Mohanad A. Al-Ibadi, PhD

Al-Furat Al-Awsat Technical University

Technical Engineering College-Najaf

Najaf-Iraq

Email: mohanad.alibadi@ku.edu

iraqimsc@yahoo.com

Mobile: +964 7711652786

Education

Degree Received	Area of Study	Institution	Date Received
Doctor of Philosophy	Electrical Engineering	University of Kansas, Kansas, USA	May, 2019
Master of Science	Communications Engineering	University of Technology, Baghdad, Iraq	Feb, 2009
Bachelor of Science	Electrical and Electronics Engineering	University of Technology, Baghdad, Iraq	June, 2006

Work experience

Position	From/To
Faculty member at *Al-Furat Al-Awsat Technical University/ Technical Engineering College-Najaf.*	June 2019 – present
Graduate Research Assistant *at the University of Kansas (KU), KS, USA.*	Jan 2014 – May 2019
Faculty member at *The Technical Engineering Foundation / Technical Engineering College-Najaf.*	Dec 2009 – Dec 2013

Teaching

Taught several courses, the following are among them:

- Information Theory.
- Computer Networks.
- Analog and Digital Communication Systems.
- Microprocessor Architecture.
- Control Theory.
- Electrical Circuits.
- Communications Security.

Publications	
1	V. Berger, M. Xu, **Mohanad Al-Ibadi**, and others, "**Automated Ice-Bottom Tracking of 2D and 3D Ice Radar Imagery Using Viterbi and TRW-S**," IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS), Aug 2019.
2	J. Paden, V. Berger, **Mohanad Al-Ibadi**, and others, "**Subglacial bed topography using machine learning and geostatistical analysis applied to 2D and 3D radar sounding**," American Geophysical Union (AGU), 2018 Fall meeting, Washington DC, USA.
3	**Mohanad Al-Ibadi**, and others, "**Crossover analysis and automated layer-tracking assessment of the extracted DEM of the basal topography of the Canadian Arctic Archipelago ice-cap**," 2018 IEEE Radar Conference (RadarConf18), Oklahoma City, OK, USA.
4	S. Athinarapu, J. Paden, **Mohanad Al-Ibadi**, and T. Stumpf, " **Model Order Estimators Using Optimal and Suboptimal Methods with Numerical Tuning**," 2018 IEEE Radar Conference (RadarConf18), Oklahoma City, OK, USA.
5	**Mohanad Al-Ibadi**, and others, "**DEM EXTRACTION OF THE BASAL TOPOGRAPHY OF THE CANADIAN ARCTIC ARCHIPELAGO ICE CAPS VIA 2D AUTOMATED LAYER-TRACKER**," 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 17), Fort Worth, TX, USA.
6	**Mohanad Al-Ibadi** and A. Dutta, "**Predictive analytics for non-stationary V2I channel**," 2017 9th International Conference on Communication Systems and Networks (COMSNETS), Bengaluru, India.
7	J. Paden, T. Stumpf, and **Mohanad Al-Ibadi**, "**Wideband DOA Estimation for Ice Sheet Bed Mapping**," 2016 IEEE International Symposium on Phased Array Systems and Technology (PAST), Waltham, MA, USA.
8	J. Paden, M. Xu, J. Sprick, S. Athinarapu, **Mohanad Al-Ibadi**, and others, "**3D Imaging and Automated Ice Bottom Tracking of Canadian Arctic Archipelago Ice Sounding Data**," American Geophysical Union (AGU), 2016 Fall Meeting, San Francisco, CA, USA.
9	**Mohanad Al-Ibadi**, and others, "**DoA estimation and achievable rate analysis for 3D massive MIMO in aeronautical communication systems**," 2015 IEEE Global Conference on Signal and Information Processing (GlobalSIP), Orlando, Fl, USA.
10	R. Talib Hussein and Mohanad Al-Ibadi, "**Cantor Fractal Linear Antenna array with Koch Fractal Elements**," Journal of Computer Communications and Control Engineering/ University of Technology/Baghdad/Iraq, 2009.

Current research interests

- Application of machine learning techniques to solve signal processing problems, such as wideband direction of arrival estimation and surface-location estimation.
- Application of non-linear filtering techniques, such as the particle filter and sequential MAP/MMSE, to estimate the bottom surface of an ice-sheet.
- Signal processing with FPGA.
- Path finding using machine learning techniques.
- Vehicular channel tracking.
- mmWave beamforming.

Languages

Arabic: Native

English: Fluent

Other skills and Experiences

Mathematical stochastic modeling and optimization of real-world problems in radar, wireless communications, and automated agents tracking.

Real antenna array calibration, especially airborne radar antenna arrays.

Real data analysis.

Antenna design using NEC software.

Simulators design for general wireless communications and radar environments.

Programming: MATLAB and Python.

General Microsoft Office programs, LaTeX, and several other standard computer programs.