Reihaneh Kardehi Moghaddam, Ph.D.

OVERVIEW

Dr. Reihaneh Kardehi Moghaddam is an associate professor of Azad University electrical and computer engineering department. Her favourite field of research is optimization of extracted power from renewable energy sources, nonlinear fractional order sliding mode controllers and intelligent optimization methods. So far, she has supervised 4 doctoral dissertations and more than 45 master's dissertations in the mentioned research fields. She is the Author of more than 70 articles which have been cited more than 100 times so far.

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Evidence of special talents

- Top researcher of engineering faculty (Mashhad Azad University-2013)
- Top researcher of engineering faculty (Mashhad Azad University-2016)
- Top student among graduated MSc. control engineering students (Ferdowsi University-2001)
- Achieving the national rank of 281(national university entrance exam, mathematics and physics field-1997)
- Graduated from Iran's elite students high school (1997)

Education and Qualifications

PhD in Control Engineering (2005- 2010) Ferdowsi University, Mashhad, Iran
  Thesis Title: Estimation and directional extention of attraction domain using Markove models
  Supervisor: Professor Hassan Modir Shanechi;
           Professor Naser Pariz

MSc in Control Engineering (2001- 2004) Ferdowsi University, Mashhad, Iran
  Thesis Title: optimization of tumor hyperthermia treatment
  Supervisor: Professor Naser Pariz

BSc in Biomedical Enhineering(1997-2001) Amirkabir University,Tehran, Iran
  Thesis Title: Making a wireless cardiac arrhythmia diagnosis device
  Supervisor: Professor Yazdchi

Publications (sorted by year)

Citations: 90   52 journal papers, more than 20 conference papers

- ### Journal publications

no	Article title	Cited by	year
1	Low power time-domain rail-to-rail comparator with a new delay element for ADC applications R Sanati, F Khatib, MJ Sarraf, RK Moghaddam Elsevier, Integration 77, 89-95		2021
2	Disturbance observer-based fractional-order nonlinear sliding mode control for a class of fractional-order systems with matched and mismatched disturbances A Razzaghian, RK Moghaddam, N Pariz International Journal of Dynamics and Control, 1-8		2020
3	Adaptive neural network conformable fractional-order nonsingular terminal sliding mode control for a class of second-order nonlinear systems A Razzaghian, R Kardehi Moghaddam, N Pariz IETE Journal of Research, 1-10	1	2020
4	An Optimal Interval Type-2 Fuzzy Logic Controller for Maximum Power Capture of Point Absorbers M Jalali, RK Moghaddam IETE Journal of Research, 1-10	1	2020
5	Regulating the Output Voltage of Buck-Boost Converters Using General Type2 Fuzzy Controller HR Ghorbani, R Kardehi Moghaddam, SE Razavi Signal Processing and Renewable Energy 4 (2), 37-51	1	2020
6	Fractional-order nonsingular terminal sliding mode control via a disturbance observer for a class of nonlinear systems with mismatched disturbances A Razzaghian, R Kardehi Moghaddam, N Pariz Journal of Vibration and Control, 1077546320925263	2	2020
7	A Safety-Certified Policy Iteration Algorithm for Control of Constrained Nonlinear Systems NM Yazdani, RK Moghaddam, B Kiumarsi, H Modares IEEE Control Systems Letters 4 (3), 686-691		2020
8	Improving firefly-based multi-objective optimization based on attraction law and crowding distance RK Moghaddam Statistics, Optimization & Information Computing 8 (1), 229-241		2020
9	Optimization of Kalagh Ashian's Photovoltaic Water Pump System Using a New Proposed Multi-objective Firefly Algorithm F Shayeteh, RK Moghaddam Journal of Control, Automation and Electrical Systems, 1-17		2020
10	A comparative analysis of artificial intelligence-based methods for fault diagnosis of mechanical systems RK Moghaddam, NM Yazdan Mechanics and Mechanical Engineering 23 (1), 113-124		2019
11	Competitive Learning: A New Meta-Heuristic Optimization Algorithm A Afroughinia, R Kardehi Moghaddam International Journal on Artificial Intelligence Tools 27 (08), 1850035	1	2018
12	Maximizing the Absorbed Power of A Point Absorber Using An FA-Based Optimized Model Predictive Control N Rahimi, RK Moghaddam China Ocean Engineering 32 (6), 696-705	1	2018
13	Parameter Identification of Hyperchaotic Chen-Lee System Using Firefly		2018

