Dr. Amr Maged El-helw

Personal Information

- **Marital status:** married
- **Date of Birth :** 6 / 12 /1977
- **Address:** 9 abdel hamed el-deeb street, Tharwat, Alexandria, Egypt
- **Phone:** 002-010-0802880
- **E-mail:** < elhelw@aast.edu>

Research Interest

My research work is mainly focused on; telecommunication, digital signal processing, artificial intelligence, pattern recognition and video and image processing. I am particularly interested in developing new techniques and carrying out high quality research to emphasize real-world applications. I am also interest in teaching undergraduate, postgraduate and training courses in the same areas.

Education

- **2004 – 2008 Staffordshire university, Uinted Kingdom**
  PhD. In Electronics and Communications Engineering
  "Pattern Classification Using Spread Spectrum"

- **2007 Staffordshire university, Uinted Kingdom**
  The Postgraduate Certificate in Research Methods

- **2000 - 2003 Arab Academy of Science and Technology, Egypt**
  Master degree in Electronics and Communications Engineering
  "Space Time Coding Techniques for Wireless Communication Channels"

- **1995 – 2000 Arab Academy of Science and Technology, Egypt**
  Bachelor degree in Electronics and Communications Engineering
  GPA : 3.97 excellent with honor degree.

Work experience

- **2008 - Now Arab Academy of Science and Technology, Egypt**
  - Director of International Agreements & Cooperation Unit (IACU). I managed about 55 agreements all over the world. I participated in the building strategic partnerships workshop which was held by the British council and the Egyptian Supreme council of universities, Cairo, 12th - 13th May 2015. I attended a workshop on higher education reform held by the British council and the Egyptian Supreme council of universities, Cairo, 16th - 17th September 2015. I participated in the UK week (12th -16th October 2015) for supporting reform and innovation in Egyptian higher education. During this week, on the 12th of October 2015, I was involved in hosting the UK delegates headed by Prof. Robin Grimes, Chief Scientific Adviser to the Foreign and Commonwealth Office and Ms Claire Durkin, Director of International Science and Innovation, BIS and the British ambassador at the AASTMT. I also attended the workshop on UK-Egypt collaboration for transforming Egypt's higher education during this week (14th October). Moreover, I contributed on the international network opportunities

between Egyptian and UK universities session which was held during the workshop. I participated in hosting the UK Delegates for the Education and Training Trade Mission to Egypt held on 18 – 22 October 2016 at the AASTMT. During the visit collaboration agreement was signed between Grimsby institute and the AASTMT. I Attended the IAU 2015 International Conference; "Internationalization of Higher Education: moving beyond mobility" which was held in Siena, Italy form 28th until 30th of October 2015. I Accompanied the AASTMT's president during the first meeting between Egypt – UK board of governors for reforming of the higher education in Egypt. This meeting was in London on the 20th of January 2016. I also participated in the international network opportunities between Egyptian and UK universities session which was held during the meeting. During the meeting, universities in the UK and Egypt have signed 10 partnership agreements aimed at building scientific research and increasing opportunities for student and staff exchanges. Among these agreements, I was responsible for the initiation and the realization of four agreements.

- Associate Professor at College of Engineering and Technology. I am currently teaching the following courses; Spectral analysis, Introduction to Digital Communications, Satellite Communications, Electronic Circuits, Signal Space and Applications, Signals and Systems, Advanced Communication Systems, Analog and Digital Signal Processing, Advanced Pattern Recognition (master course), Advanced Digital Signal Processing (master course), Communication seminar (master course), Satellite Communication systems (master course) and Advance Digital communication (master course). I am currently supervising one PhD student (Local supervisor for UK PhD at a distance with Staffordshire university) In the area of wireless visual sensor networks. I am also supervising ten master students in the areas of: OFDM, space time coding, cognative radio and image processing. I am a member of the electronic and communication Engineering Department consultancy team. This team can provide consultancy in; digital signal processing, computer vision, artificial intelligence, telecommunication, and video and image processing.

- **2005 - 2008 Staffordshire university, United Kingdom**
  - Full time researcher in the digital processing research group
  - part time lecturer at College of Engineering, Computing and Technology. I used to teach the following courses; Satellite Communication Systems, Signals and Communications, Signal Analysis, Broadcasting Technology and Telecommunications (master course). I also developed and taught training courses for industry (Industrial Electronics Circuit design and simulation tools, Electronics Functional Simulation Tools). I also prepared one course (Fundamentals of mobile computing) for the Gulf university.

