

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

Personal Data:-

Name: Amr A. Adly
D.O.B.: 09-26-1961
Citizenship: Egyptian
Marital Status: Married
Languages: English, French, German
and Arabic (*native language*)
Contact Address: Elect. Power Engineering Dept.,
Faculty of Engineering, Cairo University,
Giza 12613, EGYPT
e-mail: amradly@cu.edu.eg
amradly@ieee.org
adlyamr@gmail.com
Website: <http://scholar.cu.edu.eg/?q=amradly/>



Strategic Management Expertise:

- Higher Education Strategic Management
- R&D Funding and Evaluation Management

Areas of Scientific Specializations (both theoretical & experimental):-

- Electromagnetics and EM field computation
- Energy harvesting and renewable energy
- Magnetic measurement instrumentation
- Modeling of complex magnetic materials
- Electrical machines and power engineering
- Applied superconductivity
- Magneto-hydrodynamics
- Magnetic recording

Education:-

- Ph.D. Electrical Engineering
Elect. Eng. Dept., University of Maryland, College Park, MD USA, December 1992
Dissertation Title: "Mathematical Modeling of Media with Hysteresis"
Major: Electromagnetics - 1st Minor: Microelectronics - 2nd Minor: Computer Engineering
- M.Sc. in Electrical Machines,
Elect. Power and Machines Dept., Cairo University, EGYPT, August 1987
Thesis Title: "Operation of Squirrel Cage Induction Motor with Unbalanced Voltages and Rotor Cage"
- B.Sc. in Elect. Power Engineering, (Distinction with Honors, Top of class)
Elect. Power and Machines Dept., Cairo University, EGYPT, July 1984

Management Modules:-

- Executive Program, The Booth School of Business Executive Education (University of Chicago), October 7-20, 2019, TU Berlin (El-Gouna Campus), Egypt
- The International Training Workshop on Science & Technology Innovation System Construction and Management of University, October 17-28, 2016, Shanghai Jiao-Tong University (SJTU), China

Employment in EGYPT:-

- July 2004-date
Professor, Elect. Power and Machines Dept., Cairo University, Egypt
Main job responsibilities: -
 - Teaching graduate & undergraduate courses

Prof. Amr Adly (Fellow, IEEE)

Curriculum Vitae

- Carrying out joint national & international research activities
- Supervising graduate students
- Course curriculum development
- Participation in academic committees

- June 2018-December 2019
Deputy Minister of Higher Education and Scientific Research for Universities Affairs
Main job responsibilities: -
 - Higher Education Sector Strategic Planning to fulfill Egypt Vision 2030 Goals and to address Impact of Industry 4.0 on Future Job Needs
 - Drafting “*National Future Employment Strategy*”
 - Boosting International Ranking of Egyptian Universities and Programs
 - Monitoring Universities Education and Research Performance
 - Bridging Industry-Academia Needs and Collaboration
 - Managing International Branch Campuses initiation in Egypt
 - International Collaboration
 - Leading numerous ministerial committees

- January 2016-June 2018
Vice President for Graduate Studies and Research, Cairo University, Egypt
Main job responsibilities: -
 - Leading Cairo University Graduate Studies and Research Sector
 - Leading Cairo University Cultural Relations Activities (International MOUs, Students and Faculty Mobility Activities, Joint Research Activities)
 - Leading Cairo University International Ranking Team
 - Head of Cairo University Scientific Ethics Committee

- July 2014- August 2015
Executive Director, Science and Technology Development Fund (STDF), Ministry of Scientific Research, Cairo 11516, Egypt
Main job responsibilities: -
 - Managing National R&D Funds
 - Managing Research Capacity Building Funds
 - Managing Bilateral Egyptian-International Scientific Collaboration Agreements

- August 2012-July 2014
Vice Dean of Graduate Studies and Research, Faculty of Engineering, Cairo University, Egypt
Main job responsibilities: -
 - Developing new graduate studies programs curricula
 - Managing existing graduate studies programs (more than 120) for more than 3000 graduate students
 - Establishing collaboration between industry-academia & with international institutions as well (for example: existing joint MS program with Kassel Univ. in Germany and joint MS program with Cottbus Univ. in Germany)
 - Improving administrative & IT measures
 - Supporting research projects especially those leading to product and/or patent development
 - Participating as a member in a number of ministries and industrial entities board meetings
 - Maintaining and enhancing educational and research labs

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

- August 2010-July 2012
Vice Dean for Education and Students Affairs, Faculty of Engineering, Cairo University, Egypt
Main job responsibilities: -
 - Managing more than 20 BSc Programs covering all Engineering Disciplines (more than 12000 undergrad students)
 - Advancing Curricula
 - Managing all student activities (sports, social, cultural,etc.)
 - Managing all student summer training opportunities (by coordinating with industrial entities)
 - Enhancing administrative procedures