	Algorithm F Shayeteh, RK Moghaddam Journal of Soft Computing and Applications 2018 (1), 1-12		
14	Power maximization of a point absorber wave energy converter using improved model predictive control F Milani, RK Moghaddam China Ocean Engineering 31 (4), 510-516	2	2017
15	Design of an Approximate Dynamic Programming based neural controller for Smart Home Energy Management SR Dasht-e-Bayaz, RK Moghaddam, R Asgharian		2017
16	Control the tumour growth via sliding mode control AP Shahri, S Haghighatnia, RK Moghaddam, HR Kobravi International Journal of Medical Engineering and Informatics 9 (2), 101-109	1	2017
17	Adaptive fuzzy sliding mode control for a model-scaled unmanned helicopter A Razzaghian, RK Moghaddam Journal of Fuzzy Set Valued Analysis 2016 (3), 286-302	16	2016
18	Tuning of PID controller based on Quantum Ant Colony Optimization A Afroughinia, A Hezarkalateh, MR KARDEHI		2016
19	Synchronization in oscillator networks with time delay and limited non-homogeneous coupling strength M Tousi, RK Moghaddam, N Pariz Nonlinear Dynamics 82 (1-2), 1-8	8	2015
20	Control of cancer growth using two input autonomous fuzzy nanoparticles F Razmi, RK Moghaddam, A Rowhanimanesh Nano 10 (04), 1550062	2	2015
21	Cancer sliding mode control considering to chaotic manners of system P Baghernia, RK Moghaddam, H Kobravi Journal of Medical Imaging and Health Informatics 5 (3), 448-457	4	2015
22	Stabilizing Controller Design for a Special Class of PWA Systems using Discontinuous Piecewise Quadratic Lyapunov Functions H Sajjadi, RK Moghaddam, N Eghbal International Journal of Computer Applications 113 (8)		2015
23	Control of cancer growth using single input autonomous fuzzy Nano-particles F Razmi, RK Moghaddam, A Rowhanimanesh Journal of Fuzzy Set Valued Analysis 1 (2015), 86-96		2015
24	Identification of tumor-immune system via recurrent neural network A Pourhashemi, S Haghighatnia, RK Moghaddam Health and Technology 4 (1), 27-30	1	2014
25	Time Minimization in Cancer Chemotherapy Treatment P Baghernia, RK Moghaddam Advanced Science Focus 2 (1), 20-25		2014
26	A new frequency control approach for isolated WT/FC/UC power system using improved fuzzy PSO & maximum power point tracking of the WT system E Ganji, RK Moghaddam, A Toloui, M Taghizadeh Journal Of Intelligent & Fuzzy Systems 27 (4), 1963-1976	3	2014
27	A new controlling approach of type 1 diabetics based on interval type-2 fuzzy controller N Mollaei, RK Moghaddam Journal of Fuzzy Set Valued Analysis 2014, 1-14	1	2014
28	DESIGN OF A CONTROLLER FOR A CLASS OF PWA SYSTEMS USING A PIECEWISE CONTINUOUS QUADRATIC LYAPUNOV FUNCTION H SAJADI1a, RK MOQADAM, N EQBAL Indian J. Sci. Res 2 (1), 180-186		2014
29	A New Frequency Control Method for Isolated Networks with New Maximum Power Point Tracker in Wind Turbine System E Ganji, RK Moghaddam, M Zarif		2014
30	A new control method for leveling output frequency fluctuations in an autonomous PV/FC/UC network with maximum power point tracking of the photovoltaic system	1	2014

