Curriculum Vitae
Magdy Tawfik Hanna

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Date of birth:	June 2, 1953
Place of birth:	Alexandria, Egypt
Gender:	Male
Marital Status:	Married
Military Service:	Exempted

Education

1. **Ph.D.** in Electrical Engineering, University of Pittsburgh, Pittsburgh, Pennsylvania, USA, April 1985. Dissertation Title: **Multichannel and Two-Dimensional Signal Processing for Sensor Arrays.**

2. **M.S.** in Electrical Engineering, University of Pittsburgh, Pittsburgh, Pennsylvania, USA, April 1983.

3. **M.S.** in Electrical Engineering, Cairo University, Cairo, Egypt, June 1980. Thesis Title: **Control, Modeling and Optimization of the National Economy.**

4. **Diploma** in Planning Techniques, the Institute of National Planning, Cairo, Egypt, November 1977 (with **distinction).** Research Project Title: **Advanced Mathematical Treatment of the Least Squares in Economic Applications.**

5. **B.S.** in Electrical Engineering, Alexandria University, Alexandria, Egypt, June 1975, (with **honor**).

Areas of Interest in Research

Discrete Fractional Fourier Transform, Wavelet Transform and Filter Banks, Digital Signal Processing and its applications, Sensor Array Signal Processing, Two-Dimensional Digital Filters, Neural Networks and Optimization Techniques.

Graduate Courses Taken At the University Of Pittsburgh and the Corresponding Grades

Digital Signal Processing (A), Optimal System Theory (A), Optimal Stochastic Systems (A), Optimization Methods (A), Computer Control Systems (Digital Control of Dynamic Systems) (A), Computer Communication Networking (A), Software Engineering (A), Information Theory (A); in addition to Linear System Theory (A), Analysis of Stochastic Processes (A), Advanced Calculus (A), Real Analysis (A-), and Numerical Solution of Algebraic Nonlinear Systems (A).

GPA at the University of Pittsburgh: 3.99/4.00

Work Experience

Sept. 96 - present: (Professor since August 2004, Associate Professor from September 1996 to July 2004), Department of Engineering Mathematics and Physics, Fayoum University, Fayoum, Egypt. (Website: http://www.fayoum.edu.eg). (Before August 2005 the Fayoum University was the Fayoum Branch of Cairo University). Work responsibility includes teaching courses in computer control systems, digital signal processing, and engineering mathematics (matrices, complex variables, special functions, partial differential equations, probability and statistics, linear programming); and conducting research in the areas of discrete fractional Fourier transform, sensor array signal processing, wavelet transform and filter banks, two-dimensional digital filters, digital signal processing and its applications.

Sept. 92 - Aug. 96:   Assistant Professor, Department of Electrical Engineering, University of Bahrain, Isa Town, Bahrain. (Website: http://www.uob.edu.bh) Work responsibility included teaching graduate level courses in applied digital signal processing, digital control systems, senior level courses in digital signal processing, signals and systems, digital

systems (sequential logic circuits), a junior level course in signals and network theory, sophomore and freshman courses in digital design (combinational logic circuits), and a freshman course in electrical circuits; and conducting research in the area of digital signal processing and its applications, two-dimensional digital filters, and array signal processing.

Jan. 88 - Aug. 92:   Assistant Professor, Department of Engineering Mathematics and Physics, Faculty of Engineering, Cairo University/Fayoum Branch, Fayoum, Egypt. Work responsibility included teaching courses in differential and integral calculus, solid geometry, differential equations, numerical analysis, FORTRAN programming and the fundamentals of electrical engineering. During the Spring of 1988, I taught a course in numerical analysis in the Division of Public Service of the American University in Cairo.

Aug. 88 - Sept. 88:   I taught courses in linear programming and FORTRAN programming on part-time basis at the Institute of National Planning, Cairo, Egypt.

Aug. 85 - May 87:   Visiting Assistant Professor, Department of Electrical and Computer Engineering, the University of Iowa, Iowa City, Iowa, USA. (Website: http://www.uiowa.edu). Work responsibility included teaching a senior/graduate level course in digital signal processing, junior level courses in control systems and communication systems; and conducting research in the area of array signal processing. During the Fall of 1986 I taught a graduate course in digital signal processing at Rockwell International, Cedar Rapids, Iowa.

