

CURRICULUM VITA

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EDUCATION

- B.Sc. (1970) Assuit University, Egypt.
- M. S. (1972) and Ph.D. (1976) Illinois Institute of Technology (IIT), Chicago, USA. All in Electrical Engineering.

MAIN AREA OF SPECIALIZATION: Electromagnetic Field Theory.

CURRENT AREAS OF RESEARCH INTEREST

- Antenna Theory and Design, Adaptive Antenna Array, Microwave Measure-ments, Electromagnetic Wave Propagation and Scattering, and Sound System Engineering.

EXPERIENCE

- Assistant Prof. (7/79-4/86), Associate Prof.(4/86-5/90), Prof. (5/90-) in the Electrical Engineering Dept., University of Jordan, Amman, Jordan.
- Chair, IEEE Jordan Section 1/1/2002-31/12/207.
- Visiting Professor, Electrical Engineering Dept., King Saud University, Riyadh, Saudia Arabia, 9/1999-9/2001.
- Visiting Professor, Electrical Engineering Dept., Al-Isra University, Amman, Jordan, 9/95-8/96.
- Dean, Faculty of Engineering and Technology, University of Jordan, 8/93-9/95.
- Vice-Dean, Faculty of Engineering and Technology, University of Jordan, 9/91-8/93.

- Visiting Professor, Electrical Engineering Dept., Jordan University of Science and Technology, Irbid, Jordan, 9/90 - 7/91.
- Chairman, Electrical Engineering Dept., University of Jordan, Amman, Jordan 7/83-9/85).
- Member, Board of Directors, Telecommunication Corporation, Jordan (7/83-9/85).
- Conference Vice-Chairman, 2nd Jordan International Electrical and Electronic Engineering Conference (JIEEEEC'85), Amman, Jordan, April 28 - May 1, 1985.
- Chairman, Technical Committee, 1st Jordan International Electrical and Electronic Engineering Conference (JIEEEEC'83), Amman, Jordan, April 25 - April 28, 1983.
- Member of the Technical Staff (MTS), Bell Telephone Laboratories, Holmdel, New Jersey, USA (6/77 - 7/79).
- Visiting Assistant Professor, Electrical Engineering Dept., Illinois Institute of Technology (IIT), Chicago, USA (9/76 - 6/77).

RESEARCH FELLOWSHIPS

- Graduate Fellowship, EE Dept., IIT, Chicago (9/72 - 5/74).
- Graduate Research Assistant, EE Dept., IIT, Chicago (5/74 - 1/75).
- Graduate Teaching Assistant, EE Dept., IIT, Chicago (1/75 - 5/75).
- Graduate Research Assistant, EE Dept., IIT, Chicago (9/75 - 9/76).
- DAAD (Germany) Research Grant for two months 7-9/2004, in the High Frequency Institute at Aachen University, Germany.
- DFG (German Government) Research Grant for three months 6-9/2005, in the High Frequency Institute at Aachen University, Germany.

ORGANIZATION AFFILIATIONS

- Senior Member, IEEE, New York, USA (1976 -).
- Member, and CEng in The Institution of Electrical Engineers (IEE), United Kingdom, 1987.
- Member, Tau Beta Pi, (Electrical Engineering Honor Society), USA (1977-)
- Member, Jordan Engineers Associations, Amman, Jordan (1980 -).

COUNCIL MEMBERSHIPS

- Member, University of Jordan Council (9/86-9/87, 8/93-8/95).
- Member, Deans' Council, University of Jordan (8/93-9/95).
- Member, Appointment and promotion Committee, University of Jordan (9/94-9/95).
- Member, University of Jordan Graduate Study Council (9/84-9/85, 9/91-9/93).
- Chairman, Evaluation of Engineering Certificates, Higher Education Ministry (11/92-8/95).

- Member, Faculty of Engineering & Technology Council, University of Jordan (9/82 - 9/85, 9/91-8/95).

TECHNICAL ACTIVITIES:

- Conference Vice-Chairman, JIEEEEC'85, University of Jordan, April 28 - May 1 1985.
- Chairman, Publicity Committee, and Member of the Technical Committee, JIEEEEC'85.
- Chairman, Technical Committee, and Member of other Committees, JIEEEEC'83, University of Jordan, April 25 - April 28, 1983.
- Technical Reviewer, JIEEEEC'85 & '83, DIRASAT, NSF proposals, and others.
- Member, various committees: Continuing Engineering Education, Tender Committees, University Hospital Development, Technical Committee of the Acoustical and Electrical Systems in King Abdullah Mosque, Reviewing Electrical Systems Design and Implementations, and others in the University of Jordan and in Jordan since 1979.

