

Curriculum Vitae

Personal

Name: **Abdulaziz Salem Al-Ruwais**
Occupation: Professor, Electrical Engineering Department
Date of Birth: March 1953
Nationality: Saudi
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Degrees Held

Ph.D. in Electrical Engineering Ohio State University, Columbus, Ohio, USA, 1982
M.Sc. in Electrical Engineering University of Colorado, Bolder, Colorado, USA, 1977
B.Sc. in Electrical Engineering King Saud University, Riyadh, Saudi Arabia 1974

Current Interests

- Communication systems
- New trends in mobile communications
- Information security
- Technology transfer
- Electromagnetic radiation measurements and effects

Administrative Positions

- Feb 93- April 1999 Dean, College of Engineering, King Saud University (KSU)
- 1990-1993 Director, College of Engineering Research center, KSU

Academic positions

Since 2002	Professor of Electrical Engineering, King Saud University (KSU), Riyadh Saudi Arabia
1987- 2002	Associate Professor of Electrical Engineering, KSU
1978- 83	Assistant Professor of Electrical Engineering, KSU
1982- 83	Assistant Professor of Electrical Engineering, King Abdulaziz University
1975-1982	Teaching Assistant, Electrical Engineering, King Abdulaziz University

Membership of Scientific Societies

The Institute of Electrical & Electronic Engineers (IEEE)

IEEE Communication Society

IEEE Aerospace and Electronic System Society

Professional activities

- 2000-Present Part-time consultant to ALJAWAL unit, Saudi Telecom. Company (STC).
- 1989-2004 Part-time Advisor to the Signal Corp., Ministry of Defence and Aviation, providing technical advising to the Signal Corp. in the fields of Electronic Warfare and Communications
- 1996-2000 Member of the advisory committee of KACST for Research Planning and Funding, King Abdulaziz City for Science and Technology (KACST)
- 1995-2000 Member of the committee for "Secure Information Systems", KACST
- 1995-1997 Member of the Chamber of Commerce Consulting Committee, Ministry of Commerce
- 1990-1991 Part-time Consultant to the Advanced Electronics Company.
- 1983-1989 Part-time Advisor to the Royal Saudi Air-force. Activities include technical advising to Electronic Warfare Section, RSAF C3 Section and Analysis and Research Section. Writing several reports about Military Communication and Radar Systems
Supervising the preparation of Satellite Communications Requirements of Armed Forces to the National Committee of Tele-communications
- 1989 Member of the Technical Committee of KACST formed to prepare the feasibility study of the advanced space company proposed to the offset program.
- 1988 Member of GCC Committee for the Evaluation of Tropo-scatter Communications Project.
- 1983-1985 Part-time consultant to the Saudi Alamoudi Group.

Current Funded Research Projects

Assessment of Capacity and Performance Enhancement using Frequency Hopping on STC GSM Network (KSU, National Research Project, 490,000 RS) 2005

Recent M. Sc. Thesis Supervised

Spectrum Requirements Estimation for Third Generation Mobile Services in Saudi Arabia, King Saud University, June 2003

Effect of Hopping Rate on The Performance of Tactical FH MPSK Communication Systems, King Saud University, June 2003.

Books

Translated to Arabic "Modern Digital and Analog Communication Systems - B.P. Lathi" (jointly with I.A. Al-Kadi and Adel A. Ali), 1989.

PUBLICATIONS

a. Radio Propagation

1. A.S. Al-Ruwais, and Abobakr Sultan, "Elevation Angle Variation of LEO Satellites for Availability Prediction", submitted for publication, 2005.
2. A.S. Al-Ruwais, and Abobakr Sultan, "Combined propagation Effects on link Availability of non-GSO Satellite links in Arid climate", submitted for publication, 2005.
3. A.S. Al-Ruwais, and Abobakr Sultan, "Propagation Effect on Mobile Satellite Communications at the Ka-band for Land Personal Communication systems (PCN) Application in the Kingdom of Saudi Arabia", Final research report No. E13/26, College of Engineering Research Center, King Saud University Feb. 2005.
4. A.S. Al-Ruwais, "Rain Effects on Link Availability of LEO Satellites at Ka-band in Saudi Arabia", European Transactions on Telecommunications, accepted for publication.
5. A.S. Al-Ruwais, "The Influence of Rain on Satellite Link Availability at ku- and ka-Bands in Saudi Arabia", SPACE COMMUNICATIONS an International Journal, Vol.15, No.3, 1999.
6. A.S. Al-Ruwais, "Measurements of RF Radiation Near MW and SW Radio Broadcast Stations" The IEEE Trans. On Broadcasting, Vol.1.44, Number 4, December, 1998.
7. A.S. Al-Ruwais, "Electromagnetic Fields Measurements near Microcellular Base Stations", The Journal of Engineering Sciences, King Abdulaziz University, vol.13, No. 1, 2001.
8. A.S. Al-Ruwais, "Measurements of RF Radiation near FM and TV broadcast stations", The Journal of Scientific Research, Science and Technology, Sultan Qaboos University, 6 (2001) 45-51 Muscat, Sultanate of Oman.
9. M. Samarkandi and A.S. Al-Ruwais, "Direct Broadcasting via Satellites Over GCC Countries", Technical Report, GCC Publications, 1411. (In Arabic).
10. Adel A. Ali and A.S. Al-Ruwais, "Investigation of Various Types of Fade Experienced on a Coastal Microwave Link Along the Red Sea", The Journal of Engineering Sciences, King Saud University. Vol. 14(1), 1988.
11. A.S. Al-Ruwais and Adel A. Ali, "Analysis of the Fading Problem on Microwave Links Along the West Coast of Saudi Arabia", The Arab Gulf Journal of Scientific Research, Section A, Vol. 5, 1987.
12. A.A. Ali, A.S. Al-Ruwais and A.A. Kadi, "Simulation study of Digital Modulations subject to Multipath Fading", Proceedings of the 1987 Symposium on Information Theory and its Applications (SITA'87), Nov. 19-21, 1987, Enoshima Island, Japan.