Sept. 81 - Apr. 85:   Teaching Fellow, Department of Electrical Engineering, University of Pittsburgh, Pittsburgh, Pennsylvania, USA. (Website: http://www.pitt.edu). Work responsibility included assisting in the following courses: Signal Processing, Linear Networks and Systems, Communication Theory, Digital Logic, and Computer Organization. During the Fall of 1984 and Winter of 1985, I was in charge of teaching a junior level course on state variables entitled "Computer Applications II" about the application of computers to the control of systems.

Summer 1983:   Research Assistant, the National Radio Astronomy Observatory, Very Large Array Telescope, Socorro, New Mexico, USA. (Website: http://www.vla.nrao.edu). Work responsibility - in the area of astronomical image processing - included optimizing a FORTRAN package for "Maximum Entropy Image Reconstruction" by extensive use of a Floating Point Array Processor connected to the host VAX 11/780 computer.

July 76 - Sept. 80:   Research Assistant, Planning Techniques Center, the Institute of National Planning, Cairo, Egypt. (Website: http://www.inplanning.gov.eg). Work responsibility included building

Macroeconomic Models using the techniques of Optimal Control and Mathematical Programming.

Administrative Positions

1. Vice President for Graduate Studies and Research, Fayoum University, Fayoum, Egypt from September 18, 2010 to July 31, 2013.

2. Acting Vice President for Students Affairs, Fayoum University, Fayoum, Egypt from October 21, 2012 to November 3, 2012.

3. Acting President, Fayoum University, Fayoum, Egypt during March 19-24, 2012.

4. Interim President, Fayoum University, Fayoum, Egypt from October 11, 2011 to December 6, 2011.

5. Associate Dean for Graduate Studies and Research, Faculty of Engineering, Fayoum University, Fayoum, Egypt from March 8, 2010 to September 17, 2010.

6. Chairman of the Department of Engineering Mathematics and Physics, Fayoum University, Fayoum, Egypt from September 2004 to March 7, 2010 and Acting Chairman from March 8, 2010 to August 30, 2010.

7. Acting chairman of the Department of Engineering Mathematics and Physics, Fayoum University, Fayoum, Egypt from September 1998 to June 2003.

Awards and Fellowships

1. Fayoum University **Scientific Publication Award** for the year 2012.

2. Fayoum University **Scientific Publication Award** for the year 2011.

3. Fayoum University **Scientific Publication Award** for the year 2009.

4. The **Distinction Award** in graduate studies (supervision of a Ph.D. dissertation) for the year 2006 from the **Center for Advancement of Postgraduate Studies and Research in Engineering Sciences, Faculty of Engineering, Cairo University**, Cairo, Egypt. This award was offered to the supervisors of the **best Ph.D. dissertation** passed by the Department of Engineering Mathematics and Physics, Faculty of Engineering, Cairo University during 2004-2006.

5. **University Scholar** Recognition by the University of Pittsburgh on its annual Honors Day Convocation in 1985 for superior performance in the graduate program.

6. The **Atlantic Richfield's Academic Excellence Award** from the Atlantic Richfield Company in March 1981.

7. A **Peace Fellowship** from the US AID (Agency for International Development) for doing a graduate study in the United States for 10 months starting from September 1980.

8. The **Distinction Award** from the Institute of National Planning, Cairo, Egypt in November 1977.

9. Alexandria University undergraduate **scholarship** for the years 1970-1975.

Inclusion In Who's Who

1. Inclusion in the IBC (International Biographical Center) Leading Scientists of the World 2008.
2. Inclusion in the 2002 Edition of Marquis **Who's Who in the World**.
3. Inclusion in the Millennium Edition - 2000 of Marquis **Who's Who in the World**.
4. Inclusion in the Marquis **Who's Who in Science and Engineering**, 4th edition, 1998/1999.

Society Membership

1. Senior Member of the **IEEE** (Institute of Electrical and Electronics Engineers) since 1990 (Member since 1985 and Student Member since 1981).

