

Ahmad Mahmoud Alshamali, Associate Professor
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Biographical Summary

Ahmad Alshamali received his Ph.D. degree in electrical engineering from the University of Wales, Swansea in 1996. Since 1997 he has been with the Department of Telecommunication Engineering, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan, where he is currently an associate professor in telecommunication engineering.

His research interest includes performance evaluation of digital modulation over multipath fading channels, compression techniques for biomedical signals and telemedicine. The health effects of mobile phones RF radiation on human health is a major part of his research interest. He had served with organization committees for several national and international conferences. Also, he has been a reviewer for several IEEE transactions and other international journals.

Alshamali received Hisham Hijjawi award for Applied Science, Information Technology and Communication sector, for the year 2003 and Hijjawi foundation prize for a academic excellence in scientific research for the year 2003.

Personal

Name: Ahmad Mahmoud Alshamali

Date of birth: August 3, 1959

Gender: male

Marital Status: Married (five sons and three daughters)

Nationality: Jordanian

Education

Doctorate of Philosophy in Electrical Engineering, 1996, University of Wales, Swansea, UK.

Dissertation Title: Performance Studies of TETRA Trans European Trunked Radio signals in Flat and Frequency Selective Fading and in a Quasi- Synchronous Transmission Mode.

Master of Philosophy in Electrical Engineering, 1994, University of Wales, Swansea, UK.

Dissertation Title: A study of the Technical Aspects of the Planned European Radio Messaging Systems – ERMES.

Bachelor of Science in Electrical Engineering/ Telecommunications, 1983, University of Jordan, Amman Jordan.

Dissertation Title: Design of Frequency synthesizer for the MW AM Broadcasting.

Academic Experience

Associate Professor in Telecommunications:

- Telecommunications Engineering Department, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid-Jordan, December 2003 to September 2006, September 2007 to September 2011 and September 2012 to present

- Electrical and Computer Engineering Department, Engineering Faculty, Applied Science University, Amman –Jordan, Spetember, sabbatical leave, September 2006 to September 2007.
- Electrical and Electronic Engineering Department, Al-Huson University College, Al Balga Applied University, Jordan, sabbatical leave, September, 2011 to September 2012.

Assistance Professor in Telecommunications

- Telecommunications Engineering Department, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid-Jordan, February 1997 to December 2003.

Assistance Dean

- Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid-Jordan, September 1997 to September 2001.

Practical experiences

Faculty Labs.’ Supervisor: Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid-Jordan, December 1989 to September 1993.

Instrumentation and Control Engineer: Jordan Electricity Authority, Amman, Jordan, September 1985 to December 1989

Telecommunications Engineer: Special Communication Commission, Amman, Jordan, June 1983 to June 1985

Research Interest

- Mobile radio channel modeling; analysis and performance evaluation of digital modulations over different multipath channels
- Delay spread statistics in simulcast transmission with multipath fading channel
- Specific absorption rate (SAR) calculation and SAR reduction using metamaterial
- Investigation health effect (DNA damage, oxidative stress and cytogenetic) induced by mobile phone RF radiation.
- Biomedical signal processing and telemedicine

Taught courses

- **Graduate courses:** 1- Mobile radio communications, 2- Advanced digital communications and 3- Random processes
- **Under graduate courses:** 1- Probability and random processes, 2- Logic design, 3- Electrical Circuits 4- Analog communications, 5- Digital communications, 6- Data communications, 7- Communications systems, 8- Transmission in communication systems and 9- Technical writing.

Funded research and grants

No	Title	Amount (US Dollar)	year	Sponsor
1	Wireless ECG transmission over mobile networks, principle investigator (PI).	7000 (US Dollar)	1998	Yarmouk University
2	Investigation health effect (DNA damage, oxidative stress and cytogenetic) induced by mobile phone RF radiation. Co-PI	15200 (US Dollar)	2006	Yarmouk University
3	Wireless Ionoized Radiation Monitoring System (PI)	2800 (US Dollar)	2010	King Abudulla II Design and Development Bureau
4	An Industry Oriented MSc. Program in Telecommunications Engineering- Towards and EU Approach” a one million Eurogrant from the tempus to modernize the MSc program at the telecommunication Engineering Department- group member	one million EU	2010	TEMPUS

Honors and awards

- 1- A scholarship for higher education (Mphil and PhD in UK) granted from Yarmouk University-Irbid-Jordan, 1993-1996.
- 2- Hisham Hijjawi award for Applied Science, Information Technology and Communication sector, for the year 2003.
- 3- Hijjawi foundation prize for a academic excellence in scientific research for the year 2003.

