

Asma Al-Tamimi

Mechatronics Engineering department
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Experience

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| 2011-2012 | Hashimite university | Zarqa, Jordan |
| Department Chair, Mechatronic Engineering Department | | |
| 2007–present | Hashimite university | Zarqa, Jordan |
| Assistant Professor, Mechatronic Engineering Department | | |
| <ul style="list-style-type: none">▪ Teaching different courses in the Mechatronics engineering department. Control system, Electrical machine, and Microprocessor, Microcomputer and interfacing.▪ Do research in the control area, such as developing algorithm to solve the optimal control problem, and use Neural network in these algorithm | | |
| 2004-2007 | Dep. Of Electrical Engineering
The university of Texas at Arlington | Arlington. TX |
| Teaching Assistant | | |
| <ul style="list-style-type: none">▪ Teaching assistant for Microprocessor class▪ Teaching assistance for Microcontroller and advance Microcontroller class | | |
| 2005-2007 | Dep. Of electrical engineering
The university of Texas at Arlington | Arlington. TX |
| Research Assistant | | |
| <ul style="list-style-type: none">▪ Developed Approximate Dynamic Programming algorithms to design of discrete-time and continuous-time H₂ and H-infinity controllers resulting in a set of adaptive optimal neural network controllers.▪ Developed solution algorithms to Hamilton-Jacobi equations arising in optimizing saturated input nonlinear dynamics. | | |
| 1999-2002 | Al-Ghanem Trading
and contracting Co, Ltd | Amman, Jordan |
| Technical service engineer | | |
| <ul style="list-style-type: none">▪ Worked as a support engineer in the maintenance department for SDMO industrial generators. | | |

- Matching manufacturers' technical specifications with customer inquiries and tender.
- Providing financial advice by performing feasibility analysis to reduce power generation cost.

1998 Jordan Petroleum Refinery Zarqa, Jordan

Assistant Engineer (co-op in conjunction with Bachelors program)

- Documenting the various power measurement and control instrumentations.
- Hands-On training during the yearly maintenance period which happens to be in summer. This allowed better understanding of the various components of their electrical control system.
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Education

Ph.D in Electrical Engineering

2007 The university of Texas at Arlington Arlington, TX

- Dissertation Title: "discrete-time control algorithms and Adaptive Intelligent Systems designs"

Master of Science in Electrical Engineering

2003 The university of Texas at Arlington Arlington, TX

Bachelor of Science in Electro Engineering

1999 Al-Balqa Applied University Amman, Jordan

Publication

Book Chapter:

- Al-Tamimi, M. Abu-Khalaf, F. L. Lewis, "Model-free adaptive dynamic programming algorithms for H-infinity control of complex linear systems," [*Modeling and Control of Complex Systems*](#), CRC Press in the Control Engineering Series, December 2007.
- A. Al-Tamimi, M. Abu-Khalaf, F. L. Lewis, "Heuristic Dynamic Programming Nonlinear Optimal Controller," [*Machine Learning*](#), edited by Abdelhamid Mellouk and Abdennacer Chebira, January 2009.

Book:

A. Al-Tamimi, M. Abu-Khalaf, F. L. Lewis, [*Discrete-time Control Algorithms and Adaptive Intelligent Systems Designs*](#), VDM Verlag Dr. Müller Verlag, July 2010

Journal Paper:

- Al-Tamimi, M. Abu-Khalaf, F. L. Lewis, "Adaptive Critic Designs for Discrete-Time Zero-Sum Games with Application to H-Infinity Control," [*IEEE Transactions on Systems, Man, Cybernetics-Part B*](#), November 2006
- Al-Tamimi, M. Abu-Khalaf, F. L. Lewis, "Model-Free Q-Learning

Designs for Discrete-Time Zero-Sum Games with Application to H-Infinity Control," *Automatica*, Volume 43, Issue 3, Pages 473-481, March 2007.

