, School of Engineering Diversity, Belonging, Inclusion, and Equity Working Group	*CECC, ANU*
January 2021 – present	**Director**, CIIACADA Lab– Responsible for coordinating research activities across control, information, intelligence, communications, automation, decision, and autonomy areas	*ANU*
January 2022 – December 2023	**College of Engineering, Computing and Cybernetics Representative and Member**, University Research Committee	*ANU*
2018 – 2021	**Leader**, Control and Signal Processing Group	*Department of Electrical and Electronics Engineering, University of Melbourne*

SERVICES TO THE DISCIPLINE AND RESEARCH COMMUNITY

January 2024 – present	**College of Experts Member**, Australian Research Council	
January 2020 – present	**Editorial Board Member**, Automatica	
July 2019 – present	**Editorial Board Member**, IEEE Transactions on Control of Networked Systems	
November 2018 – 2022	**Editorial Board Member**, Control Engineering Practice	
December 2026	**International Program Committee (IPC) Member**, Conference on Decision and Control CDC2026	*Hawaii, USA*

July 2026	**International Program Committee (IPC) Member**, IFAC World Congress 2026	*Busan, Republic of Korea*
July 2024	**International Program Committee (IPC) Member and Editor-at-Large**, European Control Conference ECC'24	*Stockholm, Sweden*
April 2024	**Co-Organiser**, Workshop on Decision and Control	*Canberra, Australia*
December 2023	**International Program Committee (IPC) Member and Editor-at-Large**, Conference on Decision and Control CDC23	*Singapore*
July 2022	**International Program Committee (IPC) Member**, 1st IFAC Conference on Networked Systems Necsys'22	*Zurich, Switzerland*
August 2018	**Technical Program Committee Member**, 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys'18)	*Groningen, The Netherlands*
November 2016	**Technical Program Committee Member**, 13th International Symposium on Distributed Autonomous Robotic Systems (DARS 2016)	*London, UK*
September 2016	**Technical Program Committee Member**, 6th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys'16)	*Tokyo, Japan*
December 2016	**Co-chair and organiser of the invited session "Privacy in Complex Systems"**, 54th IEEE Conference on Decision and Control (CDC 2015)	*Osaka, Japan*
November 2013	**Technical Program Committee Member**, Australian Control Conference, November 2013	*Perth, Australia*
November 2013	**Technical Program Committee Member**, 5th ACM Workshop On Embedded Systems For Energy-Efficiency In Buildings	*Rome, Italy*
August 2013	**Technical Program Committee Member**, 1st IEEE International Conference on Cyber-Physical Systems, Networks, and Applications	*Taipei, Taiwan*
September 2011	**Co-chair and organiser of the invited session "New trends in networked systems: estimation, control, and security"**, IFAC World Congress	*Milan, Italy*
January 2010	**Co-chair and organiser**, Symposium on Advances in Optimization for Distributed Control, Information Fusion and Sensor Network Applications and the Program Committee Member of The Sixth International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)	*Brisbane, Australia*

Invited Talks

May 2023	**Group for Research in Decision Analysis**, GERAD	*Montreal, Canada*
June 2019	**Department of Electrical Engineering**, Imperial College	*London, UK*
April 2019	**Department of Electical Engineering**, Concordia	*Montreal, Canada*
April 2019	**Department of Electrical and Electronic Engineering**, University of Toronto	*Toronto, Canada*
April 2018	**Department of Aerospace Engineering**, TECHNION	*Haifa, Israel*
April 2018, June 2014, September 2009, March 2010	**Department of Automatic Control**, KTH – Royal Institute of Technology,	*Stockholm, Sweden*
May 2017	**Department of Electrical and Electronic Engineering**, University of Toronto	*Toronto, Canada*
June 2015, September 2016	**School of Mechanical and Mining Engineering**, University of Queensland	*Brisbane, Australia*
July 2012	**Automatic Control Lab**, ETH	*Zürich, Switzerland*
February 2012	**Department of Electrical and Electronic Engineering**, University of Melbourne	*Melbourne, Australia*
January 2012	**School of Electrical Engineering and Computer Science**, The University of Newcastle	*Newcastle, Australia*
October 2011	**Gipsa-lab, Systémes et Commandes en Réseaux, Département Automatique**, University of Grenoble	*Grenoble, France*
September 2011	**Delft Center for Systems and Control**, Delft University of Technology	*Delft, The Netherlands*
September 2011	**Institute of Automatic Control Engineering (LSR)**, Technische Universitet München	*Münich, Germany*
July 2011	**Department of Signals and Systems**, Chalmers Institute of Technology	*Götteborg, Sweden*
June 2008	**Department of Information and Physical Sciences**, University of Tokyo	*Tokyo Japan*

Referees

Available upon request.