Publications

• Refereed Journal

1. Alshamali A. and Al-Oqleh, M , (2013), “Performance Analysis of Spatial Modulation over Weibull Fading Channels”, WSEAS Transaction on communication, 12, (11), 604- 607.
2. Khaled Gharaibeh, Bassam Harb, Haythem Bany Salameh, Asem Zoubi, Ahmed Shamali, Noel Murphy & Conor Brennan, (2013), “Review and redesign of the curriculum of a Masters programme in telecommunications engineering – Towards an outcome-based approach”, European Journal of Engineering Education, 38, (2), 194-210.
3. Khalil A., Al-dhammi M., Al-shara B, Gagga M., Rawashdeh A. and Alshamali A., (2012), “ Histological and Ultrastructural Analyses of male Mice Exposed to Mobile Phone radiation”, Journal of Toxicology Review, 1, (1), 1-6.
4. Khalil A, Gagaa M and Alshamali A., (2012), “ 8-Oxo-7, 8-Dihydro- 2’-Deoxyguanosine as a Biomarker of DNA Damage by Mobile Phone Radiation”, International Journal of

- Human and Experimental Toxicology, 31, (7), 734- 740.
5. Khalil A., Alshamali A. and Gagaa M., (2011), " Detectin of Oxidative Stress Induced by Mobile Phone Radiation in Tissues of Mice using 8-Oxo-7, 8-Dihydro-2'-Deoxyguanosine as a Biomarker", Journal of World Academy of Science, Engineering and Technology, 76, 657-662.
 6. Alshamali A. and Al-Ageel M., (2011) " ECG Compression Using Discrete Wavelet Transform and Particle Swarm Optimization", Journal of Medical Engineering and techology, 35, (3,4): 149- 153.
 7. Alshamali A., (2010), " Wavelet Based ECG Compression with Adaptive Thresholding and Effeicent Coding", Journal of Medical Engineering & Technology, 34 (5,6): 335- 339.
 8. Khalil A. and Alshamali A., (2010), " No significant Cytogenetic Effects in Cultured Human Lymphocytes Exposed to Cell Phones Radiofrequencies (900MHz and 1800MHz)", Jordan Journal of Biological Sciences, 3 (1): 21- 28.
 9. Omar A., Bashayreh Q. and Alshamali A. , (2010), " Investigation of the effect of Obliquely Incident Plane Wave on a Human Head at 900 MHz and 1800 MHz", International Journal of RF and Micowvae-Aided Engineering , 20 (2): 133 – 140.
 10. Alshamali A. and B. Quza, (2009), " Performane of Spatial Modulation in Correlated and Un-Correlated Nakagami Fading Channel", Journal of Communications, 4 (3): 170- 174.
 11. Alshamali, A. and Al-Oqleh, M. (2005) Statistical properties of the delay spread in a two path Mobile Radio with Nakagmi fading channel. AEU International Journal of Electronics and Communications , 54 (4): 222-229.
 12. Alshamali A. and Al-Fahoum, A. (2003). Comments on an efficient coding algorithm for the compression of ECG signals using the wavelet transform. IEEE Trans. Biomedical Engineering 50 (8): 1034- 1037.
 13. Al-Smadi, A. and Alshamali, A. (2002) Fitting ARMA models to linear non-gaussian processes using higher order statistics. Signal Processing. 82: 1789-1793.
 14. Alshamali, A. and Al-Oqleh, M. (2002). Delay spread statistics in simulcast transmission system. Electronics Letters. 38 (17): 992-994.
 15. Alshamali, A. and Al-Smadi, A. (2001). Combined coding and wavelet transform for ECG compression. Journal of Medical Engineering & Technology. 25 (5): 212-216.

• Refreed conferencec

1. Al-Fahoum A. S. and Alshamali A., (2010), “ A new Adaptive Wavelet ECG Compression Technique”, 3 rd International Cinferece on computation Intelegence and Industrial Application, Wuhan, China, December, 2010.
2. Omar A., Bashayreh Q. and Alshamali A., (2010) “The Effect of rf Radiation on Human Health Using Stratified Human Head Model” Proceeding of the IEEE International Radar, Washington, USA, May, 2010.
3. Alshamali A. and Qhaith T. (2009) , "Combined Coding and Adaptive Thresholding Algorithms for ECG Compression ", Proceeding of the 5Th IEEEGCC Conference, Kuwait.
4. Alshamali A. and Quza B. (2009), " Spatial Modulation: Performance Evaluation in Nakagami Fading Channel ", Proceeding of the 5Th IEEEGCC Conference, Kuwait.
5. Alshamali A. (2008), " GSM Based Remote Ionized Radiation Monitoring System", Proceeding of the Second International Conference on Advances in Electronics and Micro-electronics: ENIC 2008, Spain.
6. Alshamali, A. (2003), “ A mobile telecardiology system using TETRA standards”, Proceedings of the International Conference on Information Technology: Computers and Communications (ITCCi03), USA
7. Alshamali, A. (1999). Private mobile radio in Jordan: case study. Proceedings of the third International Jordanian Conference on Electrical Engineering. Mutah University, Jordan.
8. Alshamali, A. (1998). Error floor of DQPSK modulation in a two path mobile radio environment. Proceedings of the Fifteenth Radio Conference. Cairo, Egypt
9. Alshamali, A. (1998). Prediction of Spectral spreading of PI/4-DQPSK Modulation Due to