- Al-Tamimi, F. L. Lewis, M. Abu-Khalaf, "Discrete-time nonlinear HJB solution using Approximate dynamic programming: Convergence Proof," *IEEE Transactions on Systems, Man, Cybernetics-Part B*, Volume 38, Issue 4, pages 943 – 949, Aug 2008. Issn 2168-2216
- Asma Al Tamimi, Optimal Controller Design Algorithm For Non-Affine in Input Discrete-Time Nonlinear System, *JJMIE*, Volume 6. No 2, April 2012.
- Asma Al-Tamimi, Ahmad Al-Jarrah, and Mohammad Salah, "Intelligent control techniques for electrical actuated automotive cooling systems," *Control and Intelligent Systems*, vol. 42, no. 2, pp. 1-11, 2014
- Al-Zu'be, L. , Al-Tamimi, A. , Al-Momani, T. , Alkarala, A. , Alzawahreh, M. (2012). 'Modeling and Simulating Human Arm Movement Using a 2 Dimensional 3 Segments Coupled Pendulum System'. *World Academy of Science, Engineering and Technology, International Science Index* 71, vol. 6. No(11), pp 1329 – 1334.
- Bashar K. Hammad¹, Rami H. Fouad, Moh'd Sami Ashhab, Salem D. Nijmeh³, Mousa Mohsen, Asma Tamimi, Adaptive control of solar tracking system, *IET Science, Measurement and Technology*, DOI: [10.1049/iet-smt.2013.0293](https://doi.org/10.1049/iet-smt.2013.0293) , 2014.
- Ahmad Al-Jarrah, Asma' Al-Tamimi and Mohammad Salah, Application of Various Control Schemes on Hydraulic Actuated Automotive Cooling Systems, *International Journal on Intelligent Decision Technologies*, accepted for publication 2014.
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Conference Paper:

- Al Tamimi, A., Salah, M., and Al-Jarrah PhD, A., "Neural Network-based Optimal Control for Advanced Vehicular Thermal Management Systems," *SAE Technical Paper* 2011-01-2184, 2011, doi:10.4271/2011-01-2184
- A. Al-Jarrah, M. Salah, and A. Al-Tamimi, "Fuzzy Logic Control Design for Advanced Vehicle Thermal Management System," in *Proceedings of the 13th IASTED International Conference on Control and Applications*, Vancouver, BC, Canada, 2011, pp. 200-204.
- F. Lewis, M. Abu-Khalaf , A. Al-Tamimi, D. Vrabie, 2006 NSF Workshop on Approximate Dynamic Programming, April 2nd-April , Cocoyoc, Mexico
- Murad Abu-Khalaf, Frank L .Lewis, Asma Al-tamimi, Draguan Vrabie"Model-Free Adaptive Dynamic Programming for Unknown Systems," *Proceeding of ICCE*, pp 105-114, Xiamen, China, 2006.
- Al-tamimi, F. L. Lewis," Discrete-time nonlinear HJB solution using Approximate dynamic programming: Convergence Proof," *ADPRL*, 2007
- Al-Tamimi, F. L. Lewis, M. Abu-Khalaf "Model-Free Q-Learning

Designs for Discrete-Time Zero-Sum Games with Application to H-Infinity Control," ECC,July,2007.

- Asma Al-Tamimi, Draguna Vrabié, Murad Abu-Khalaf and Frank L. Lewis," Model-free Approximate Dynamic Programming Schemes for Linear Systems," Accepted, IJCNN2007 conference.
- Asma Al-Tamimi, Frank L. Lewis, Y. Wang, "Model-Free H-Infinity Load-Frequency Controller Design for Power Systems," IEEE Multi-conference on Systems and Control, 2007.

Additional Professional activity

Reviewer for JOURALS:

- TNN
- IEEE SMC_B

Reviewer for different conferences

- CDC Conference on decision and control
- ACC American Control Conference
- ECC European control conference
- MSC Multi system conference

Languages

- Arabic (native)
- English (Fluent)

Professional memberships

- 1999 – present, Member of Jordan Engineer Association.
- 2004-present , IEEE member

Software skills

- Environments: Windows.
- Electronics design: Cadence, Pspice,
- Mathematics: Matlab and Simulink, Mathematica, Data acquisition: LabView, Real-Time WorkShop, , National Instruments,
- Programming languages: C++, BASIC, Assembly (Intel 8086 family, Intel 8088, Microchip I8F family), Ladder PLC languages.

References

Professor Frank L. Lewis, IEEE Fellow, PE Texas
Chartered Engineer U.K., Fellow U.K. Inst. MC
Moncrief-O'Donnell Endowed Chair
University Distinguished Scholar Professor
Head, Advanced Controls and Sensors Group
Automation and Robotics Research Institute
The University of Texas at Arlington
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Dr. Murad Abu-Khalaf

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Associate Professor Mohammad Alia
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Amman, Jordan
Email: makalalia2000@yahoo.com