

Ali Karami-Mollae
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Academic Degree:

- Ph.D Control Engineering, 2010
Ferdowsi University of Mashhad, Mashhad, Iran
Thesis Title: “Chattering Reduction in Sliding Mode Control”
- M.Sc Control Engineering, 2005
Tarbiat Modares University, Tehran, Iran
Thesis Title: “A Novel Approach in Sliding Mode Control without Chattering and its Application in Congestion Control of MPLS Networks”
- B.Sc Electronic Engineering, 2002
Ferdowsi University of Mashhad, Mashhad, Iran
Thesis Title: “Designing High Speed Modem Using Single-Rate Delta Modulation”

Affiliations:

- Associate Professor, Hakim Sabzevari University, 2021 (to be continue).
- Assistant Professor, Hakim Sabzevari University, 2016-2020.
- Assistant Professor: Shahrood University of Technology, 2010-2015.

Courses Taught:

- Postgraduate: Digital Control, Advanced Mathematical of Engineering, Hybrid Systems, Control of Multi-Variable Systems, Seminar (Research Methods), Power Electronic (Converters and Inverters), Power System Dynamics.
- Undergraduate: Signals and Systems, Logical Circuits, Circuit I and II, Electronic I, II and III, Industrial Electronic, Power Electronic, Industrial Control, Mathematical of Engineering, Linear Control, Linear Algebra, Modern Control, Basic of Electrical Engineering I and II, Switching Power Supply, Numerical Calculation, and their corresponding Labs.

Skills:

Matlab Programming, Object Oriented Programming (OOP) in C++, ActiveX Programming in Matlab and C++, Microsoft Office.

Journal Papers:

31. **Ali Karami-Mollae** and Oscar Barambones, Pitch Control of Wind Turbine Blades Using Fractional Particle Swarm Optimization, MDPI, Axioms, Vol. 12, No. 1, pp. 1-16, 2023.
30. **Ali Karami-Mollae** and Oscar Barambones, Sliding observer in sliding mode control of multi-inputs fractional-order chaotic systems, Pramana-Journal of Physics, Vol. 96, No. 4, pp. 1-17, 2022.
29. **Ali Karami-Mollae** and Oscar Barambones, Dynamic Sliding Mode Control of DC-DC Converter to Extract the Maximum Power of Photovoltaic System Using Dual Sliding Observer, MDPI, Electronics, Vol. 11, No. 19, pp. 1-14, 2022.
28. Davood Zabihzadeh, Amar Tuama, **Ali Karami-Mollae** and Seyed Jalaleddin Mousavirad, Low-rank robust online distance/similarity learning based on the rescaled hinge loss, Applied Intelligence (Dordrecht, Netherlands), Apr 20, 1-24, 2022.
27. **Ali Karami-Mollae**, Ali Asghar Shojaei, Oscar Barambones and Mohd Fauzi Othman, Dynamic sliding mode control of pitch blade wind turbine using sliding mode observer, Transactions of the Institute of Measurement and Control, Jun 1:01423312221099304, 2022.
26. **Ali Karami-Mollae**, A new structure of sliding mode observer in dynamic sliding mode control of generator torque wind turbine, Springer, Journal of Mechanical Science and Technology, Vol. 35, No. 12, pp. 5681-5687, 2021.
25. **Ali Karami-Mollae** and Ali Reza Khakshoor-Robat, Design of Sliding Mode Controller for Voice Coil Motor Using Nonlinear Observer, Journal of Modeling in Engineering, Vol. 19, No. 66, 2021.
24. O. Barambones, J. A. Cortajarena, I. Calvo, J. M. Gonzalez de Durana, P. Alkorta and **A. Karami-Mollae**, Real Time Observer and Control Scheme for a Wind Turbine System based on a High Order Sliding Modes, Elsevier, Journal of Franklin Institute, Vol. 358, No. 11, pp. 5795-5819, 2021.
23. **A. Karami-Mollae**, H. Tirandaz and O. Barambones, Neural Dynamic Sliding Mode Control of Nonlinear Systems with both Matched and Mismatched Uncertainties, Elsevier, Journal of Franklin Institute, Vol. 356, No. 8, pp. 4577-4600, 2019.
22. **A. Karami-Mollae**, H. Tirandaz and O. Barambones, State Tracking Control of Nonlinear Systems Using Neural Adaptive Dynamic Sliding Mode, SAGE, Transactions of the Institute of Measurement and Control, Vol. 41, No. 11, pp. 3033-3042, 2019.
21. O. Barambones, J. A. Cortajarena, I. Calvo, J. M. G. de Durana, P. Alkorta and **A. Karami-Mollae**, Variable Speed Wind Turbine Control Scheme Using a Robust Wind Torque Estimation, Elsevier, Renewable Energy, Vol. 133, pp. 354-366, 2019.
20. **A. Karami-Mollae** and H. Tirandaz, Dynamic Sliding Mode Position Control of Induction Motors Based Load Torque Compensation Using Adaptive State Observer, Emerald, Compel: The International Journal for Computation and Mathematics in Electrical and Electronic Engineering, Vol. 37, No. 6, pp. 2249-2262, 2018.