BRIEF DESCRIPTION OF EXPERIENCE

- Development of Undergraduate Curricula in the Electrical Engineering Dept. in both the University of Jordan and Mu'ta University, National Amman University and Applied Science University.
- Developments of Laboratories in Communication, Circuits, Measurements, Antenna and Microwave in both the University of Jordan and Mu'ta University, National Amman University and Applied Science University.
- Teaching Graduate and Undergraduate courses in: Communication Theory and Systems, Electromagnetic, Microwave Engineering, Measurements, Circuits, Network Analysis and Synthesis, Logic Design, Control Engineering, Applied Engineering Mathematics, Sound System Engineering, and Illumination.
- Supervision of Graduate Projects: Nonlinear Equalization, Adaptive Antenna Array, Cylindrical Corner Reflector Antenna, Satellite Interference, Composite Material Characterization at Microwave Frequencies.
- Supervision of Undergraduate Projects: Satellite Communication Systems and Subsystems, Wave Propagation, Antennas, Guided Radar Systems, Sound System Engineering, etc.
- Research and Development in the Domestic Satellite Department in the area of Nonlinearity Problems in the Satellite Communication Channels, Effect of the Ionosphere, and air on Wave Propagation in Satellite Communications, Bell Telephone Laboratories, USA (1977-1979).

Ph. D. THESIS

- Scattering of Electromagnetic Waves from Randomly Moving and Non-Planar Surfaces, Ph. D. Thesis, E. E. Dept., IIT, Chicago, Dec. 1976.

CURRENT RESEARCH PROJECTS

- Adaptive Antennas and the Different Factors Affecting their Performances.
- Electromagnetic and Acoustic Waves Scattering and Diffraction.
- Corner Reflector Antennas with Cylindrical Subsurface.
- Antenna Array Synthesis.
- Satellite Communication Systems: Wave Propagation, and Interference Consideration.
- Acoustical Treatments.

PUBLICATIONS

I. Journal Papers

1. Scattering of Electromagnetic Waves From Moving Surfaces, IEEE Trans. on Antennas and Propagation, Vol. AP-27, No. 5, pp. 679-684, September 1979, (Co-authors, L. C. Peach, and S. R. Borkar).
2. Wave Scattering from a large Sphere with Rough Surface, IEEE Trans. on Antennas and Propagation, Vol. AP-31, No. 2, pp. 375-377, March 1983.
3. Scattering of Electromagnetic Waves from Slightly Perturbed Spherical Surfaces, DIRASAT (Engineering & Technological Sciences), University of Jordan, Amman, Jordan, Vol. XII, No. 1, pp. 75-83, January 1985.
4. Wave Scattering from Moving Non-Planar Surfaces, DIRASAT (Engineering & Technological Sciences), University of Jordan, Amman, Jordan, Vol. XII, No. 9, pp. 77-89, 1985.
5. Scattering of Electromagnetic Waves from a Rough and Infinitely Long Cylinder, DIRASAT (Engineering & Technological Sciences), University of Jordan, Amman, Jordan, Vol. XII, No. 9, pp. 91-108, 1985.
6. Rain Effects on Wave Propagation in Terrestrial Microwave Communication Systems in Jordan, DIRASAT (Engineering & Technological Sciences), University of Jordan Journal, Amman, Jordan, Vol. XII, No. 9, pp. 109-122, 1985.

