

CURRICULUM VITAE

Prof. Nedal K. Al-Ababneh

Full professor

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PERSONAL DATA

- Date of Birth: June 1, 1970.
- Place of birth: Irbid, Jordan
- Sex: Male
- Marital status: Married, five children.
- Nationality: Jordanian

EDUCATION

- Doctor of Engineering, Electrical Engineering, October 2004. University of Massachusetts, Lowell, USA.
- Master of Science, Electrical Engineering (Communications and Electronics), December 1995. Jordan University of Science and Technology, Irbid 221-10, Jordan.
- Bachelor of Science, Electrical Engineering (Communications and Electronics), June 1993. Jordan University of Science and Technology, Irbid 221-10, Jordan.
- General Secondary education certificate, academic (scientific), July 1988, Irbid High School for Males.

TITLES OF THESES

- Doctoral Dissertation: Channel Density in highly parallel Free Space Optical Interconnects. University of Massachusetts, Lowell, USA.
- Master Dissertation: Various Consultation Schemes for Distributed Detection Systems. Jordan University of Science and Technology, Jordan.

LANGUAGE SKILLS

- Arabic: Native language
- English: speaks and writes fluently

SHOLARSHIPS

- Jordan University of Science and Technology Competitive Scholarship toward doctoral degree in electrical engineering at University of Massachusetts, Lowell, USA. January 2001- August 2004.
- Jordanian armed force scholarship for the Bachelor of Science degree in electrical engineering. September 1988-June 1993.

CURRENT RESEARCH INTRESET

- Free space optical interconnects in VLSI systems.
- Radar distributed detection systems

PROFESSIONAL EXPERICENCE

- Full Professor, Jordan University of Science and Technology, Department of Electrical Engineering, Sep. 2017-present.
- Full Professor & Chairman, Department of Electrical Engineering, Jordan University of Science and Technology, Sep. 2015-Sep. 2017.
- Associate Professor, Jordan University of Science and Technology, Department of Electrical Engineering, September 2012-Nov. 2015.
- Associate Professor, Sabbatical leave at Salman Bin Abdul-Aziz University, Department of computer Engineering, Saudi Arabia, September 2011- September 2012.
- Associate Professor, Jordan University of Science and Technology, Department of Electrical Engineering, July 2010.
- Assistant Professor, Jordan University of Science and Technology, Department of Electrical Engineering, 2004-June 2010.
- Research Assistant, University of Massachusetts, Department of Electrical and Computer Engineering, USA, 2002-2004.
- Teacher Assistant, University of Massachusetts, Department of Electrical and Computer Engineering, USA, 2001-2002.
- Full time Lecturer, Jordan University of Science and Technology, Department of Electrical Engineering, 1999-2001.
- Part Time Lecturer, Jordan University of Science and Technology, Department of Electrical Engineering, 1997-1999

JOURNAL REVIEW

- Optics and laser Technology. Published by Elsevier, UK.
- Optical Engineering. Published by International Society for Optical Engineering (SPIE), USA.
- Optics Communications. Published by Elsevier, Netherlands.
- JOURNAL OF ENGINEERING AND TECHNOLOGY RESEARCH. Open Access Journal.

- Jordan Engineering Association (JEA) Journal of Electrical Engineering.

COMMITTEES MEMERSHIPS

- Department Committees

- Technical and laboratories committee (secretary).
- Curriculum committee.
- courses equivalency committee
- Committee for choosing the textbook and the contents for the electronics courses.
- Committee for correcting the exam conducted for the applicants to a lab engineer position.
- Committee for visiting and evaluating the performance of full-time lecturers in the electrical engineering department.
- Committee for evaluating the applications for full-time lecturers in the electrical engineering department.
- Examination committees of many master theses.
- Member in ABET committee in Salman Bin Abdul-Aziz University, Department of computer Engineering, Saudi Arabia, 2011- 2012.
- Member in department committee to setup new study plan in Salman Bin Abdul-Aziz University, Department of computer Engineering, Saudi Arabia, 2011- 2012.
- Member in Department **ABET** committee for the academic year 2013/2014.
- Coordinator for the electronics and electrical circuits courses for **ABET** accreditation.

