

CV: Yazid Khattabi (Assistant Professor)

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Education

- **Jan. 2013-July 2016: Ph.D., Electrical Eng., Wireless Communications, University of Mississippi, Oxford, MS USA.**
 - **GPA:** 3.91/4.0
 - **Main Conducted Research Topics (list of publications are below):**
 - Wireless cooperative networks under nodes mobility and imperfect CSI estimation effects: analytical performance evaluation.
 - Space-time-coding (STC) based high mobility MIMO wireless cooperative networks: performance analysis and improved performance space-time decoders design.
 - Vehicle-to-vehicle (V2V) dual hop wireless cooperative networks: performance analysis and improvement.
 - OFDM/STC based wireless cooperative networks with high mobility users: performance analysis and improvement.
 - 4G-LTE (OFDMA-based) resource allocation algorithms under high mobility users effect.
 - Improved performance security algorithms in wireless communications.
 - Time-selective and frequency-selective fading channels modeling.
 - **Key Courses:** Digital Communications, Wireless Mobile Communications, Spread Spectrum Communications (CDMA), Information Theory & Convolutional Coding, Applied Probability Modeling, Mathematical Statistics, Advanced Mathematical Statistics, Introduction to Algorithms, Detection Theory, Integer & Non-integer Optimization.
 - **Awards:** Graduate Fellowships (1), Summer Research Assistantship Awards (2), Best Poster Awards (1).
- **2008-2010: M.Sc., Electrical Eng., Wireless Communications, Jordan Univ. of Science & Techno. , Irbid, Jordan**
 - **Percentage Average:** 88.5% (Top 5% of graduates).
 - **Research:** Diversity Techniques over to Time-Selective and Frequency-Flat Fading Channels with Coherent, Non-Coherent, Differentially-Coherent, and Partially-Coherent Detections.
 - **Key Courses:** Digital Data Transmission, Wireless Networking, Wireless Communications, Advanced Wireless Communications, Advanced Probability & Random Processes, Error Correcting Coding, Image Processing, Antenna & Radio Wave Propagation.
 - **Awards:** Full Graduate Scholarship; Ministry of Higher Education and Scientific Research (MHESR), Amman, Jordan
- **2003-2008: B.Sc., Electrical Eng., Communications & Electronics, Jordan Univ. of Science & Techno., Jordan**
 - **Percentage Average:** 86% (rank 2 out of 101).
 - **Undergraduate Project:** Binary-FSK Digital Communications System: Design & Hardware Implementation.
 - **Key courses:** Analog Communications, Digital Communications, Mobile Communications, Probability Theory & Random Processes, Computer Networks, DSP, Microprocessors, Signals & Linear Systems, RF, Microwave Circuits, Antenna Design, etc.
 - **Awards:** Full Undergraduate Scholarship; MHESR, Amman, Jordan