7. Electromagnetic Wave Scattering from Moving Surfaces: A Comparative Study, The Trans. of the IECE of Japan, Vol. E68, No. 11, pp. 733-736, November 1985.
8. Measurements and Analysis of the Traffic Noise in Amman, Jordan and Its Effects, Applied Acoustics, Elsevier Applied Science, Vol. 21, pp. 309-320, 1987, (Co-author, R. N. S. Hammad).
9. Traffic Noise in Amman and Measurements of the Related Annoyance, (In Arabic), DIRASAT (Engineering & Technological Sciences), University of J, Amman, Jordan, Vol. 14, No. 9, 1987, pp. 23-47 (Co-author, R. N. S. Hammad).
10. Measurements of the "Magnex DC", Characteristics at Microwave Frequencies, J. of Materials Science, Chapman and Hall, Vol. 23, 1988, pp. 2995-3000, (Co-authors, Z. Q. O. Baker, and A. M. Zihlif).
11. Evaluation of the Atmospheric and Sun Effects on the Communication System in the Arab Satellite, DIRASAT (Engineering & Technological Sciences), University of Jordan, Amman, Jordan, Vol. 15, No. 6, 1988, pp. 180-194, (Co-author, B. Kahhalah).
12. Electromagnetic Wave Scattering from Moving Rough Conducting Surfaces: Oblique Incidence, DIRASAT (Engineering & Technological Sciences), University of Jordan, Amman, Jordan, Vol. 15, No. 6, pp. 129-151, 1988.
13. Modelling in Sound Engineering: A Practical Study, (In Arabic), DIRASAT (Engineering & Technological Sciences), University of Jordan, Amman, Jordan, Vol. 15, No. 6, pp. 7-20, 1988, (Co-author, R. N. S. Hammad).
14. Generalization of Infinite Legendere Integral Transform and its Inverse, DIRASAT (Engineering & Technological Sciences), University of Jordan, Amman, Jordan, Vol. 15, No. 6, pp152-157, 1988.
15. Two and Three Dimensional Cylindrical Corner Reflector Antennas With Different Feeding Configurations, DIRASAT (Engineering & Technological Sciences), University of Jordan, Vol. 5, No. 6, 1988, pp. 158-179, (Co-author, M. K. Dahman).
16. Measurements of Some Parameters for Magnex-DC, Egyptian J. of Solids, No. 1, Vol. 10, 1988, (Co-authors, M. S. Ahmad, A. M. Zihlif, Z. Q. O. Baker, and M. A. Yasin)

17. Microwave Properties of the Talc Filled Polypropylene, J. of Material Science, Chapman and Hall, Vol. 24, pp. 1795-1800, 1989, (Co-authors, M. S. Ahmed, and A. M. Zihlif).
18. Mechanical and Electrical Behavior of "Magnex DC" Conductive Polymer Composite, J. of Material Science, Chapman and Hall, Vol. 24, pp. 1309-1315, 1989, (Co-author, M. S. Ahmad, and A. M. Zihlif).
19. Measurements of the Noise Level at Queen Alia Airport and its Effect on Employed Persons, Applied Acoustics, Elsevier Science Pub., Vol. 28, pp. 221-228, 1989, (Co-authors, R. N. S. Hammad, and B. Sharqawi).
20. Evaluation of Industrial Noise in Jordan, Applied Acoustics, Elsevier Applied Science Pub., Vol. 28, pp. 253-262, 1989, (Co-authors, B. Jubran, S. El-Habali, and M. Hamdan).
21. Acoustical Design for King Abdullah Ben-El-Hussain Mosque, Amman-Jordan: Suggestions and Results, (In Arabic), DIRASAT (Engineering and Technology), University of Jordan, Amman, Jordan, Vol. 16, No. 5, pp. 24-39, 1989, (Co-author, R. N. S. Hammad).
22. Some Properties of Nickel Coated Carbon Fiber-Polypropylene Composites at Microwave Frequencies, J. of Material Science, Chapman and Hall, Vol. 25, pp. 3083-3088, 1990 (Co-authors, S. M. Musameh, M. S. Ahmad, A. M. Zihlif, E. Martuscelli, G. Ragosta, and E. Scafora).
23. Microwave Measurements on Oilshale Rocks, J. of Material Science, Chapman and Hall, Vol. 25, pp. 5019-5024, 1990 (Co-authors, M. S. Ahmad, and A. M. Zihlif).
24. Microwave Assessment of Two Layer Composite Systems, Applied Physics Communications, Vol. 10, Nos. 1&2, pp.15-27, 1990, (Co-authors, S. M. Musameh, M. S. Ahmad, A. M. Zihlif, E. Martuscelli, G. Ragosta, and E. Scafora).
25. Measurements of the Absorption Coefficient for the Different Materials used in Acoustical Treatments, (in Arabic) DIRASAT (Part B: Pure and Applied Science), University of Jordan Journal, Amman, Jordan, Vol. 17B, pp. 7-22, 1990, (Co-author, R. N. S. Hammad).