19. H. Tirandaz and **A. Karami-Mollaei**, On Active Synchronization of Fractional-Order Bloch Chaotic System and its Practical Application in Secure Image Transmission, Emerald, International Journal of Intelligent Computing and Cybernetics, Vol. 11, No. 2, pp. 181-196, 2018.
18. H. Tirandaz and **A. Karami-Mollaei**, On Synchronization of a Class of Complex Chaotic Systems with Complex Unknown Parameters via Integral Sliding Mode Control, Springer Pramana, Vol. 90, No. 6, pp. 76-82, 2018.
17. **A. Karami-Mollaei**, H. Tirandaz, Estimation of Load Torque in Induction Motors via Dynamic Sliding Mode Control and a New Nonlinear State Observer, Springer, Journal of Mechanical Science and Technology, Vol. 32, No. 5, pp. 2283-2288, 2018.
16. **A. Karami-Mollaei** and H. Shانهchi, Dynamic Sliding Mode Control of Nonlinear Systems Using Neural Networks, Amirkabir International Journal of Modeling, Identification, Simulation and Control, Vol. 50, No. 1, pp. 51-60, 2018.
15. **A. Karami-Mollaei**, H. Tirandaz and O. Barambones, On Dynamic Sliding Mode Control of Nonlinear Fractional-Order Systems Using Sliding Observer, Springer, Nonlinear Dynamics, Vol. 92, No. 3, pp. 1379-1393, 2018.
14. H. Tirandaz and **A. Karami-Mollaei**, Combination Synchronization of Multiple Chaotic Systems with Uncertain Parameters Using Adaptive Hybrid Modified Projective Control Method, Acta Physica Polonica B, Vol. 49, No. 1, pp. 59-71, 2018.
13. **A. Karami-Mollaei** and H. Tirandaz, Adaptive Fuzzy Fault Tolerant Control Using Dynamic Sliding Mode, Springer, International Journal of Control, Automation and Systems, Vol. 16, No. 1, pp. 360-367, 2018.
12. H. Tirandaz and **A. Karami-Mollaei**, Master-Slave Synchronization of ZHANG and LORENZ Chaotic Systems with uncertain Parameters, an Active Nonlinear Feedback Controller, International Journal of Innovative Computing, Information and Control, ICIC Express Letters, Part B: Applications, Vol. 9, No. 1, pp. 11-16, 2018.
11. H. Tirandaz and **A. Karami-Mollaei**, Modified Function Projective Feedback Control for Time-Delay Chaotic Liu System Synchronization and its Application to Secure Image Transmission, Elsevier, Optik, Vol. 147, pp. 187-196, 2017.
10. **A. Karami-Mollaei**, Estimation of Load Torque in Induction Motors Using Dynamic Sliding Mode Control Based Adaptive Fuzzy Observer, Journal of Intelligent Systems in Electrical Engineering, Vol. 7, No. 4, pp. 47-56, 2017.
9. **A. Karami-Mollaei**, E. Rajabi, Dynamic Sliding Mode Control Design for Nonlinear Systems Using Sliding Mode Observer, Tabriz Journal of Electrical Engineering, Vol. 47, No. 1, pp. 239-248, 2017.
8. **A. Karami-Mollaei**, Adaptive Fuzzy Dynamic Sliding Mode Control of Nonlinear Systems, International Journal of Engineering (IJE), Vol. 29, No. 8, 2016.
7. **A. Karami-Mollaei**, Design of Dynamic Sliding Mode Controller for Active Suspension System, Journal of Modares Mechanical Engineering, Vol. 16, No. 2, 2016.
6. **A. Karami-Mollaei**, Adaptive Fuzzy Pole Placement for Stabilization of Nonlinear Systems, Journal of AI and Data Mining, Vol. 4, No. 2, pp. 169-176, 2016.
5. **A. Karami-Mollaei**, Design of Dynamic Sliding Mode Controller in the Presence of both Matched and

- Mismatched Uncertainty without Chattering for Nonlinear Second Order Systems, *Journal of Control*, Vol. 9, No. 1, Spring 2015.
4. **A. Karami-Mollaei**, Design of Dynamic Sliding Mode Control for Estimation of Load Torque in Induction Motors, *Journal of Nonlinear Systems in Electrical Engineering*, Vol. 2, No. 2, pp. 88-99, 2014.
 3. **A. Karami-Mollaei**, N. Pariz and H. Shanechi, Position Control of Servomotors Using Neural Dynamic Sliding Mode, *IEEE/ASME: Journal of Dynamic Systems, Measurement and Control*, Vol. 133, November 2011.
 2. **A. Karami-Mollaei**, N. Pariz and H. Shanechi, Higher Order Sliding Mode Control of Nonlinear Systems with Adaptive Switching Gain, *Journal of Control*, Vol. 3, No. 4, pp. 11-25, Winter 2010.
 1. **A. Karami-Mollaei** and M. R. Karami-Mollaei, A New Approach for Instantaneous Pole Placement and its Application in Control of Nonlinear Time-Varying Systems, *Elsevier, System and Control Letters (SCL)*, Pages 385-395, Vol. 55, Issue 5, May 2006.