- College committee

- Training committee.
- Promotion committee. I have served as a coordinator and a member in many promotion committees for many colleagues from different departments.
- Department representative in the college council for the academic year 2010/2011.
- Department representative in the college council for the academic year 2012/2013.

- University Committee

- Tender committee (tender no. 65/2006) to purchase equipments for electrical engineering department.

- National committee

- Technical committee: First Wireless Euro-Mediterranean International Conference (WEMIC 2006), Amman - Jordan, 27-29 March 2006.
- Editorial board committee member: International Institute of Science, Engineering & Management (2014).

ADDITIONAL UNIVERSITY ACTIVITIES

- Supervisor of trainee program for undergraduate students in electrical engineering department.
- Writing Exit Examination in electronics, May 2008.
- Moderator of the election committee for student's union council 3/2006.
- Participant in the scientific day, college of Engineering, JUST.
- Participant in the Day of graduates, EE department, college of Engineering, JUST.

TEACHING EXPERIENCE

- Undergraduate level (Jordan University of Science and Technology)
 - Electronic Circuits I. (2nd year)
 - Electronic Circuits II. (3rd year)
 - Digital Electronics. (4th year)
 - Communications. Electronics (5th year)
 - Advanced Electronics (5th year)
 - Electrical Circuits Lab. (3rd year)
 - Electronic Circuits Lab. (3rd year)
 - Analog Communication Lab. (4th year)
 - Digital Communication Lab. (5th year)
- Undergraduate level (Al-Balqa' Applied University, Al-Huson College, Irbid-Jordan).
 - Communication Circuits (5th year)
- Graduate level
 - Advanced Electronics Circuits.
 - Solid State Electronics.
- Supervising several electrical engineering laboratories at all levels.
- Supervising students during capstone (graduation) projects.
- Supervising students during their practical training.

SUPERVISION OF GRADUATE RESEARCH

- On use of Super-Gaussian Beams in Free space optical interconnects. Jaser Sae'd. M. Sc. thesis in electrical engineering. May 2007. Jordan University of Science and Technology. Department of Electrical Engineering.
- Noise optimization of a Tran impedance-amplifier for lensless free space optical interconnects. Oday Haddad. M. Sc. thesis in electrical engineering. February 2008. Jordan University of Science and Technology. Department of Electrical Engineering.
- Signal-to-noise ratio optimization of a free space optical interconnects systems with a metal-semiconductor-metal detector array. Ateka Moh'd. M. Sc. thesis in electrical engineering. July, 2009. Jordan University of Science and Technology. Department of Electrical Engineering.
- Optimization of Temporal and spatial bandwidths for short range error corrected free space optical interconnects. Shefa Tawalbeh. M. Sc. thesis in electrical engineering. May, 2010. Jordan University of Science and Technology. Department of Electrical Engineering.
- Space time coding for distributed detection systems in wireless sensor networks. M. Al-Jarrah. M. Sc. thesis in electrical engineering. **Dec., 2010**. Jordan University of Science and Technology. Department of Electrical Engineering.
- Performance analysis of misaligned short range error corrected free space optical interconnects. Hasan Al-Diabat. M. Sc. thesis in electrical engineering. July, 2011. Jordan University of Science and Technology. Department of Electrical Engineering.

EXAMINATION COMMITTEE

- Optimal control of series connected step down current mode controlled DC-DC Converters. Nuha Radaydeh. July 2008. Jordan University of Science and Technology. Department of Electrical Engineering.
- Development of high efficiency InAs/Inp quantum dash Lasers. Hadeel Qassameh, April 2009. Jordan University of Science and Technology. Department of Electrical Engineering.
- Linear Quadratic regulator control of parallel input parallel output modulator buck converter. Mohammad Al-Arni. Jan. 2010. Jordan University of Science and Technology. Department of Electrical Engineering.
- All optical logic gates using quantum dot semiconductor optical amplifiers. Nadia Sadeq AlSa'd. June 2014. Jordan University of Science and Technology. Department of Electrical Engineering.