26. Electrical Behavior of Aluminum Glass Fiber-Polypropylene Composite in the X-Band, *Plastic and Rubber Processing and Applications (an International Journal)*, The Plastic and Rubber Institute, England, Vol. 13, pp. 237-241, 1990, (Co-authors, S. M. Musameh, M. S. Ahmad, A. M. Zihlif, E. Martuscelli, G. Ragosta, and E. Scafora).
27. Multireflection of Electromagnetic Wave by Double Layers Made From Composite Materials, *J. Material Science and Engineering, Section B: Solid State Materials for Advanced Technology*, Elsevier Sequoia, Vol. B-7, pp. 43-48, 1990, (Co-author, M. S. Ahmad).
28. Electrical Characterization of some Materials in the X-Band, *J. of Materials Science: Materials in Electronics*, Chapman and Hall, Vol. 1, pp. 105-109, 1990, (Co-author, M. S. Ahmad).
29. Acoustics of King Abdullah Mosque, *Journal of the Acoustical Society of America*, Vol. 90, No. 3, pp. 1441-1445, Sept. 1991, (Co-author, R. N. S. Hammad).
30. Electrical Properties of Oilshale Rock, *J. of Materials Science*, Chapman and Hall, Vol. 26, pp. 203-207, 1991, (Co-authors, M. S. Ahmad, M. Haj Abdallah, and A. M. Zihlif).
31. Some Electrical Properties of Aluminum-Epoxy Composite, *Material Science and Engineering*, Elsevier Sequoia, Vol. B10, pp. 29-33, 1991, (Co-authors, S. M. Musameh, M. S. Ahmad, A. M. Zihlif, M. Malincnico, E. Martuscelli and G. Ragosta).
32. Characteristics of Double Layers of Aluminum-Epoxy Composite in the X-Band, *Material Science and Engineering*, Elsevier Sequoia, Vol. B14, pp. 1-4, 1992, (Co-authors, S. M. Musameh, M. S. Ahmad, A. M. Zihlif).
33. Optimum Measuring Conditions of Shielding Effectiveness for Conductive Polymer Composite, *Materials Letters*, Elsevier Science Pubs. B. V., Vol. 15, pp. 104-107, 1992, (Co-authors, S. M. Musameh, M. S. Ahmad, A. M. Zihlif, M. Malincnico, E. Martuscelli and G. Ragosta).
34. Sound Insulation of Different Types of Shutters Used in Jordan, *Applied Acoustics*, Elsevier Science, Vol. 42, pp. 373-381, 1994, (Co-authors, R. N. S. Hammad and A. A. Mustafa).

35. Acoustics of the Architectural Spaces for Queen Alia International Airport: Measurements and Suggestions (In Arabic), DIRASAT (Pure and Applied Science), University of Jordan Journal, Amman, Jordan, Vol. 22B, No. 2, pp. 11-50,1995, (Co-author, R. N. S. Hammad).
36. Utilization of Fast Fourier Transform for the Evaluation of Sommerfeld Integral in Electromagnetic Wave Propagation, DIRASAT (Pure and Applied Science), University of Jordan Journal, Amman, Jordan, Vol. 24B, No. 2, June, 1997, (Co-author, W. Mashal).
37. Modeling of Wave Propagation in the Troposphere Using the Parabolic Equation, DIRASAT, University of Jordan Journal, Amman, Jordan, Vol. 29, Engineering Sciences, No. 2, October 2002, pp210-228, (Co-author, Qusai S. Jadoun).
38. Electromagnetic Wave Propagation in the Troposphere Over different Terrain Configurations, Submitted for Publication, (Co-author, Qusai S. Jadoun).
39. Modeling of Wave Propagation over Different Realistic Types of Environments Using the Parabolic Equation, accepted for publication in DIRASAT, University of Jordan Journal, Amman, Jordan, 2006, (Co-author, Mohammad H. Ahmad).
40. Design of a Multi-Band Loop Antenna for wireless Communication: Simulation & Analysis, accepted for publication in Journal of KSU 2010(Co-author, Mohammed A. I. Haj-Ahmed).

II. Conference Papers

1. Wave Scattering From Moving Surfaces Using the Reformulated Current Approach, IEEE Int. Symp. on Antenna and Propagation, pp. 512-514, June 1977, (Co-authors, L. C. Peach, and S. R. Borkar).
2. Wave Propagation in Satellite, First Iraqi National Conference on Telecommunication Systems, University of Mosul, Iraq, pp. 1-39, March 29-31, 1980.
3. Ionosphere Effects on Satellite Communication, National URSI-Symposium, Military Technical College, Cairo, Egypt, pp. 221-229, Feb. 21-22, 1983.