2. Member of **Eta Kappa Nu** (The Electrical Engineering Honor Society) since 1985.

3. Member of **SIGMA XI** (The Scientific Research Society of North America) from 1986 to June 2004 (Associate Member during 1985).

4. Associate member of the **SEG** (Society of Exploration Geophysicists) from 1986 to 1987 (Student Member from 1984 to 1985).

Development of New Courses

1. At the Faculty of Engineering, Fayoum University, Fayoum, Egypt:
   a) A senior level course in computer control systems
   b) A junior level course in special functions, partial differential equations and probability
   c) A junior level course in applied statistics

2. At the Faculty of Engineering, the University of Bahrain, Isa Town, Bahrain:
   a) A graduate level course in applied digital signal processing
   b) A graduate level course in digital control systems

Computer Command in Research and Teaching

1. The use of MATLAB and its toolboxes.
2. The use of FORTRAN programming.
3. The use of the LINPACK software package produced by the Applied Mathematics Division, Argonne National Laboratory, USA.
4. The use of the IMSL software package.

The Training Courses I Offered

1. A MATLAB course, Faculty of Engineering, Fayoum University, Fayoum, Egypt during the Fall of 1997.
2. A MATLAB course, Department of Electrical Engineering, University of Bahrain, Isa Town, Bahrain during the Winter and Fall of 1995.

Students Perception of My Teaching at the University Of Iowa

- He showed a real interest in this course (digital signal processing) and in the students learning the material. He is very thorough and efficient in his work. He is professional in all that he does and is an excellent model. He was available much of the time outside of class and always willing to help with questions.

- I was very pleased with the instructor's ability and enthusiasm. I wish more professors in the College were as able as Professor Hanna.

- Professor Hanna did a very thorough job presenting and explaining the material. Often times he made the difficult concepts easier because of his thoroughness.

- He is very organized, clear and helpful.

Undergraduate Student Advising

- Advisor to undergraduate students, Department of Electrical Engineering, University of Bahrain, Isa Town, Bahrain from September 1992 to June 1996.
- Advisor to undergraduate students, Department of Electrical and Computer Engineering, the University of Iowa, Iowa City, Iowa, USA from August 1985 to May 1987.

M.S. Thesis Supervision

1. MennaTollah Mahmoud Mohammed Elbarawy, Wavelet- Based Denoising with Applications to Speech Signals, Department of Engineering Mathematics and Physics, Faculty of Engineering, Cairo University, GIZA, EGYPT, 2011. (The supervisors: Prof. Magdy Tawfik Hanna, Prof. Dr. Nabila P. A. Seif and Dr. Maha A. Hassanein)

2. Mary Monir Saaid Heness, Digital Image Watermarking Using Multiresolution Analysis, Department of Electronics, Communication and Computer Engineering, Faculty of Engineering, Helwan University, Helwan, Egypt, November 2011. (The supervisors: Prof. Magdy Tawfik Hanna and Dr. Zaki Bassyouni Nossair)

3. Rick Culver Oltman, Array Filters for Seismic Signal Processing, Department of Electrical and Computer Engineering, University of Iowa, Iowa City, Iowa, USA, May 1987. (The supervisor: Dr. Magdy Tawfik Hanna)

Ph.D. Dissertation Supervision

Waleed Abd El Maguid Ahmed, The Discrete Fractional Fourier Transform Based on the Orthonormal Hermite-Gaussian-Like Eigenvectors of the Discrete Fourier Transform Matrix, Department of Engineering Mathematics and Physics, Cairo University, Cairo, Egypt, October 2005. (The supervisors: Prof. Magdy Tawfik Hanna and Dr. Nabila Philip Attalla Seif)