b. Mobile Communications – Effect of new technologies on Coverage and capacity

13. A.S. Al-Ruwais, "Teletraffic Capacity of CDMA Cellular Mobile Networks with Adaptive Antennas", The International Journal of Network Management, Vol.12, Issue4, July/Aug.2002, pp. 203-211
14. S.A. Alshebeili, A.M. Al-Qurainy and A.S. Al-Ruwais, "Nonlinear approaches for narrowband interference suppression in DS spread spectrum systems", Signal Processing, 77(1999)11-20, Elsevier Science Publishers B.V., Amsterdam, The Netherlands.
15. S.A. Alshebeili, A.M. Al-Qurainy and A.S. Al-Ruwais, "Subspace-based approaches for narrowband interference suppression in DS spread spectrum systems", Journal of The Franklin Institute, Elsevier Science Publishers B.V., 336(1999)1199-1207.

16. A.S. Al-Ruwais, A.I. Al-Obaid and S.A. Alshebeili, "Suppression of Narrow-band Interference in CDMA Cellular Radio Telephone Using Higher-Order Statistics, The Arabian Journal for Science and Engineering, Vol.24, No.2C, Dec. 1999, KFUPM, Dhahran, Saudi Arabia.
 17. A.A. Ali, A.S. Al-Ruwais and Z.T. Al-Otaiby, "Optimum Diversity and Coding for Frequency-Hopped Multiple Access Spread-Spectrum Communication Over Raleigh Faded Channel Subject to Pulse Burst Jamming", Space Communications, an International Journal, IOS Press, Volume 11, Number 3, 1993.
 18. Adel A. Ali and Abdulaziz S. Al-Ruwais, "Effect of Constellation Design, Pulse Shaping and BCH Codes on Performance of M-ary QAM Transmitted Over Gaussian Bandlimited Channels", The Journal of Space Communications, Elsevier Science Publishers B.V., No. 9, 1992.
 19. A.A. Ali and A.S. Al-Ruwais, "Diversity and Coding for Frequency-Hopped Spread Spectrum Communication Over a Rician Faded Channel Subject to Pulse-Burst Jamming", The Journal of Space Communications, Elsevier Science Publishers, B.V., No. 9, 1991.
 20. A.A. Ali and A.S. Al-Ruwais, "A Comparison of Digital Modulations for Mobile Satellite Channels", The Journal of Space Communication and Broadcasting, Elsevier-Science Publisher B.V. No.6, 1989.
 21. Saleh A. Al-Shebeili and A.S. Al-Ruwais, "A Study of Factors Affecting Performance of two Iterative Deconvolution Techniques", IMTC/87 Proceedings, IEEE Instrumentation/Measurement Technology Conference, April 27-29, 1987.
 22. Saleh A. Al-Shebeili and A.S. Al-Ruwais, "An Efficient Iterative Deconvolution of Noisy Waveforms", IMTC/87 Proceedings, IEEE Instrumentation/Measurement Technology Conference, April 27-29, 1987.
 23. Adel A. Ali, Abdulaziz S. Al-Ruwais and Abdulhameed M. Yaqoub, "Code M-ary PSK Performance over Bandlimited Non-linear Satellite Channels", The Journal of Space Communication and Broadcasting, Elsevier Science Publisher B.V. (North-Holland), 1987.
 24. A.S. Al-Ruwais and R.T. Compton, Jr., "Adaptive Array Behavior with Phase Modulated Interference", IEEE Trans. Aerospace and Electronic Systems. Vol. AES-23, Sept. 1987.
 25. A.S. Al-Ruwais, "Effect of Frequency-Swept Interference on the Performance of an Adaptive Antenna Array", IEEE Montech'86, Conference on Antennas and Communications, Sept. 29 - Oct. 1, 1986, pp. 77-80.
 26. A.S. Al-Ruwais and R.T. Compton Jr., "Adaptive Array Behavior with Periodic Envelope Modulated Interference", IEEE Trans. Aerospace and Electronic Systems, Vol. AES-21, Nov. 1985.
 27. A.S. Al-Ruwais and R.T. Compton, Jr., "Adaptive Array Behavior with Sinusoidal Envelope Modulated Interference", IEEE Trans. Aerospace and Electronic Systems, Vol. AES-19, No. 5, Sept. 1983.
- c) **Other Publications**
28. A.S. Al-Ruwais and Abdullah M. Al-Brahim, "The Role of Universities in Preparation and Implementation of Technical Training Plans", Proceedings of the Third Saudi Engineering Conference, Vol. 2, p. 597, Nov. 24-27, 1991. (In Arabic).
 29. A.S. Al-Ruwais, "Land Forces EW Training Courses", Internal Report, Signal Corp, Ministry of Defence and Aviation, 1411.