English Conference Papers:

15. H. N. Ghalibaf, **A. Karami-Mollaei** and A. A. Shojaei, Input-Output Signal Selection in Hybrid Wind-Diesel Systems and Supplementary Controller Design for Improve Power System Stability, 5th International Conference on Electrical Engineering and Computer with Emphasis on Native Knowledge, Iran, Feb 8-9, 2018.
14. H. N. Ghalibaf, A. A. Shojaei and **A. Karami-Mollaei**, Modeling and Simulation of Photovoltaic Systems based on Three Port Inverter Topology, 5th International Conference on Electrical Engineering and Computer with Emphasis on Native Knowledge, Iran, Feb 8-9, 2018.
13. S. S. Hamidi, M. Mohammadi and **A. Karami-Mollaei**, Identification and Specialized Control of a DC/DC Boost Converter Using Neural Network, National Conference of Technology, Energy & Data on Electrical & Computer Engineering, Kermanshah, Iran, May 30-31, 2015.
12. S. V. Ghooshkhaane'ie, M. A Sadrnia and **A. Karami-Mollaei**, Optimal Control Design for a Four-Gear Automobile: A Hybrid System Approach, 2nd International Conference on Electrical and Electronics Engineering (ICEEE), Ankara, Turkey, April 28-29, 2015, Accepted as a Best Paper.
11. **A. Karami-Mollaei**, Identification of Load Torque in Induction Motors Based on Dynamic Sliding Mode, 28th International Power System Conference (PSC), Tehran, Iran, November 4-6, 2013, Accepted as a Best Paper.
10. P. Ansari-Bonab, **A. Karami-Mollaei** and M. A Sadrnia, Adaptive Fuzzy Dynamic Sliding Mode Control Based LTR Observer for Fault Reconstruction, 13th Iranian Conference on Fuzzy Systems (IFSC), Zanjan, Iran.
9. **A. Karami-Mollaei**, Sliding Mode Control of Switch Reluctance Motor without Chattering, 21th Iranian Conference on Electrical Engineering (ICEE), Ferdowsi University of Mashhad, Mashhad, Iran, 2013.
8. **A. Karami-Mollaei**, Position Control of Induction Servomotors: Higher Order Sliding Mode Control with Adaptive Switching Gain, 4th Conference on Information and Knowledge Technology (IKT), Babol University of Technology, Babol, Iran, 2012.
7. **A. Karami-Mollaei**, N. Pariz and H. Shanechi, Variable Speed Control of Wind Turbine via Sliding Mode Control, International Conference on Control, Instrumentation and Automation (ICCIA), Tarbiyat

Modarres University, Tehran, Iran, 2010.

6. **A. Karami-Mollaei**, N. Pariz and H. Shanechi, A New Approach to Sliding Mode Control of Nonlinear Non-Affine Systems, 16th Iranian Conference on Electrical Engineering (ICEE), Tarbiyat Modarres University, Tehran, Iran, 2008.
5. **A. Karami-Mollaei** and V. Johari-Majd, A New Approach to Sliding Mode Control of Nonlinear Non-Affine Systems without Chattering, 14th Iranian Conference on Electrical Engineering (ICEE), Amirkabir University, Tehran, Iran, 2006.
4. **A. Karami-Mollaei** and V. Johari-Majd, A New Approach to Boundary Layer Design in Sliding Mode Control without Chattering, 13th Iranian Conference on Electrical Engineering (ICEE), Zanjan University, Zanjan, Iran, 2005.
3. **A. Karami-Mollaei**, H. Gholipour-Khatir and V. Johari-Majd, Robust State Tracking of Nonlinear Systems on Sliding Surface Using Neural Network, Asian Control Conference (ASCC), Australia, 2004.
2. **A. Karami-Mollaei** and M. R. Karami-Mollaei, A New Approach for Instantaneous Pole Placement and its Application in Control of Nonlinear Time-Varying Systems, World Automation Conference (WAC), Seville, Spain, 2004.
1. M. R. Karami-Mollaei and **A. Karami-Mollaei**, A mathematical model for vocal tracts, World Automation Conference (WAC), Seville, Spain, 2004.

References:

1. Oscar Barambones, Automatic Control and System Engineering Department, University of the Basque Country, UPV/EHU, Vitoria, Spain. E-mail: oscar.barambones@ehu.es
2. Hasan Shanechi, Senior Member of IEEE, Electrical and Computer Engineering Department, Illinois Institute of Technology, Chicago, USA. E-mail: shanechi@iit.edu
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