Research Experience & Technical Publications

- **Aug. 2016 –current: Assistant Professor, University of Jordan, Amman 11942, Jordan.**
- **Jan. 2013– July. 2016: Research Assistant in Wireless Communications (Ph.D student), Univ. of Mississippi, Oxford, MS, USA**
- **Projects and Technical Areas**
 - Wireless cooperative diversity systems with high users mobility and imperfect channel estimation: performance evaluation (BER, Outage, Capacity) and link-level MATLAB simulation.
 - Investigating the role of the receivers' tracking-loops speeds in mitigating the high nodes mobility effect on wireless cooperative networks performance.
 - Orthogonal-space-time-block-codes (OSTBC) transmission over wireless cooperative systems with inter-transmit-antenna-interference (ITAI): performance analysis and link-level MATLAB simulation.
 - Efficient zero-forcing space-time-decoder for performance improvement of high mobility space-time-codes based cooperative systems: Design, performance analysis and link-level MATLAB simulation.
 - Low-complexity sub-optimal space-time-decoder for performance improvement of high mobility space-time-codes based cooperative systems: Design, performance analysis and link-level MATLAB simulation.
 - Efficient Decision-Feedback space-time-Decoder for considerable performance improvement of high mobility OFDM orthogonal- space-time-codes based cooperative systems: Design, performance analysis and link-level MATLAB simulation.
 - Adaptive transmissions techniques over wireless mobile cooperative systems: capacity analysis and simulation.
 - Performance analysis and simulation of Vehicle-to-Vehicle (V2V) dual-hop cooperative systems.
 - Amplification gain study (fixed or CSI-assisted) for mobile V2V dual-hop cooperative systems.
 - Digital signal processing for OFDM based wireless high mobility systems: link-level MATLAB simulation.
 - LTE OFDMA resource allocation with high mobility users and imperfect Inter-carrier-interference (ICI) cancellation.
 - Power allocation or performance improvement of high mobility Orthogonal- space-time-codes based cooperative systems.
- Efficient and simple encryption algorithm with improved performance in wireless communications systems.
 - Convolutional coding and Viterbi decoding: developing MATLAB simulation of convolutional encoder and Viterbi decoder.
- Developing MATLAB/C++ simulation for: M-PSK, M-QAM, M-FSK.
 - Huffman source encoding: MATLAB simulation.
- **Refereed Journal & Conference Papers**
 1. Yazid Khattabi and Mustafa M Matalgah, “Performance Analysis of Multiple-Relay AF Cooperative Systems over Rayleigh Time-Selective Fading Channels with Imperfect Channel Estimation,” *IEEE Transactions on Vehicular Technology*, vol. 65, no. 1, pp. 427-434, January 2016.
 2. Yazid Khattabi and Mustafa M Matalgah, “Improved Error Performance ZFSTD for High Mobility Relay-Based Cooperative Systems,” *Electronics Letters*, vol. 52, no. 4, pp. 323-325, Feb. 2016.
 3. Yazid Khattabi and Mustafa M Matalgah, “BRS Cooperative Systems with Time-Selective Fading and Imperfect CSI Estimation: Capacity Analysis,” accepted to appear in the *Proceedings of the 2016 IEEE GLOBECOM*, 4-8 December, 2016, Washington DC, USA.
 4. Yazid Khattabi and Mustafa M Matalgah, “A Low-Complexity Sub-Optimal Decoder for OSTBC Based Mobile Cooperative Systems,” accepted to appear in the *Proceedings of the 2016 IEEE Wireless Communications and Networking Conference (IEEE WCNC 2016)*, 3-6 April, 2016, Doha, Qatar.
 5. Yazid Khattabi and Mustafa M Matalgah, “OSTBC Transmission over Cooperative Diversity Systems under Nodes Mobility Impact,” accepted to appear in the *Proceedings of the 2016 IEEE Wireless Communications and Networking Conference (IEEE WCNC 2016)*, 3-6 April, 2016, Doha, Qatar.
 6. Yazid Khattabi and Mustafa M Matalgah, “Conventional and Best-Relay-Selection Cooperative Protocols Under Nodes-Mobility and Imperfect-CSI Impacts: BER Performance,” in the *Proceedings of the 2015 IEEE Wireless Communications and Networking Conference (IEEE WCNC 2015)*, 8-12 March, 2015, New Orleans,

USA.

7. Yazid Khattabi and Mustafa M Matalgah, “Conventional AF Cooperative Protocol Under Nodes-Mobility and Imperfect-CSI Impacts: Outage Probability and Shannon Capacity,” in the *Proceedings of the 2015 IEEE Wireless Communications and Networking Conference (IEEE WCNC 2015)*, 8-12 March, 2015, New Orleans, USA.
8. Yazid Khattabi and Mustafa M Matalgah, “Performance Analysis of AF Cooperative Networks with Time-Varying Links: Error Rate and Capacity,” *IEEE Proceedings of the 2014 Wireless Telecommunications Symposium (WTS 2014)*, 9-11 April, 2014, Washington, DC, USA.
9. Yazid Khattabi and Mustafa M Matalgah, “Performance Analysis of AF Cooperative Networks with Time-Varying Links: Outage Probability,” *IEEE Proceedings of the 2014 Wireless Telecommunications Symposium (WTS 2014)*, 9-11 April, 2014, Washington, DC, USA.
10. Yazid Khattabi, Haythem Bany Salameh, and Mohammad Al-Ibrahim, “Performance Study of Diversity Combining for Error-floor Reduction over Fast Fading Channels,” *WSEAS Transaction on Communications*, Vol. 12 Issue 9, pp. 479-487, September 2013.

- **Submitted Manuscripts**

1. Yazid Khattabi and Mustafa M Matalgah, “Reduced-Complexity QAM SEP Computation and Improved-Performance Decoder in OSTBC Based Mobile Cooperative Systems,” submitted to *IEEE Transactions on Mobile Computing*.
2. Yazid Khattabi and Mustafa M Matalgah, “Nodes Mobility and Imperfect CSI Estimation Impacts on SEP Performance of OSTBC-Based AF Cooperative-Diversity Systems,” submitted to *IEEE Transactions on Vehicular Technology*.
3. Yazid Khattabi and Mustafa M Matalgah, “Amplification Gain Study in Amplify-and-Forward V2V Dual-Hop Cooperative Networks,” to be submitted to *IEEE Communications Letters*.
4. Mustafa M. Matalgah, Yazid M. Khattabi and Mohammed M. Olama, “A Simple Encryption Algorithm with Improved Performance in Wireless Communications: Error Performance and Throughput Analysis,” submitted to *EURASIP Journal on Wireless Communications and Networking*.
5. Yazid Khattabi and Mustafa M Matalgah, “LTE Resource Allocation Algorithms under the Effects of High Users Mobility,” under preparation.

- **Conference Presentations**

1. Yazid Khattabi and Mustafa M Matalgah, “Performance Analysis of Wireless Cooperative Networks with Moving Nodes,” In the *Proceedings of the 2013 Mid-South Area Engineering and Science Conference (MAESC 2013)*, 28–29 October, 2013, The University of Mississippi, Oxford, MS, USA.