University Services

1. Member of the Graduate Studies and Research Council, Fayoum University from October 2013 till present.
2. Member of the College Council, Faculty of Engineering, Fayoum University from September 2013 till present.
3. Member of the Council of the Department of Engineering Mathematics and Physics, Fayoum University from September 2013 till present.
4. Member of the College Graduate Committee, Faculty of Engineering, Fayoum University from October 2013 till present.
5. Member of the University Council, Fayoum University, Fayoum, Egypt from September 18, 2010 to July 31, 2013.
6. Chairman of the Graduate Studies and Research Council, Fayoum University from September 18, 2010 to July 31, 2013.
7. Member of the Graduate Studies and Research Council, Fayoum University from March 2010 to July 2013.
8. Member of the Council of the Department of Engineering Mathematics and Physics, Fayoum University from September 1996 to August 2010.
9. Member of the College Council, Faculty of Engineering, Fayoum University from October 1998 to June 2004 and from September 2004 to August 2010.
10. Member of the College Undergraduate Committee, Faculty of Engineering, Fayoum University from September 2001 to July 2003 and from September 2004 to July 2005 and from September 2004 to August 2010.
11. Member of the College Graduate Committee, Faculty of Engineering, Fayoum University from September 2001 to July 2003 and from September 2004 to August 2010 and Chairman of the committee from March 2010 to August 2010.
12. Member of the College Library Committee, Faculty of Engineering, Fayoum University from September 2005 to August 2010.
13. Coordinator of the College of Engineering in the university level project entitled "Development of Student Assessment System Project (DSASP)," funded by the Projects Management Unit of the Ministry of Higher Education from October 2009 to September 2010.
14. Supervisor of the College Computer Laboratory, Faculty of Engineering, Fayoum University from September 1997 to September 2001.
15. Member of the Department Undergraduate Committee, Department of Electrical and Computer Engineering, the University of Iowa, Iowa City, Iowa, USA from August 1985 to May 1987.
16. Member of the College Placement Committee, College of Engineering, the University of Iowa, Iowa City, Iowa, USA from August 1985 to May 1987.

Service as a Reviewer for Journals

1. Reviewer for the Journal of Engineering and Applied Science, Faculty of Engineering, Cairo University, Cairo, Egypt in 2010.
2. Reviewer for Elsevier Optics and Lasers in Engineering in 2009.
3. Reviewer for the IET Signal Processing in 2008 and 2009.
4. Reviewer for the International Journal of Circuit Theory and Applications in 2008.
5. Reviewer for the IEEE Transactions on Circuits and Systems, Part II: Express Briefs in 2007.

6. Reviewer for the IEEE Signal Processing Letters in 2006 and 2008.
7. Reviewer for the IEEE Transactions on Signal Processing in 1993, 1995, 1999, 2001, 2005 and 2009.
8. Reviewer for the IEEE Transactions on Neural Networks in 2000.
9. Reviewer for the Journal on Circuits, Systems and Signal Processing in1994.
10. Reviewer for the IEEE Transactions on Acoustics, Speech and Signal Processing in 1986-1987.
11. Reviewer for the IEEE Transactions on Circuits and Systems in 1986, 1992, 1993 and 1998.
12. Reviewer for the Journal of Optimization Theory and Applications in 1988.
13. Reviewer for the IEEE Transactions on Geoscience and Remote Sensing in 1987, 2005, 2007, 2010 and 2011.
14. Reviewer for GEOPHYSICS in 1985.
15. Reviewer for the IEEE Transactions on Systems, Man and Cybernetics in 1981.

Service as a Reviewer for Conferences

1. Reviewer for the 2014 IEEE International Symposium on Circuits and Systems, Melbourne, Australia, June 1-5, 2014.
2. Reviewer for the 2012 IEEE International Symposium on Circuits and Systems, Seoul, Korea, May 20 - 23, 2012.
3. Reviewer for the 2009 IEEE International Symposium on Circuits and Systems, Taipei, Taiwan, May 24-27, 2009.
4. Reviewer for the 2007 IEEE International Symposium on Circuits and Systems, New Orleans, Louisiana, USA, May 27-30, 2007.
5. Reviewer for the 2000 IEEE International Symposium on Circuits and Systems.

Service as a Member of Promotion Committees

1. Member of the Engineering Mathematics and Physics Promotion Committee of the Supreme Council of Egyptian Universities for the eleventh cycle (2013-2015).

Service as a Reviewer for Promotion Committees

1. Reviewer for the Engineering Mathematics and Physics Promotion Committee of the Supreme Council of Egyptian Universities for the tenth cycle (2008-2011).

