



Instructor: Nizar Tayem, Ph.D.

Academic Department: Department of Engineering & Technology

University Address:

East Texas A&M University
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Commerce, TX 75429-3011

University Email Address:

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EDUCATION

Ph.D., in Electrical Engineering, Wichita State University, Wichita, KS-US, (2001- 2005)GPA: 3.95/4.0

MS in Physics and Electronics, Al-Najah National University, Palestine (1996- 1998)

BS in Physics and Electronics, Al-Najah National University, Palestine (1991-1995)

TEACHING EXPERIENCE

Associate professor
Electrical Engineering program
Department of Engineering and
Technology
East Texas A&M University

July 2024- present

Assistant Professor
Electrical Engineering program
Department of Engineering and
Technology
East Texas A&M University

July 2018-June 2024

**Chair of Electrical Engineering
Department**

and

Jan. 2010 – Jun 2018

Assistant Professor

Electrical Engineering department
Prince Mohammed bin Fahd University
Al-Khobar, Saudi Arabia

Visiting Assistant Professor

Electrical and Computer Engineering
Miami University, Ohio

Aug. 2008 - Oct. 2009

Faculty of Communication and Electronics Engineering Sep. 2007 - Aug. 2008

ITT Technical Institute
Electrical and Computer
engineering Owings Mills,
MD, USA

Postdoctoral Researcher Follow

Electrical and Computer Engineering
Department
Louisiana State University
Louisiana, USA

July 2006 - Aug. 2007

Visiting Assistant Professor

Electrical and Computer Engineering
department West Virginia University
Institute of Technology West Virginia,
USA

Oct. 2005 - May 2006

Graduate Research Assistant

Electrical and Computer Engineering
Department Wichita State University,
Wichita, KS

Aug. 2001 – Mar. 2005

SELECTED PUBLICATIONS

1. A. A. Hussain, **N. Tayem**, A. -H. Soliman, "Low Complexity DOA Estimation of Multiplie Coherent Sources using a Signle Pair of Direct Date Snapshots" under review IEEE Access Journal (2023)
2. A. A. Hussain, **N. Tayem**, A. -H. Soliman, "Low Complexity DOA Estimation of Multiplie Coherent Sources using a Signle Pair of Direct Date Snapshots" under review IEEE Access Journal (2023)
3. **N. Tayem**, Ahmed A. Hussain, " FPGA-based Hardware Implementation of Computationally Efficient Multi-Source DOA Estimation Algorithms, Wireless communication Handbook National Instruments, 2020

4. A.A. Hussain, **N. Tayem**, A. Soliman and R. M. Radaydeh, "FPGA-Based Hardware Implementation of Computationally Efficient Multi-Source DOA Estimation Algorithms," in *IEEE Access*, vol. 7, pp. 88845-88858, 2019.
5. Redha Radaydeh, Fawaz Alqahtani, Mohamed-Slim Alouini, and **Nizar Tayem**, "[Adaptive Spectrum-Shared Association for Controlled Underlay D2D Communication in Cellular Networks](#)" *IET Communications*, Aug 2019
DOI: 10.1049/iet-com.2019
6. **Nizar Tayem**, K Majeed, AA Hussain, "Propagator Method using PARAFAC Model for Two Dimensional Source Localization" accepted for publication at *Radioengineering Journal* July 2018
7. A. A. Hussain, **N. Tayem**, M. O. Butt, A. Soliman, A. Alhamed and S. Alshebeili, "FPGA Hardware Implementation of DOA Estimation Algorithm Employing LU Decomposition," in *IEEE Access*, vol. 6, pp. 17666-17680, 2018.
8. **Nizar Tayem**, K Majeed, AA Hussain, "Parallel Factor-Based Model for Two-Dimensional Direction Estimation" *International Journal of Antennas and Propagation*, Volume 2017 (2017), Article ID 1813497, 12 pages
9. **Nizar Tayem** "'Cholesky Factorization Based Parallel Factor for Azimuth and Elevation Angles Estimation" accepted at *Arabian Journal for Science and Engineering*, June 2017
10. A Alhamed, **Nizar Tayem**, T Alshawhi, S Alshebeili, A Alsuwailem, A Hussain, "FPGA-based Real Time Implementation for Direction-of-Arrival Estimation," *The Journal of Engineering* 10.1049/joe.2017.0165 , May 2017
11. **Nizar Tayem**, "Azimuth/Elevation Directional Finding with Automatic Pair Matching" *International Journal of Antennas and Propagation*, Volume 2016 (2016), Article ID 5063450, 9pages

INTERNATIONAL PATENTS

1. **Nizar Tayem**, Kwon Hyuck, Min Seung Hyun, Kang Dong Hee,: Antenna apparatus for estimating direction of arrival and frequency of arrival and estimating method thereof, using three array antennas. Samsung Electronics July 2007: KR 1020060000682
2. Kwon Hyuck Moon, **Nizar Tayem**, Min Seung Hyun, Kang Dong Hee,: Method and an apparatus for estimating a DOA of a coherent source, to obtain a difference between forward/backward spatial smoothing and backward spatial smoothing covariance matrixes. Samsung Electronics September 2008: KR 1020070028560.

RESEARCH GRANTS AND AWARDS

- **Nizar Tayem (PI)**, 56,750 (SAR).’ Real Time implementation of proposed QR decomposition DOA estimation method on NI-PXI platform and FPGA. Prince Mohammed bin Fahd University.
- **Nizar Tayem (PI)**, 70,000 (SAR).’ Hardware Implementation of Two-Dimensional Azimuth and Elevation Angles Using Dual Polarized Antennas. Prince Mohammed bin Fahd University.
- Air Force Research Laboratory (AFRL) Beyond 5G SDR 6th Year University Challenge “Real Time Implementation of Unitary Root MUSIC and Unitary MUSIC with Real-Valued Rank Revealing Triangular Factorization” July 2023 (**\$13500 equipment and travel grant**)
- Air Force Research Laboratory (AFRL) Beyond 5G SDR 5th Year University Challenge “Real Time implementation two dimensional Direction of Arrival Estimation” August 2022 (**\$13500 equipment and travel grant**)
- Air Force Research Laboratory (AFRL) Beyond 5G SDR 4th Year University Challenge “Real Time implementation of Direction of Arrival Estimation for coherent and non-coherent sources” August 2021 (**\$12500 equipment and travel grant**)

- **PRESIDENTIAL GAR INITIATIVE (Awarded 2022)**

Research Topic: Real Time Implementation of Two-Dimensional Direction of Arrival Estimation Algorithm With Unknown Number of Noncoherent Sources

PRESIDENTIAL GAR INITIATIVE (Awarded 2021)

Research Topic: Joint estimation of the direction of departure (DOD) direction of arrival (DOA) of multiple-input multiple-output (MIMO) for radar system

PRESIDENTIAL GAR INITIATIVE (Awarded 2020)

Research Topic: Estimation of direction of arrival angles of Multiple Coherent RF signals using QR and Cholesky decomposition