- **2000 – 2003 Academy of Science and Technology, Egypt**
  - Graduate Teacher Assistant (GTA) at school of Engineering. I used to teach the following courses; Communiction Theory (Fourier series, Fourier transform, correlation, convolution), Communication Systems I (Analog modulations: AM, FM, PM), Communication systems III (Digital communications), Antennas and wave propagation, Electronic Design and testing, Measurerments and Electronic circuits

Computer skills

- XILINX (FPGA).
- MATLAB (simulink) – MATHCAD
- NEC (Numerical Electromagnetic Code).
- Languages:- Visual basic – C++.
- Operating systems (Windows 7, Windows 8 – Linux).
- Microsoft office Word – Excel – Power point - Access.
- Adobe Photoshop – Paint Shop pro–Adobe Premiere –Macromedia Authorware.
- Hardware:- Assembling & trouble shouting PC's problems.

Languages

- English V.Good in written & spoken
- Arabic mothertongue

Hobbies

Horse riding , squash, swimming, running and gardening.

Activities

- Member of the electronic and communication Engineering Department consultancy team (from 2008)
- Member of the departement registation and advizing committee (2000-2003).
- Member of metorpolitan rotaract club (from 2001).
- Vice president of the student council (1998-2000).
- Member of the organizing team of : World Telecommunication Development Conference(WTDC 2002)

Publications

Mohamed E. Khedr , Amr El-Helw and M. H. Afifi, "**Adaptive Mitigation of Narrowband Interference in Impulse Radio UWB Systems Using Time-Hopping Sequence Design**" Journal of Communications and Networks, Vol. 17, Issue 6, 31 December 2015

Amr M.. El-Helw and Ehab F. Badran, "**Semi-Blind Error Resilient SLM for PAPR Reduction in OFDM Using Spread Spectrum Codes**". Public Library of Science PLOS-ONE, May 27, 2015.

Salema Fayed, Sherin Youssef, Amr El-Helw, Mohammad Patwary and Mansour Moniri "**Adaptive Compressive Sensing for Target Tracking within Wireless Visual Sensor Networks-based Surveillance applications**", multimedia tools and applications journal, Springer, May 2015

Salema Fayed, Sherin Youssef, Amr El-Helw, Mohammad Patwary and Mansour Moniri, "**A Hybrid Adaptive Compressive Sensing Model for Visual Tracking in Wireless Visual Sensor Networks**", International Journal of Circuits, Systems, and Signal Processing, Volume 8, pp. 399-409, ISSN:1998-4464, 2014.

S.Fayed, S.Youssef, A.El-Helw, M.Patwary and M.Moniri, "**Compressive Sensing-based Target Tracking for Wireless Visual Sensor Networks**", 18th international conference on Circuits, Systems, Communications and Computers (CSCC 2014), Vol. 1, pp. 44-50, Santorini, Greece, July, 2014.

S.Fayed, S.Youssef, A.EL-Helw, A.S.Akbari, M.Patwary and M.Moniri, "**Comparative Analysis on the Competitiveness of Conventional and Compressive Sensing-based Query Processing**", Advances in Information Science and Applications, 18th international conference on Circuits, Systems, Communications and Computers (CSCC 2014), Vol. 1, pp. 240-245 ,Santorini,

Greece, July, 2014.

S. El-Khamy, A. El Helw, A. Mahdy, **"Separation of Overlapped Compressed Cyclostationary Signals Using Adaptive FRESH Filtering"** Progress In Electromagnetics Research Symposium (**PIERS 2013**), Stockholm, Sweden, 12-15 August, 2013

M. E.Khedr , A. El-Helw , & M. H. Afifi ," **Adaptive Mitigation of Multi-Narrowband Interferences in Impulse Radio UWB Systems Using A Spread Spectrum Sensing Technique**", Innovations on Communication Theory INCT 2012,Istanbul, Turkey, 3-5 October, 2012

S. E. El Khamy, A. M. El Helw, S. Zaalik, "**Channel-Matched Space-Time Code Selection and Adaptive Modulation for Rayleigh Fading Channels**", The Second International Conference on Mobile Services, Resources, and Users, Venice, Italy, October 21 - 26, 2012.

S. E. El Khamy, A. M. El Helw, A. Mahdy, " **Digital Signal Classification by Compressed Cyclostationary Features**" 29th National Radio Science conference (NRSC 2012), Cairo, Egypt, 10 – 12 April 2012.