FUNDED PROJECTS

- Effect of aberrations on channel capacity in free space optical interconnects. Grant No. 17/4/10/1410. Deanship of Scientific research. Jordan University of Science and Technology.
- Using Quantum Dots to improve efficiency of photovoltaic cells. Submitted to Scientific Research Support Fund of the ministry of higher education in Jordan.

WORK SHOPS AND PROFESSIONAL DEVELOPMENT ACTIVITIES

- Participant in the workshop on educational technology, measure and evaluation, held by the Consultative Center of the Jordan University of Science and Technology from 14-16 Feb. 2005.

- Participant in the workshop on modern university instructional methods held by the Consultative Center of the Jordan University of Science and Technology from 13-14 June 2006.
- Participant in the scientific day, college of Engineering. Jordan University of Science and Technology.
- Participant in the Day of graduates, EE department, college of Engineering. Jordan University of Science and Technology.
- Participant in the workshop on modern teaching strategies held by the Consultative Center of the Jordan University of Science and Technology from 17-18 Sep. 2013.
- Participant in the workshop on statistical analysis using SPSS held by the Consultative Center of the Jordan University of Science and Technology from 19-22 Sep. 2013.
- Participant in the Scientific day, held by the Department of Electrical Engineering.
- at Jordan University of Science and Technology from 10-4 Feb. 2018.

PUBLICATIONS

Referred journal papers

1. **Nedal Al Ababneh** & Markus E Testorf, "Analysis of free space optical interconnects based on non-diffracting beams," Optics communications, 242, 4,393-400, 2004, Elsevier, Netherlands.
2. **Nedal Al Ababneh**, "Misalignment analysis of lensless free-space optical interconnects," Optical Engineering, 45, 6, 065401-065401-8, 2006, International Society for Optics and Photonics, USA.
3. **Nedal Al Ababneh**, "Optimization of signal-to-noise ratio in integrated planar optical interconnects packages," Optics communications, 266, 2, 473-481, 2006, Elsevier, Netherlands.

4. **Nedal Al Ababneh**, "On capacity improvement of optical free space chip-to-chip interconnects," *Electrical Engineering*, 89, 6, 451-456, 2007, Springer, Germany.
5. MM Al-Ibrahim, **Nedal Al Ababneh**, "Optimization of a parallel distributed detection system using distance measures," *AEU-International Journal of Electronics and Communications*, 61, 6, 370-376, 2007, Elsevier, Germany.
6. **Nedal Al Ababneh**, "Capacity analysis of a simple integrated planar optical interconnects system," *International Journal of Electronics*, 94, 9, 845-855, 2007, Taylor & Francis, UK.
7. **Nedal Al Ababneh** and Jasper Sa'ed "Use of super-Gaussian-Bessel beams in free-space optical interconnect systems," *Optical Engineering*, 47, 10, 105401-105401-5, 2008, International Society for Optics and Photonics, USA.
8. **Nedal Al Ababneh**, Oday Haddad, "Noise analysis of a transimpedance amplifier for short-distance free-space optical interconnects," *Optical Engineering (SCI)*, 49, 4, 045401-045401-6, 2010, International Society for Optics and Photonics, USA.
9. **Nedal Al Ababneh**, Ateka Khader, "Performance optimization of a free space optical interconnect system with a metal-semiconductor-metal detector," *Optical Engineering (SCI)*, 50, 8, 085401-085401-7, 2011, International Society for Optics and Photonics, USA.
10. **Nedal Al Ababneh**, "Size optimization of a quad-cell alignment detector for short range free space optical interconnects," *Optics Communications (SCI)*, 284, 5115-5120, 2011, Elsevier, Netherlands.
11. **Nedal Al Ababneh** & Abdulla Al Jumah, "Analytical models for channel crosstalk in short-range free space optical interconnects," *Optical Engineering (SCI)*, 51, 11, 115401-115401, 2012, International Society for Optics and Photonics, USA.
12. Mohammad A Al-Jarrah **Nedal K Al Ababneh**, Mohammad M Al-Ibrahim, Rami A Al-Jarrah, "Cooperative Space Time Coding for Semi Distributed Detection in Wireless Sensor Networks," *International Journal of Wireless Networks and Broadband Technologies (IJWNBT)*, 2, 2, 1-15, 2012, IGI Global, USA.
13. **Nedal Al Ababneh**; Shefa Tawalbeh, "Optimizing bandwidth density in free space optical interconnects under the use of error correcting codes," *Optical and Quantum Electronics (SCI)*, 46, 2, 271-282, 2014, Springer New York LLC, USA.
14. **Nedal Al Ababneh**, "Crosstalk reduction in free space optical interconnects systems using microlenses with Gaussian transmittance," *Optics Communications (SCI)*, 318, 78-82, 2014, Elsevier, Netherlands.