- Power Amplifier Non-linearity, via Computer Simulation. Proceedings of the IASTED Conference, Irbid, Jordan.
10. Alshamali, A. Macario, R.C.V. (1996) Coverage Strategy of TETRA Quasi-synchronous systems. Proceedings of IEE Colloquium on Propagation Aspects of future Mobile systems, London, U.K.
 11. Alshamali, A. & Macario, R.C.V. (1996). Performance evaluation of TETRA in Hilly and Urban Terrain and in a Quasi-synchronous Environment. Proceedings of the IEE Colloquium on Multipath countermeasure. London, U.K.
 12. Alshamali, A. & Macario R.C.V. (1995). The Operational Details of the Planned European Radio Messaging System- ERMES. Proceedings of the Fourth Technical Conference: Telecommunication & Information System, Status and Trend in Islamic Country, Amman, Jordan.

Supervision of Graduate Work and Theses*

1. "Spatial Modulation with Nakagami Fading Channel", Basma Quza, 2009.
2. "Investigation of the effect of obliquely incident plane wave on a human head at 900 MHz and 1800 MHz", (Coadvisor), Qassem Bashaireh, 2009.
3. "Study of free radicals formation in tissues of mice exposed to 900 MHz mobile phone radio frequency ", (Coadvisor), Marwan H. Gagaa, 2010.
4. "Optimization of Target Location, in Wireless Sensor Network, Using particle Swarm optimization (PSO)", Angam Smadi, 2012.

*- The MSC program in wireless communications at the telecommunication engineering department has started since 2005 with average acceptance rate of 10 students per year.

*- There is neither PhD program at the department nor at the faculty.

Services and academic activities (national and international)

- 1- Reviewed several articles, published or to be published in refereed journals (IEEE transaction on Vehicular Technology, IEEE transaction on communications, IEEE transaction on Biomedical Engineering, IEEE communication letter and other international Journals. Also, reviewed several articles published in international conferences.
- 2- Member of the tempus committee program: An Industry Oriented MSc. Program in Telecommunications Engineering-Towards and EU Approach. 2009 – present.
- 3- Member of Hijjawi Faculty council, 2012- 2013 and 2003- 2004.
- 4- Member Hijjawi Faculty library committee 2012- 2013 and
- 5- Member of Hisham Hijjawi Academic Distinction Award committee in Industry Linkage, 2009- 2010.
- 6- Member of the technical program committee of 2011 IEEE GCC conference for sustainable Ubiquitous technology, Dubai, 2011.
- 7- Head of the student affairs committee 2007-2008.
- 8- Member of Yarmouk University counsel 2007- 2008.
- 9- Member of the follow up and organization committees of the International medical informatics and biomedical engineering symposium, 2006, Jordan.

- 10- Member of Irbid city governorate permanent environmental committee 2005- 2006.
- 11- Head of the Committee for the installation of Orange Jordan GSM incubator at Hijjawi Faculty for Engineering Technology, 2005- 2006.
- 12- Member of the preparation and organization committees for the symposium on the Role of Modern Communications on distance Learning, Jordan, 2004.
- 13- Representative of Yarmouk University at the Arab Council for Training Students of the Arab University (ACTSAC), September 1997 to September 2001.
- 14- Representative of Yarmouk University and coordinator for the training students exchange between ENIC in France and Hijjawi Faculty for Engineering Technology. This program was supported financially by the French embassy in Jordan and Hisham Hijjawi Scientific Foundation, September 1998 to September 2001
- 15- Member of the technical program committee of International Jordanian Conference on Electrical Engineering, Jordan. 1998.
- 16- Member of the technical program committee of the IASTED conference at Yarmouk University, 1998.
- 17- Member of the Yarmouk University- Industry Linkage committee, 1997-1998.

Committees (Telecommunication Engineering Department)

- 1- Head of the study plan committee, 2012- present.
- 2- Member of the graduate studies committee, 2009- present.
- 3- Head of the training examination committee, 2007- 2010.
- 4- Member of the ABET accreditation committee, 2007- 2008.
- 5- Head of courses validation committee for students transfer, 2002- 2006.
- 6- Head of MSC program in wireless communication study plan preparation, 2003- 2004.
- 7- Member and head of the graduation project examination committee 1998-present.

References

- 1- Professor Ahmad F. Al-Ajlouni, vice president, Yarmouk University, E-mail: vice.admin@yu.edu.jo
- 2- Professor Mohamed K Abdelazeez, Department of electrical Engineering, University of Jordan, E-mail: abdelazeez@ieee.org;abdlazez@ju.edu.j
- 3- Prof A Smadi, Dean, Hijjawi faculty for Engineering technology, Yarmouk University, E-mail: fac_hij@yu.edu.jo