S. E. El Khamy, A. M. El Helw and A. Mahdy, "**Classification of Multi-rate CDMA Signals Using Compressed Cyclostaionary Features**", Progress In Electromagnetics Research Symposium (**PIERS 2012**), Kuala Lumpur, Malaysia, 27-30 March, 2012

A. M. El-Helw, E. F. Badran and H. Y. Al-Kafrawy, "**A New Sequence for Embedding Side Information in SLM for PAPR Reduction in OFDM**", 2012 Japan-Egypt Conference on Electronics, Communications and. Computers (JEC-ECC 2012), Alex. , Egypt , 6-9 Mar, 2012

S. Fayed, S. Youssef, A. El-Helw, A. S. Akbari, M. Patwary and M. Moniri, "**Performance analysis on the competitiveness of Query processing and Compressive sensing in WSN**". The IEEE Sensors Applications Symposium 2012, Brescia, Italy, 7-9 Feb 2012.

E. F. Badran and A. M.. El-Helw, "**A Novel Semi-Blind Selected Mapping Technique for PAPR Reduction in OFDM**". IEEE Signal Processing Letters, Volume: 18, Issue: 9 page(s): 493 – 496, Issue Date: Sept. 2011

A. M. El-Helw, M. A. Sharkas and E. I. AlSaba, "**Combing Haar and MBLBP features for Face Detection using Multi-exit Asymmetric Boosting**", 2nd International Conference on Software Technology and Engineering (ICSTE), Volume: 2, Page(s):67 -71, 2010 ,USA, 3-5 October, 2010

M. Sharkas, A. El-Helw, E. AlSaba; "**MBLBP face detection with multi-exit Asymmetric Boosting**", International Conference On Electronics and Information Engineering (ICEIE), Volue:2 ,pages:234-238, Japan, 1-3 Aug. 2010

A. M. El-Helw, M. Moniri, and C. C. Chibelushi, "**Error-resilient Pattern Classification Using Combination of Spreading and Coding Gains**", IET Image Processing (formerly part of IEE Proceedings - Vision, Image, and Signal Processing), vol. 1, no. 3, pp. 278–286, 2007.

A. M. El-Helw, M. Moniri, and C. C. Chibelushi, "**Multi-class Pattern Learning Using Spread Spectrum Codes**", Electronics Letters, vol. 42, no. 16, pp. 908-909, 3rd August 2006.

El-Khamy, S.E.; Dahab, A.A.; El-Helw, A.M.; "**Performance of multiuser prerake space time block codes in fading channel**", Proceedings of the Twenty-First

National Radio Science Conference (NRSC 2004), Page(s):C33 - 1-6,16-18 March 2004.

El-Khamy, S.E.; Dahab, A.A.; El-Helw, A.M.; "**Performance of Preprocessed turbo space time block codes in fading channel**", 46th IEEE International Midwest Symposium on Circuits and Systems, December 27 - 30, 2003

El-Khamy, S.E.; Dahab, A.A.; El-Helw, A.M.; **"Performance of Generalized Space-Time Block Codes of Different Geometries and Coding Rates in Fading Channels",** 13th International Conference on Computer Theory and Applications " ICCTA ", Alex.,Egypt; 27-29 August 2003.

Awards

Granted an award from the Arab Academy of Science and Technology for the research paper "Adaptive Mitigation of Narrowband Interference in Impulse Radio UWB Systems Using Time-Hopping Sequence Design" Journal of Communications and Networks, Vol. 17, Issue 6, 31 December 2015

Granted an award from the Arab Academy of Science and Technology for the research paper "Semi-Blind Error Resilient SLM for PAPR Reduction in OFDM Using Spread Spectrum Codes" published in Public Library of Science PLOS-ONE, May 27, 2015.

Granted an award from the Arab Academy of Science and Technology for the research paper "Adaptive Compressive Sensing for Target Tracking within Wireless Visual Sensor Networks-based Surveillance applications" published in multimedia tools and applications journal, Springer, May 2015

Granted an award from the Arab Academy of Science and Technology for the research paper "Novel Semi-Blind Selected Mapping Technique for PAPR Reduction in OFDM" published in the IEEE Signal Processing Letters, 2011.

Granted Gradex 2007 award for the best research done in 2007 from Staffordshire University.

References

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References are available up on request.