Chairing Sessions in Conferences

1. Session chairman in the *55th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2012)*, Boise, Idaho, USA, August 5-8, 2012.

Service as a Conference Committee Member

1. Committee member of University of Pittsburgh Conference on Modeling and Simulation (1981-1985).

Workshop Attendance

1. "On Engineering Curricular and Accreditation U.S. Practices," organized by the National Authority for Quality Assurance and Accreditation of Education, Cairo, Egypt, August 5, 2010.

2. "Expert Workshop on Design Principles for Institution Building, Reorganization and Support of R & D Institutes in Egypt," organized under the Research, Development and Innovation (RDI) Programme (A Programme of the Ministry of Higher Education and Scientific Research funded by the European Union), Cairo Marriott Hotel, Cairo, Egypt, July 26, 2010.

3. "Developing Reliable Metrics for Evaluating and Measuring Egyptian Higher Education Performance," organized by the National Authority for Quality Assurance and Accreditation of Education, Cairo, Egypt, July 7-8, 2010.

4. "Preparing Undergraduate Civil Engineers for the 21st Century Accreditation," organized by the National Authority for Quality Assurance and Accreditation of Education, Cairo, Egypt, June 27-28, 2010.

5. "Networked Social Media (NSM) in Learning, Teaching and Research: Key Skills in Higher Education," organized by the National Authority for Quality Assurance and Accreditation of Education, Cairo, Egypt, June 7-8, 2010.

6. "Institutional Accreditation of Engineering Programs," organized by the National Authority for Quality Assurance and Accreditation of Education, Cairo, Egypt, May 3-4, 2010.

7. "Engineering Accreditation, Inventions: From Concept to Commercialization," organized by the National Authority for Quality Assurance and Accreditation of Education, Cairo, Egypt, May 2-3, 2010.

8. "External Review for Higher Education Institutions," organized by Fayoum University in cooperation with the National Authority for Quality Assurance and Accreditation of Education, Fayoum, Egypt, December 13-17, 2009.

9. "Institutional Self-Evaluation for Higher Education," organized by Fayoum University in cooperation with the National Authority for Quality Assurance and Accreditation of Education, Fayoum, Egypt, November 15–19, 2009.

10. "Linking Industry with Universities and Research," Organized by the supreme Council of Universities in cooperation with the British Council, Cairo, Egypt, February 24-26, 2009.

11. "Development of Leadership Skills" under the Faculty and Leadership Development Project (FLDP), Fayoum University, Fayoum, Egypt, May 29-31, 2006.

12. "Preparation of Faculty Members," Cairo University, Cairo, Egypt, September 10-22, 1988.

Research Grants

1. The Principal Investigator of a project entitled "The Discrete Fractional Fourier Transform, Project ID 2091" funded by the Science and Technology Development Fund (STDF), Egypt and started on May 4, 2011 for a duration of two years.

2. A junior faculty seed grant from the University of Iowa supported by the NIH (National Institutes of Health) through the Biomedical Research Support Grant funds for a project entitled "Signal Processing Techniques for Ultrasound Tissue Characterization" in November 1986.

Publication

Journal Publication

1. Magdy Tawfik Hanna, "Fractional Discrete Fourier Transform of Type IV Based on the Eigenanalysis of a Nearly Tridiagonal Matrix," *Digital Signal Processing*, Vol. 22, Issue 6, pp. 1095-1106, December 2012. (Publisher: ACADEMIC PRESS INC ELSEVIER SCIENCE)

2. Magdy Tawfik Hanna, "Direct Sequential Evaluation of Optimal Orthonormal Eigenvectors of the Discrete Fourier Transform Matrix by Constrained Optimization," *Digital Signal Processing*, Vol. 22, Issue 4, pp. 681-689, July 2012. (Publisher: ACADEMIC PRESS INC ELSEVIER SCIENCE)

3. Magdy Tawfik Hanna, Amr Mohamed Shaarawi, Nabila Philip Attalla Seif and Waleed Abd El Maguid Ahmed, "Discrete fractional Fourier transform as a fast algorithm for evaluating the diffraction pattern of pulsed radiation," *Journal of the Optical Society of America A – Optics, Image Science, and Vision*, Vol. 28, No. 8, pp. 1610-1619, August 2011.