	E Ganji, RK Moghaddam, A Toloui, M Taghizadeh Journal of Intelligent & Fuzzy Systems 27 (4), 1949-1962		
31	Optimal control and design of PMBLDC motor using NSGA-II multi-objective algorithms R Saravani, RK Moghaddam Int. J. Sci. Basic Appl. Res 14 (2), 643	2	2014
32	PARAMETER ESTIMATION FOR TIME-DELAY CHAOTIC SYSTEM BY IMPROVED FUZZY PARTICLE SWARM OPTIMIZATION SM ALAMALHODAEE, RK MOGHADAM, M YAGHOBI Indian J. Sci. Res 2 (1), 63-68		2014
33	A Tumor Growth Model with Unmolded Dynamics Based on an Online Feedback Neural Network Model S Haghighatnia, N Mollaei, RK Moghaddam, HR Kobravi Research Journal of Applied Sciences, Engineering and Technology 7 (1), 169-173		2014
34	Speed control of optimal designed PMBLDC motor using improved fuzzy particle swarm optimization R Saravani, RK Moghaddam Journal of Soft Computing and Applications 2014, 1-12	1	2014
35	Development of a novel approach for electricity forecasting MK Moghaddam, PA Bahri IAENG Transactions on Engineering Technologies, 635-649	1	2014
36	Estimating the robust domain of attraction and directional enlargement of attraction domain via Markov models RK Moghaddam, N Pariz, HM Shanechi, AV Kamyad Optimal control applications and Methods 35 (1), 21-40	1	2014
37	Improvement of Left Ventricular Assist Device (LVAD) in Artificial Heart Using Particle Swarm Optimization M Neshat Yazdi, R Kardehi Moghaddam Journal of Artificial Intelligence in Electrical Engineering 1 (4), 9-15	1	2013
38	Enlarging the guaranteed region of attraction in nonlinear systems with bounded parametric uncertainty S Haghighatnia, RK Moghaddam Journal of Zhejiang University SCIENCE C 14 (3), 214-221	4	2013
39	IMPROVING CLINICAL CONDITIONS BY ENLARGING TUMOR DORMANT STATE BASED ON DESIGN EQUILIBRIUM STATE BY LYAPUNOV STABILITY THEOREM S HAGHIGHATNIA, RK MOGHADDAM, A POURHASHEMI RESEARCH JOURNAL OF APPLIED SCIENCES, ENGINEERING AND TECHNOLOGY 6 (15 …		2013
40	Permanent Magnet Brushless DC Motor optimal design and determination of optimum PID controller parameters for the purpose of speed control by using the TLBO optimization algorithm N Azizi, RK Moghaddam American Journal of Research Communication 1 (1), 294-313	7	2013
41	A Novel PSOGSA_SQP Algorithm for Solving Optimal Power Flow (OPF) Problem Based on Specific Switching Condition MS Rad, RK Moghaddam American Journal of Research Communication, Rad, et al 1 (11)	1	2013
42	Designing a linear controller for enlarging the robust domain of attraction S Haghighatnia, RK Moghaddam Proceedings of the World Congress on Engineering and Computer Science 1	3	2012
43	Novel Definition of Cost Function for Camera Calibration using Vanishing Point Theorem R Zamani, S Tousizadeh, RK Moghaddam Journal of Academic and Applied Studies 2 (6), 1-10		2012
44	A new approach for estimation and directional enlargement of bounded domain of attraction RK Moghaddam, N Pariz, HM Shanechi, AV Kamyad Int. J. Innov. Comput., Inf. Control 8 (3), 1931-1942	1	2012

45	LECTURE NOTES IN ENGINEERING AND COMPUTER SCIENCE S Haghighatnia, RK Moghaddam, V Khryashchev, A Priorov, L Shmaglit, ...		2012
46	Estimating Upper and Lower Bound of Domain of Attraction via Markov Models S Haghighatnia, RK Moghaddam Proceedings of the World Congress on Engineering and Computer Science 2		2012
47	Using Directional Enlargement of Domain of Attraction to Increase Critical Clearing Time of Nonlinear Systems MR KARDEHI, N Pariz, SH MODIR, KALI VAHIDIAN Journal of Control 4 (2), 1-10		2010
48	A NEW APROACH FOR CONTROLLING THERMAL DOSE IN HYPERTHERMIA TREATMENT RK Moghaddam, NP MS, AV Kamyad Kidney 577 (3500), 66		2004
49	Hesam Sajjadi Reyhaneh Kardehi Moghaddam N Eghbal Trans. Circuits Syst. I: Fund. Theory Appl. Vol 39 (8), 697-699		1992
50	IDENTIFICATION OF DIABETES SYSTEM VIA NEURAL NETWORK MODEL N MOLLAEI, R MOGHADDAM, M YAGHOOBI		
51	Multi Objective Optimization of Toyota Hybrid System Using Nondominated Sorting Ga HA Kakhki, RK Moghaddam		
52	An optimal TS fuzzy sliding mode controller with PID sliding surface for tracking the robot manipulator based on Genetic algorithm A Razzaghian, M Branch, RK Moghaddam		

- ## Conference papers:

no	Article title	Cited by	year
1	Chaos Suppression for a Class of Uncertain Chaotic Systems Using Fractional-Order Robust Control Razzaghian, RK Moghaddam, Pariz 7th National Congress of New Findings of Iranian Electrical Engineering		2020
2	Multi Objective Optimization of Toyota Hybrid System Using Nondominated Sorting Ga Ahmadi, RK Moghaddam Seventh Major Electrical Engineering Conference		2018
3	Optimal Tuning of PI Controller Coefficients using Black Hole Algorithm for Power Control of DFIG-based Wind Turbines Faeze Poorarab ،Reihaneh Kardehi Moghaddam ،Mohammad Naser Hashemnia 4th International Congress on Technology, Communication and Knowledge		2017
4	Robust Adaptive Neural Network Control of Miniature Unmanned Helicopter A Razzaghian, RK Moghaddam Electrical Engineering (ICEE), Iranian Conference on, 801-805	**12**	2017
5	Optimal control of HIV stochastic model through genetic algorithm F Saeedizadeh, RK Moghaddam 2017 7th International Conference on Computer and Knowledge Engineering ...	2	2017
6	Maximizing the wave energy extraction using adaptive optimization method S Khaleghi, RK Moghaddam 2015 International Congress on Technology, Communication and Knowledge ...		2015
7	Fuzzy sliding mode control of 5 DOF upper-limb exoskeleton robot A Razzaghian, RK Moghaddam	5	2015

