

## Heriot-Watt University Dubai Campus

### Staff profile

DETAILS	TO BE FILLED IN BY STAFF MEMBER
Name	Dr Nidhal Abdulaziz
Designation	Co-ordinator Electronic and Electrical Engineering, Teaching Fellow
Role (including modules taught)	<p>Coordinator for Electrical and Electronic Engineering, Leading the development of the EE program in Dubai. This role incorporate;</p> <ul style="list-style-type: none"> <li>teaching modules in EE, modules taught are: Introduction to Elect Engineering and Circuits, Praxis Electronic Design, Praxis Mechanical, Digital Design and Project, Digital Design and Programming, Circuits and Analysis, Signals and Systems, Autonomous Vehicles, and Programming for Engineers;</li> <li>Takes responsibility for the academic and facilities of the program;</li> <li>Participating in the recruitment of new faculty;</li> <li>Performing administrative duties such as academic planning, advising, and class scheduling;</li> <li>Assisting the operational manager in ensuring continuous growth, development, and improvement of the school.</li> </ul>
Telephone number	+9714 3641386
Email address	<a href="mailto:n.abdulaziz@hw.ac.uk">n.abdulaziz@hw.ac.uk</a>
School Duties	
Research Interests	Image and video processing, data hiding and watermarking, error-correcting codes and Line coding.
Academic Biography	<p>B.Sc. [Hons], M.Sc., PhD [Electrical and Computer Systems Engineering]</p> <p>Dr. Nidhal received her PhD from Monash University, Australia, in Electrical and Computer Systems Engineering. She was awarded the Douglas Lampard Electrical Engineering Research Prize and Medal for the best PhD thesis submitted to the Department of Electrical and Computer Systems Engineering, Monash University. She was also a holder of ATCRC (Australian telecommunications Center for Research) Scholarship.</p> <p>Prior to joining Heriot-Watt University Dubai Campus, she served on the faculties of University of Wollongong in Dubai, the University of Western Sydney, and Monash University, Australia. She has taught several courses at different levels in the fields of Electrical and Computer Engineering and Information Technology.</p>

Her research interests are in image and video processing, data hiding and watermarking, error-correction codes, and line coding and she has published widely in these areas in international conferences and journals. Dr Abdulaziz is also an international reviewer for the proceedings of IET (Communications) and a Member of the International Program Committee (IPC) for IASTED (The International Association of Science and Technology for Development) conferences.

#### Key publications

- [1] A M Glass, N Abdulaziz, and E Bastaki, "The H-Ternary Line Code Circuit Design and Modeling", Accepted for publication at ICASTOR Journal for Engineering.
- [2] N Abdulaziz, A. Glass, and Eesa Bastaki, "The Power Spectral Density of the H-Ternary Line Code: A Simulation Model and Comparison", published at the 10<sup>th</sup> IFIP International Conference on Personal Wireless Communications PWC'05, August 25<sup>th</sup>-27<sup>th</sup>, 2005, Colmar, France, pp. 507-517.
- [3] N Abdulaziz, et al., "RFID Tracking Solution for Shipping Ports Authorities" published at the 2<sup>nd</sup> IEEE GCC Conference and Exhibition, November 23-25, 2004, Bahrain, pp. 170-175.
- [4] N. Abdulaziz, A Glass, and E Bastaki, "Mathematical Analysis of the Power Spectral Density of the H-Ternary Line Code", published at the 2<sup>nd</sup> IEEE GCC Conference and Exhibition, November 23-25, 2004, Bahrain, pp.112-116.
- [5] N. Abdulaziz, K. Pang, and A. Glass, "Data Hiding in Images Using Wavelet Transform and Convolutional Coding", published at WITID2004, 24-26<sup>th</sup> of Feb 2004, Kish, Iran, pp.209-217..
- [6] A Glass, E. Bastaki, and N Abdulaziz, Performance of H-Ternary line code in the presence of noise: analysis and comparison. The 4<sup>th</sup> Middle East Simulation and Modelling (MESM'2002) Conf. (American University of Sharjah, Sharjah, UAE), 28-30 September 2002, pp.146-150.
- [7] N. Abdulaziz, A. Glass, and K. Pang, "Embedding Data in Images Using Turbo Coding," Published at the 6<sup>th</sup> International Symposium on DSP for Communication Systems (DSPCS'02), Sydney-Manly, 28-31 January 2002.
- [8] N. Abdulaziz and K. K Pang, "Wavelet Transform and Channel Coding for Data Hiding in Video," Published at the International Conference on Info-tech & Info-net, ICII2001, Beijing, Oct. 29-Nov. 1, 2001, pp.791-796.
- [9] N. Abdulaziz and K. K. Pang, "Coding Techniques for Data Hiding in Images", Published at the Sixth international Symposium on Signal Processing and its Applications ISSPA 2001, 13-16 August 2001, Kuala-Lumpur, Malaysia, pp. 170-174.
- [10] N. Abdulaziz and K. K. Pang, "The Effect of Channel Coding in Data Embedding in Images," Published at Multispectral Image Processing and Pattern Recognition (MIPPR 2001), 22-24 October 2001, Wuhan, China, pp. 27-31.
- [11] N. Abdulaziz, and K. K. Pang, "Performance evaluation of data hiding system using wavelet transform and error-control coding," IEEE International

Conference on Image Processing 2000 (ICIP 2000), 10-13 September 2000, Vancouver, Canada, vol. 1, pp. 605-608.

[12] N. Abdulaziz, and K. K. Pang, "Robust data hiding for images," Published at World Computer Congress WCC 2000, International Conference on Communications Technology (ICCT 2000), 21-25 August 2000, Beijing, China, vol. 1, pp. 380-383.

[13] N. Abdulaziz, and K. K. Pang, "Source and channel coding approach for data hiding," Proceedings of SPIE, Visual Communications and Image Processing 2000 Conference, 20-23 June 2000, Perth, Australia, pp. 1526-1535.

[14] N. Abdulaziz, "Watermarking of images and video using wavelet transform," Proceedings of Ctie Conference, 25-26 Feb. 1999, Monash University, Clayton, Australia.

[15] N. Abdulaziz, and J. G. Lucas, "Representation and coding of images using wavelets," TENCON 97, QUT, Brisbane, 2-5 December 1997.

[16] N. Abdulaziz, and S. D. Marougi, "Effect of an AGC amplifier on the performance of a generalized PLL in the presence of a large interfering signal," IEE Proc., Pt.G, Vol.136, No.4, pp.178-183.

A. M. Glass, R. Brewster, and N. Abdulaziz, "Modeling of CSMA/CA protocol by simulation," Electronics Letters, Vol.24, No.11, 1988, pp. 692-694.

#### Other Interests

\* If required, please attach photo as a separate image file.

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