4. Rain Rate Distribution in Jordan, Proceedings of the JIEEEEC'83, University of Jordan, Amman, Jordan, pp. 207-209, 1983, (Co-author, A. R. Khadir).
5. Rain Effects on Wave Propagation for the Arab Satellite, Proceedings of the JIEEEEC'83, University of Jordan, Amman, Jordan, pp. 120-122, April 25-28, 1983.
6. Atmospheric and Ionospheric Effects on Satellite Communications, Pro-ceedings MELECON'83, Vol. 1, B8.13, Athens, Greece, pp. 24-26, May 1983.
7. Wave Scattering from Oscillating Rough Planar Surfaces, Proceedings of the Third National Radio Science Symposium, Military Technical College, Cairo, Egypt, pp. B6:93-98, Feb. 23-25, 1985.
8. Rain Attenuation in Microwave Terrestrial Path in Jordan, Proceedings of the JIEEEEC'85, University of Jordan, Amman, Jordan, pp. 343-346, April 28- May 1, 1985.
9. Cylindrical Corner Reflector Antenna, Proceedings of the Fourth National Radio Science Symposium, Military Technical College, Cairo, Egypt, Nov. 9-11, 1986.
10. Cylindrical Corner Reflector Antenna with Different Feeding Configurations, IEEE Int. Symp. on Antenna and Propagation, Vol. 1, pp. 496-499, June 15-19, 1987.
11. A Proposed Education Network Using Space Telecommunications, (In Arabic), ARABSAT Symp., 29 Sept.- 1 Oct. 1987, pp. 49-, King Saud University, Kingdom of Saudi Arabia, (Co-authors, M. Maqusi, B. Kahhalah, and I. H. Zabalawi).
12. Measurements of the Characteristics of Some Composite Material at Microwave Frequencies, Proceedings of the Fifth National Radio Science Conference, Military Technical College, Cairo, Egypt, pp. A6:1-8, Feb. 16-18, 1988, (Co-authors, Z. Q. O. Baker, and A. M. Zihlif).
13. Shielding Effectiveness of the "Magnex DC" Composite, IEEE Int. Symp. on Electromagnetic Compatibility, August 1988, Seattle, pp. 231-234,(Co-authors, Z. Q. O. Baker, and A. M. Zihlif).

14. Three Dimensional Cylindrical Corner Reflector Antennas, JINA'88, 8-10 Nov., 1988, Paper #1.12, Nice, France, (Co-author, M. K. Dahman).
15. Measurements of the Acoustical Characteristics for Locally Produced Materials, LICEEE, Libya, 20-23 March, pp. O: 38-42, 1989, Tripoli, (Co-authors, R. N. S. Hammad, I. H. Zabalawi, and B. Zo'omot).
16. Attenuation and Cross-Polarization Interference Predictions Due to Atmospheric Hydrometers for Arab-Satellites, LICEEE, 20-23 March, 1989, pp. 3-50-3-55, Tripoli, (Co-author, B. Kahhalah).
17. Shielding Effectiveness of Polypropylene-Nickel Coated Carbon Fibers Composite, Int. Conf. on Electromag. in Aerospace Applications, ICEAA'89, Torino, Italy, pp. 131-134 , (Co-authors, S. M., M. S. Ahmad, A. M. Zihlif, E. Martuscelli, G. Ragosta, and E. Scafora).
18. Graduation Projects in Engineering Colleges and Their Benefits, Proceedings of the Second Libyan Arab International Conference on Electrical and Electronic Engineering, March 20-23 , 1989, Tripoli, Libya, pp. O-35 -O-37, (Co-authors, H. Hamdan, and I. H. Zabalawi).
19. Simulation of Traffic Noise by Means of Computer, Third Iraqi Engineering Conference, Baghdad, Iraq, Nov. 24-26, 1990, (Co-author, R. N. S. Hammad).
20. The Effect of Pointing Errors on Adaptive Antennas Performance, IEEE Int. Symp. on Ant. and Propagation, 1993, (Co-authors, A. H. Al-Ka'bi and O. B. El-Gezawi).
21. Top Loaded Monopole Antenna, Proceedings of the ICCCP'98, Muscat-Sultanate of Oman, 7-10 Dec., 1998, pp.163-169, (Co-author, A. Jabar).

OTHER PUBLICATIONS

1. Translation to Arabic of the following book: **“High-Tec Society, The Story of the Information Technology Revolution”**, By Tom Forester, MIT Press, Cambridge, MA, 1987.

2. Co-author and Chairman of the Committee of six books (in Arabic) for Industrial High Schools in Jordan in the following areas: Electrical Circuits, Telecommunication, Radio and Television, Electronics, Power Electronics and Computers, Ministry of Education, Jordan, 1995.
3. Co-author (with Majeed Al-Kanhal, KSU) of the book “**Engineering Electromagnetics: Time varying Electromagnetic Fields**” (in Arabic), in the press, King Saud University, Riyadh, Saudia Arabia.