- August 2009-July 2010 (*part-time*)
Director, Center for Advancement of Post-Graduate Studies and Research in Engineering Sciences
Faculty of Engineering – Cairo University (CAPSCU), Egypt
Main job responsibilities: -
 - Promoting activities aiming at fostering relations between Cairo University and national industrial entities
 - Assisting (through promotion, participation and management efforts) in engineering consultations, technical services, research and development and continuous engineering education activities offered to national and international industrial establishments as well as governmental organizations
 - Participating in and organizing events aiming at the recognition of best MS theses and PhD dissertations conducted at the Faculty of Engineering – Cairo University

- January 2009-August 2009 (*part-time*)
Deputy Director, Center for Advancement of Post-Graduate Studies and Research in Eng. Sciences
Faculty of Engineering – Cairo University (CAPSCU), Egypt
Main job responsibilities: -
 - Promoting activities aiming at fostering relations between Cairo University and national industrial entities
 - Assisting (through promotion, participation and management efforts) in engineering consultations, technical services, research and development and continuous engineering education activities offered to national and international industrial establishments as well as governmental organizations
 - Participating in and organizing events aiming at the recognition of best MS theses and PhD dissertations conducted at the Faculty of Engineering – Cairo University

- February 2008-June 2010 (*part-time*)
Professor, Electronics Eng. Dept., American University in Cairo (AUC), Egypt
Main job responsibilities: -
 - Teaching undergraduate courses
 - Teaching FE Exam preparatory courses (as a prelude to US PE Exams)

- September 2006-November 2007
R&D Component Manager, Industrial Modernization Centre (IMC), Egypt
Main job responsibilities: -
 - Managing R&D Programme (100 Million EGP for funding R&D Activities requested by Egyptian industrial entities)
 - Developing R&D Programme details and management methodologies (Terms of Reference TORs, Application Forms, Evaluation Strategies, Evaluation Forms)
 - Bridging gap between Egyptian industrial & Research entities (workshops & presentations at

Prof. Amr Adly (Fellow, IEEE)

Curriculum Vitae

- industrial concentrations, universities, research centers, ..., etc.)
- Utilizing IT resources to facilitate programme management
 - Serving as a National (Egyptian) FP7 Programme Contact Point for Egyptian SMEs
- July 1999-July 2004
Associate Professor, Elect. Power and Machines Dept., Cairo University, Egypt
Main job responsibilities: -
 - Teaching graduate & undergraduate courses
 - Carrying out joint national & international research activities
 - Supervising graduate students
 - Course curriculum development
 - Participation in academic committees
 - July 1994-July 1999
Assistant Professor, Elect. Power and Machines Dept., Cairo University, Egypt
Main job responsibilities: -
 - Teaching graduate & undergraduate courses
 - Carrying out joint national & international research activities
 - Supervising graduate students
 - Course curriculum development
 - Participation in academic committees
 - November 1986-May 1987 (*part-time*)
Elect. Power Networks Designer, Dar Al Handasah Consultants, Cairo Office, Egypt
Main job responsibilities: -
 - Design power and illumination systems and circuitry details for buildings and installations
 - October 1984-August 1988
Teaching Assistant, Elect. Power and Machines Dept., Cairo University, Egypt
Main job responsibilities: -
 - Teaching undergraduate courses
 - Carrying out laboratory demonstrations

Employment in USA:-

- July 2000-September 2000
Visiting Professor, EE Dept., University of Maryland, College Park, MD, USA
Main job responsibilities: -
 - Conduct theoretical & experimental research in the areas of magnetic modeling, superconductivity and magnetic recording
 - Formulate research findings in the form of scientific papers
 - Assist in the supervision of junior researchers
- July 1999-September 1999
Visiting Professor, EE Dept., University of Maryland, College Park, MD, USA
Main job responsibilities: -
 - Conduct theoretical & experimental research in the areas of magnetic modeling, superconductivity and magnetic recording
 - Formulate research findings in the form of scientific papers
 - Assist in the supervision of junior researchers

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

- July 1998-September 1998
Visiting Professor, EE Dept., University of Maryland, College Park, MD, USA
Main job responsibilities: -
 - Conduct theoretical & experimental research in the areas of magnetic modeling, superconductivity and magnetic recording
 - Formulate research findings in the form of scientific papers
 - Assist in the supervision of junior researchers

- July 1997-September 1997
Visiting Professor, EE Dept., University of Maryland, College Park, MD, USA
Main job responsibilities: -
 - Conduct theoretical & experimental research in the areas of magnetic modeling, superconductivity and magnetic recording
 - Formulate research findings in the form of scientific papers
 - Assist in the supervision of junior researchers