- **Posters**

1. Yazid Khattabi and Mustafa M Matalgah, “BER Performance of Amplify-and-Forward Cooperative Networks with Mobile Nodes,” *Broadband Wireless Access & Applications Center (BWAC) Workshop*, January 2015, Oxford, MS, USA.
2. Yazid Khattabi and Mustafa M Matalgah, “Improved Error Performance Zero-Forcing Decoder for High Mobility OSTBC-Based Cooperative Systems,” *Broadband Wireless Access & Applications Center (BWAC) Workshop*, November 2015, Oxford, MS, USA (Best Poster Award).

- **Editorial Reviewer for several leading Journals.**

- IEEE Transactions on Vehicular Technology.
- Transactions on Emerging Telecommunications Technologies.
- IET Communications.
- International Journal of Electronics and Communications.
- IET Electronics Letters.

Industry Project Work Experience

- **Mar. 2011-Dec. 2012: Electronics Wireless Communications Design Engineer, King Abdullah II Design and Development Bureau-KADDB, Amman, Jordan**
 - **Technical Skills:**
 - Hands-on hardware design, implementation, and maintenance-debugging experience: baseband Electronics & Integrated Circuits.
 - Technical knowledge & experience in circuits simulation, designing, Printed Circuit Boards (PCB) layout & schematic capture, and fabrication process.
 - Basic experience in communication protocols: UART, RS232 (MAX232), I2C, USP, SPI.
 - Experience in C++ Microprocessors Programming.
 - RF Modules: ZigBee, Bluetooth, XTend OEM, CISCO IEEE 802.11 Modules, and others.
 - Knowledge in: GSM, CDMA, WCDMA (UMTS), 3GPP, LTE, WiMax, OFDMA, TCP/IP, MAC, etc.
 - Radio-Frequency (RF) circuits design, hardware implementation, and maintenance (power amplifiers, filters, and matching circuits).
 - RF lab equipment: Spectrum Analyzer, Network Analyzer, Signal Generator, Oscilloscope, Power Meter, Signal Source Analyzer
 - Wireless Telecommunication Systems design, selection, and testing for Unmanned-Ground-Vehicles (UGVs), Unmanned-Aerial-Vehicles (UAVs), and Surveillance Systems.
 - **Technical Projects**
 - Power Circuits & Interfacing Boards: design & hardware implementation.
 - Mini-Digital-Voltmeter for Unmanned-Aerial-Vehicles: design & hardware implementation.
 - Wire-line & Wireless (remote) DC-Motors Drivers: design & hardware implementation.
 - RF Global-Positioning-System (GPS) Jammer: design & hardware implementation.
 - RF GSM-900 and GSM-1800 Jammer: design & hardware implementation.
 - **Training Tutorials**
 - RF Telecommunications Printed Circuit Boards Design, KADDB, Jordan.
 - Electronic Devices Maintenance, IEEE branch, JUST, Irbid, Jordan.
 - Practical Digital-Signaling-Processing Over Embedded Systems, KADDB, Jordan.
 - Fundamentals of Laser Technology, KADDB, Jordan.
 - Autodesk Inventor Basics, KADDB, Jordan.
- **Summer 2007 Undergraduate Internship, Jordan Telecommunications Group, Irbid, Jordan.**

Teaching Experience

- **Fall 2016/2017: Assistant Professor, University of Jordan, Amman, Jordan**
 - Electric Circuits II
 - Communication Systems
 - Electric Circuits Lab.
- **Fall 2014: Graduate Instructor in Electrical Engineering, University of Mississippi, Oxford, MS USA.**
 - Modulation, Noise, and Communications (EL.E. 447).
- **2013-2015: Teacher Assistant in Electrical Engineering, University of Mississippi, Oxford, MS USA.**
 - Random Signals (ELE 391) (grading assignments).
 - Models and Circuits (ELE 351) (grading assignments and help sessions).
 - Principles of Digital Systems (ELE 235) (grading assignments).
 - Digital Communications (ELE 535) (grading assignments).
 - Engineering Analysis I (ENGR 310) (grading assignments).
- **2010-2012: Tutor in Electrical Engineering (undergraduate level courses), Amman, Jordan.**
 - Analog Communications.
 - Digital Communications.
 - Wireless Mobile Communications.
 - Digital Signal Processing.
 - Optical Fiber Communication Systems
 - Antenna Design.
 - Electronics.
 - Electrical Machines.
 - Control Systems.
- **2008-2010: Teacher Assistant in Electrical Engineering, Jordan Univ. of Science and Techno. (JUST), Jordan.**

- Electric Circuits LAB (instructor).
- Electronic Circuits LAB (instructor).
- Signals and Linear Systems (grading assignments).
- Electromagnetics I (grading assignments).
- Electronics (grading assignments)

References

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