	2015 International Congress on Technology, Communication and Knowledge …		
8	Parameter optimization of WEC electrical model to increase the absorbed power F Milani, RK Moghaddam 2015 International Congress on Technology, Communication and Knowledge …		2015
9	Parameters optimization to maximize the wave energy extraction S Khaleghi, RK Moghaddam 2015 International Congress on Technology, Communication and Knowledge …	1	2015
10	Wave energy converters control using improved MPC F Milani, RK Moghaddam 2015 International Congress on Technology, Communication and Knowledge …	1	2015
11	Uncertain parameters estimation of time-delayed chaotic systems with initial random noises using adaptive PSO M Rabbani, RK Moghaddam 2015 International Congress on Technology, Communication and Knowledge …		2015
12	Using PSO to optimize the mathematical model of li-ion battery HA Kakhki, RK Moghaddam 2015 International Congress on Technology, Communication and Knowledge …		2015
13	Particle swarm optimization of economic dispatch problem: A brief review transfer E Faghihnia, S Khaleghi, RK Moghaddam, M Zarif 2015 12th International Conference on Informatics in Control, Automation and …	2	2015
14	Using PSO to optimize the mathematical model of li-ion Battery Ahmadi, Rk Moghaddam Second International Congress on Technology, IEEE indexed, Communication and Knowledge (ICTCK 2015) November, 11-12		2015
15	Uncertain parameters estimation of time-delayed chaotic systems with initial random noises using adaptive PSO Rabbani, RKMoghaddam IEEE indexed, Second International Congress on Technology, Communication and Knowledge (ICTCK 2015) November,11-12,		2015
16	Particle Swarm Optimization of Economic Dispatch Problem A BriefReview Transfer, 2015, FRANCE		2015
17	Estimating the robust domain of attraction with bounded uncertainties via Markov model Haghighatnia, RK Moghaddam Proceedings of the World Congress on Engineering and Computer Science 2012 Vol II , WCECS 2012, October 24-26, 2012, San Francisco, USA		2012
18	Designing a Linear Controller for Enlarging the Robust Domain of Attraction Haghighatnia, RK Moghaddam Proceedings of the World Congress on Engineering and Computer Science 2012 Vol I , WCECS 2012, October 24-26, 2012, San Francisco, US		2012
19	Feeback controller design for chemotherapy drog scheduling via PSO optimization algorithm Baghernia, RK Moghaddam Proceedings of the World Congress on Engineering and Computer		2012

20	Science 2012 Vol I , WCECS 2012, October 24-26, 2012, San Francisco, USA		
20	Estimating upper and lower bound of domain of attraction via Markov model Haghighatnia, RKMohhaddam Proceedings of the World Congress on Engineering and Computer Science 2012 Vol II , WCECS 2012, October 24-26, 2012, San Francisco, USA		2012

Academic Experiences

- Assistant Professor, Azad University of Mashhad, Department of Electrical Engineering, 2010 to 2015.
- Associate Professor: Azad University of Mashhad, Department of Electrical Engineering, September 2015 to present.

Executive-Academic Experiences

- Head of Electrical Engineering department, Azad University, Mashhad, Iran (2015-2017)
- General director of Azad university Libraries (2017-2020)
- Head of postgraduate education organization, Azad University(2020 - present)

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Teaching Experience

Undergraduate Teaching
- Automatic Control Systems
- Electrical circuits
- Digital circuits
- Engineering mathematics

Graduate Teaching
- Optimal Control
- Nonlinear control
- Neural networks
- Intelligent optimization
- Soft computing

Software Skills

- Python Professional Programmer
- MATLAB Professional Programmer
- LATEX

Honors and Awards

- Top researcher of engineering faculty (Mashhad Azad University-2013)
- Top researcher of engineering faculty (Mashhad Azad University-2016)
- Top student among graduated Msc. control engineering students (Ferdowsi University-2001)
- Achieving the national rank of 281(national university entrance exam, mathematics and physics field-1997)
- Graduated from Iran's elite students high school (1997)

Research Interests

- **Optimization**
  - Eenergy production optimization in sea wave energy converters
- **Nonlinear control**
  - Improved fractional order sliding mode controllers
- **Artificial intelligence**
  - Heuristic optimization methods
  - Neural networks