4. Magdy Tawfik Hanna, Nabila Philip Attalla Seif and Waleed Abd El Maguid Ahmed, "Discrete Fractional Fourier Transform Based on the Eigenvectors of Tridiagonal and Nearly Tridiagonal Matrices," *Digital Signal Processing*, Vol. 18, No. 5, pp. 709-727, September 2008. (Publisher: ACADEMIC PRESS INC ELSEVIER SCIENCE)

5. Magdy Tawfik Hanna, "Direct Batch Evaluation of Optimal Orthonormal Eigenvectors of the DFT Matrix," *IEEE Transactions on Signal Processing*, Vol. 56, No. 5, pp. 2138-2143, May 2008.

6. Magdy Tawfik Hanna, Nabila Philip Attalla Seif and Waleed Abd El Maguid Ahmed, " Hermite-Gaussian-Like Eigenvectors of the Discrete Fourier Transform Matrix Based on the Direct Utilization of the Orthogonal Projection Matrices on its Eigenspaces," *IEEE Transactions on Signal Processing*, Vol. 54, No. 7, pp. 2815-2819, July 2006.

7. Magdy Tawfik Hanna, Nabila Philip Attalla Seif and Waleed Abd El Maguid Ahmed, "Hermite-Gaussian-Like Eigenvectors of the Discrete Fourier Transform Matrix Based on the Singular Value Decomposition of its Orthogonal Projection Matrices," *IEEE Transactions on Circuits and Systems, Part I: Regular papers*, Vol. 51, No. 11, pp. 2245-2254, November 2004.

8. Magdy Tawfik Hanna, "A Discrete Fractional Fourier Transform Based on Orthonormalized McClellan-Parks Eigenvectors," *Journal of Engineering and Applied*

Science, Faculty of Engineering, Cairo University, Cairo, Egypt, Vol. 51, No. 1, pp. 11-30, February 2004.

9. Magdy Tawfik Hanna and Sana Ahmed Mansoori, "A Centrosymmetric Matrix Based Technique for the Interpolation of a Hermitian Signal," *Numerical Linear Algebra with Applications*, John Wiley & Sons, Vol. 10, Issue 8, pp. 701-720, December 2003. (Publisher: WILEY-BLACKWELL)

10. Magdy Tawfik Hanna, "Formulae for the Coefficients of Daubechies Product Filter," *Journal of Engineering and Applied Science*, Faculty of Engineering, Cairo University, Cairo, Egypt, Vol. 50, No. 6, pp. 1019-1036, December 2003.

11. Magdy Tawfik Hanna, "Bases for the Whole Sample Symmetric Filter Banks Using a Complex Allpass Filter," *Journal of Engineering and Applied Science*, Faculty of Engineering, Cairo University, Cairo, Egypt, Vol. 50, No. 4, pp. 653-669, August 2003.

12. Magdy T. Hanna, "Multiple Signal Extraction by Multiple Interference Attenuation in the Presence of Random Noise in Seismic Array Data," *IEEE Transactions on Signal Processing*, Vol. 51, No. 7, pp. 1683-1694, July 2003.

13. Magdy Tawfik Hanna, "Design Of Two-Dimensional FIR Filters With Arbitrary Magnitude And Phase Responses," *Journal of Engineering and Applied Science*, Faculty of Engineering, Cairo University, Cairo, Egypt, Vol. 50, No. 2, pp. 223-242, April 2003.

14. Magdy Tawfik Hanna and Sana Ahmed Mansoori, "The Discrete Time Wavelet Transform: Its Discrete Time Fourier Transform and Filter Bank Implementation," *IEEE Transactions on Circuits and Systems, Part II: Analog and Digital Signal Processing*, vol. 48, no. 2, pp.180-183, February 2001.

15. Magdy T. Hanna, "On the Stability of a Tank and Hopfield Type Neural Network in the General Case of Complex Eigenvalues," *IEEE Transactions on Signal Processing*, vol. 48, no. 1, pp. 289-293, January 2000.