15. Al-Jarrah, Mohammad A., **Nedal K. Al-Ababneh**, Mohammad M. Al-Ibrahim, and Rami A. Al-Jarrah. "Cooperative OFDM for Semi Distributed Detection in Wireless Sensor Networks." *AEU-International Journal of Electronics and Communications (SCIE)*, 2014, Elsevier, Germany. (In press)
16. **Nedal Al Ababneh** " An approximate analytical method to evaluate diffraction crosstalk in free space optical interconnects systems that use circular microlenses with finite uniform apertures," *Optical Engineering* 53(7), (**SCI**), International Society for Optics and Photonics, USA.(In press)
17. Al-Ababneh, Nedal. "Crosstalk in Free Space Optical Interconnects that Use Micro-Lenses Arrays: Practical Consideration." In *Applied Mechanics and Materials*, vol. 850, pp. 95-99. Trans Tech Publications, 2016.

Conference papers

1. M. M. Al-Ibrahim and **N. K. Ababneh**, "Consultation Schemes Based on Serial Distributed Detection Systems," *IEEE Proceedings of the American Control Conference*, Philadelphia, PA, Vol. 5, pp. 3121-3123, 1998.
2. A.Semichaevsky, Patrick Ghogmu, **Nedal Al-Ababneh**, and Markus Testorf, " Inverse scattering of strongly scattering targets using redundant data sets," *Proceedings of SPIE* Vol. 4792,(2002).
3. **Nedal Al Ababneh**, "A simple approximate expression for optical crosstalk in a linear free space optical interconnects that uses micro-lenses with circular apertures." International conference on machine learning, electrical and mechanical engineering, ICMLEME'2014, Jan 8-9, 2014, Dubai, UAE.
4. **Nedal Al Ababneh**, "Performance Analysis of Paraxial Free Space Optical Interconnects System that Uses Bessel Beams and Micro-lenses with Circular Apertures." 2nd International conference on electronics engineering and technology, ICEET'2014, April 2-3, 2014, Dubai, UAE.
5. **Nedal Al Ababneh**, "Crosstalk in Free Space Optical Interconnects that use Microlenses Arrays: Practical consideration. 2016 3rd International Conference on Electrical and Electronics Engineering. Apr 11, 2016 - Apr 12, 2016. Istanbul, Turkey.

Submitted articles

1. **Nedal Al-Ababneh**, "Aberrated Microlenses to Reduce Crosstalk in Free Space Optical Interconnects Systems". **Accepted for publication in Q2 Scopus journal.**

REFERENCES

- Prof. Omar R. Qasaimeh, Full Professor, Vice Dean
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