16. Magdy T. Hanna, "On the Generalized Eigenvectors of a Class of Moment Matrices," *IEEE Transactions on Signal Processing*, vol. 46, no. 8, pp. 2236-2238, August 1998.

17. Magdy T. Hanna, "A Singular Value Decomposition Derivation in the Discrete Frequency Domain of Optimal Noncentro-Symmetric 2-D FIR Filters," *IEEE Transactions on Signal Processing*, vol. 46, no. 5, pp. 1397-1402, May 1998.

18. Magdy T. Hanna, "Weighted Least Squares Design of Two-dimensional Zero-Phase FIR Filters in the Continuous Frequency Domain," *IEEE Transactions on Circuits and Systems, Part II: Analog and Digital Signal Processing*, vol. 43, no. 7, pp. 534-537, July 1996.

19. Magdy T. Hanna, "Design of Circularly Symmetric Two-Dimensional Linear-Phase Low-pass FIR Filters using Closed-Form Expressions," *IEEE Transactions on Circuits and Systems, Part II: Analog and Digital Signal Processing*, vol. 43, no. 7, pp. 537-540, July 1996.

20. Magdy T. Hanna, "Design of Linear Phase FIR Filters with a Maximally Flat Passband," *IEEE Transactions on Circuits and Systems, Part II: Analog and Digital Signal Processing*, vol. 43, no. 2, pp. 142-147, February 1996.

21. Magdy T. Hanna, "Windows with Rapidly Decaying Sidelobes and Steerable Sidelobe Dips," *IEEE Transactions on Signal Processing*, vol. 42, no. 8, pp. 2037-2044, August 1994.

22. M.T. Hanna, A. Kia and J.P. Robinson, "Digital Filters for Attenuating Interference Arriving from a Wide Range of Angles," *IEEE Transactions on Signal Processing*, vol. SP-40, no. 6, pp. 1499-1507, June 1992.

23. M.T. Hanna, "Velocity Filters for Multiple Interference Attenuation in Geophysical Array Data," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-26, no. 6, pp. 741-748, November 1988.

24. M.T. Hanna, "Array Filters for Attenuating Multiple Coherent Interference," *IEEE Transactions on Acoustics, Speech and Signal Processing*, vol. ASSP-36, no. 6, pp. 844-853, June 1988.

25. M.T. Hanna and M. Simaan, "A Least Sensitive Multichannel Optimum Filter for Sensor Arrays," *IEEE Journal of Oceanic Engineering*, vol. OE-13, no. 2, pp. 64-69, April 1988.

26. M.T. Hanna and M. Simaan, "Design and Implementation of Velocity Filters Using Multichannel Array Processing Techniques," *IEEE Transactions on Acoustics, Speech and Signal Processing*, vol. ASSP- 35, no. 6, pp. 864-877, June 1987.

27. M. Simaan, A. Hussain and M.T. Hanna, "Nondestructive Detection of Flaws in Material Using Transducer Arrays," *Journal of Nondestructive Evaluation*, Plenum Publishing Corporation, vol. 6, no .1, pp. 47-55, March 1987.

28. M.T. Hanna and M. Simaan, "Array Filters for Attenuating Coherent Interference in the Presence of Random Noise," *IEEE Transactions on Acoustics, Speech and Signal Processing*, vol. ASSP-34, no. 4, pp. 661-668, August 1986.

29. M.T. Hanna and M. Simaan, "Absolutely Optimum Array Filters for Sensor Arrays," *IEEE Transactions on Acoustics, Speech and Signal Processing*, vol. ASSP-33, no. 6, pp. 1380-1386, December 1985.

30. M.T. Hanna and M. Simaan, "A Closed Form Solution to a Quadratic Optimization Problem in Complex Variables," *Journal of Optimization Theory and Applications*, Plenum Publishing Corporation, vol. 47, no. 4, pp. 437-450, December 1985. (Publisher: SPRINGER/PLENUM PUBLISHERS)

31. M.T. Hanna and M. Simaan, "Array Filters for Sidelobe Elimination," *IEEE Journal of Oceanic Engineering, Special Issue on Beamforming*, vol. OE-10, no. 3, pp. 248-254, July 1985 (*invited paper*).

32. M.S. Mahmoud and M.T. Hanna, "Linear Optimal Control of National Econometric Models," *International Journal of Systems Sciences*, vol. 13, no. 10, pp. 1061-1081, October, 1982. (Publisher: TAYLOR & FRANCIS LTD)

Conference Publication

1. Magdy Tawfik Hanna, "The Direct Batch Generation of Hermite-Gaussian-Like Eigenvectors of the DFT Matrix Using the Notion of Matrix Pseudoinverse," Proceedings of the *38th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2013)*, the Vancouver Convention & Exhibition Centre, Vancouver, Canada, May 26 - 31, 2013, pp. 6063-6067.

2. Magdy Tawfik Hanna, "The Orthogonal Projection Matrices on the Eigenspaces of the DFT-IV Matrix," Proceedings of the *55th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2012)*, Boise, Idaho, USA, August 5-8, 2012, pp. 1020-1023.

3. Magdy Tawfik Hanna, "Fully Fledged Versus Simple Fractional Discrete Fourier Transform of Type IV," Proceedings of the *55th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2012)*, Boise, Idaho, USA, August 5-8, 2012, pp. 1116-1119.

4. Magdy Tawfik Hanna, "Revised Direct Batch Evaluation of Optimal Orthonormal Eigenvectors of the DFT Matrix," Proceedings of the *55th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2012)*, Boise, Idaho, USA, August 5-8, 2012, pp. 1124-1127.

5. Maha A. Hassanein, Menna T. M. M. Elbarawy, Nabila Philip Attalla Seif and Magdy Tawfik Hanna, "Trimmed Thresholding with SURE for Denoising Signals," Proceedings of the *55th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2012)*, Boise, Idaho, USA, August 5-8, 2012, pp. 1024-1027.

6. Mary Monir Saaid, Zaki Bassyouni Nossair and Magdy Tawfik Hanna, "An Image Watermarking Scheme Based on Multiresolution Analysis," Proceedings of the *54th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2011)*, Yonsei University, Seoul, Korea, August 7-10, 2011.

7. Magdy Tawfik Hanna, "Orthonormal Eigenvectors of the DFT-IV Matrix by the Eigenanalysis of a Nearly Tridiagonal Matrix," Proceedings of the *IEEE International Symposium on Circuits and Systems*, Rio de Janeiro, Brazil, May 15-18, 2011, pp. 1504-1507.

8. Magdy Tawfik Hanna, "Direct Sequential Evaluation of Hermite-Gaussian-Like Eigenvectors of the DFT Matrix," Proceedings of the *IEEE International Symposium on Circuits and Systems*, Taipei, Taiwan, May 24-27, 2009, pp. 513-516.

9. Magdy Tawfik Hanna, Nabila Philip Attalla Seif, Waleed Abd El Maguid Ahmed, "Discrete Fractional Fourier Transform Based on the Eigenvectors of Grünbaum Tridiagonal Matrix," Proceedings of the *IEEE International Symposium on Circuits and Systems*, Seattle, Washington, USA, May 18-21, 2008, pp. 1160-1163.

10. Magdy Tawfik Hanna, "Direct Batch Evaluation of Desirable Eigenvectors of the DFT Matrix by Constrained Optimization," Proceedings of the *IEEE International Symposium on Circuits and Systems*, New Orleans, Louisiana, USA, May 27-30, 2007, pp. 825-828.

11. Magdy Tawfik Hanna, "On the Angular Decomposition Technique for Computing the Discrete Fractional Fourier Transform," Proceedings of the *IEEE International Symposium on Circuits and Systems*, New Orleans, Louisiana, USA, May 27-30, 2007, pp. 3988-3991.

12. Magdy Tawfik Hanna, Nabila Philip Attalla Seif and Waleed Abd El Maguid Ahmed, "Hermite-Gaussian Like Eigenvectors of the DFT Matrix Generated by the Eigenanalysis of an Almost Tridiagonal Matrix," Proceedings of the *IEEE International Symposium on Circuits and Systems*, Kobe, Japan, May 23-26, 2005, pp. 832-835.

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