- June 1996-September 1996
Visiting Professor, EE Dept., University of Maryland, College Park, MD, USA
Main job responsibilities: -
 - Conduct theoretical & experimental research in the areas of magnetic modeling, superconductivity and magnetic recording
 - Formulate research findings in the form of scientific papers
 - Assist in the supervision of junior researchers

- April 1993-May 1994
Senior Engineer/Scientist, LDJ Electronics, Inc., Troy, MI, USA
Main job responsibilities: -
 - Design magnetic measurement instrumentation (both magnetic & electronic circuitry designs)
 - Measure and analyze magnetic samples for customers from both academia and industry (through the company's magnetic measurement services division)
 - Assist research labs, universities and industrial organizations in identifying their magnetic measurement

- September 1988-December 1992
Research Assistant, EE Dept., University of Maryland, College Park, MD, USA
Main job responsibilities: -
 - Conduct theoretical & experimental research in the areas of magnetic modeling, superconductivity and magnetic recording
 - Formulate research findings in the form of scientific papers

Employment in Oman:-

- August 2005-December 2005
Visiting Professor, ECE Dept., Sultan Qaboos University, Muscat, Oman
Main job responsibilities: -
 - Teaching undergraduate Electrical Machines courses
 - Teaching graduate Electrical Machines courses

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

Other International Employment and/or Consultancy Affiliations: -

- June 2006-July 2006 (*part-time*)
European Commission (EC) Delegation Expert-II
Main job responsibilities: -
 - Formulation of the Research, Development and Innovation (RDI) 11 M Euro Fund Programme
 - Collaborate with Expert-I to carry out "Second Formulation Mission for a new programme to support R&D and Innovation in Egypt, Framework Contract 2006/119924/1 Lot 9" (11 Million Euro Fund from EC to Egypt)
 - Meet and coordinate with all stake holders to develop an "applicable" Programme (Egyptian Ministries of Higher Education & Scientific Research, Trade & Industry and Communication & Information Technology -Industrial Modernisation Centre - Universities & Research Centers -, . etc.)
 - Collaborate with Expert-I to Develop Programme details (Terms of Reference TORs, Technical and Administrative Procedures TAP, Programme Implementation Office details and personnel qualifications
 - Present developed Programme specifics to EU representatives at EC delegation headquarters in Egypt

- December 2004-March 2005 (*part-time*)
UNESCO Cairo Office Consultant, Basic and Engineering Sciences (BES) Programme, Cairo, EG
Main job responsibilities: -
 - Contribute to the finalization of the comprehensive document on Quality Engineering Education for publication and dissemination within the Arab region.
 - Attend the Expert Group Meeting on "***Science, Technology and Innovation Systems: A Parliament Perspective***" and serve as the meeting reporter.
 - Assist with the preparation and finalization of documents and reports prepared by the UNESCO BES

Summer Training:-

- July 1982-September 1982
Trainee, High-Voltage Laboratories, SIEMENS Circuit Breakers Plant, Berlin, Germany
- August 1981-September 1981
Trainee, High-Voltage Laboratories, SIEMENS Circuit Breakers Plant, Berlin, Germany

Sample Consultations:-

- August 2004-August 2005
Member of Cairo University Consulting Committee and acting as the Cairo University Power Engineering Main Consultant
- September 2003-Feb. 2004
Consultant to Misr Compressors Manufacturing Co. – Responsible for Improving Fractional Horse Power Induction Motor Design through Electromagnetic and Electrical Analytical Computations.
- September 2000-October 2003
Electromagnetic Field Consultant to the Major Power and Distribution Transformer Manufacturer in Egypt and the Middle East (ELMACO) - Responsible for Improving 25 MVA Power & 1 MVA Distribution Transformer Designs through Electromagnetic and Electrical Analytical Computations.

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

- September 1996-May 2005
Member of the Cairo Univ. Consultation Team to the Major Aluminum Production Plant in Egypt (EGYPTALUM) – Responsible for Electromagnetic Field Analysis & Magneto-hydro-dynamic modeling and computations.
- April 1995-March 1996
Consultant to the Vice President of the Egyptian Academy for Scientific Research and Development.

Sample Courses Taught:-

- Undergraduate Courses:
Electromagnetics (I), Electromagnetics (II), CAD of Electrical Machines, Electric Circuits (1), Technical English, Measurements (II), Electrical Machines, Power and Elect. Machines
- Graduate Courses:
Numerical Techniques for Solving Electromagnetic Field Problems, Special Electrical Machines, Industrial Electronics, Generalized Theory of Electrical Machines, Electronic Control of Electrical Machines

Graduate Students Supervision: -

- PhD students supervision: -
 - “Active Control of Smart Bearings,” Cairo University, 2016.
 - “Electromagnetic Field Analysis of Induction Motors with Broken Bars and Ring Segments,” Cairo University, 2014.
 - “Incorporating Core Magnetic Properties in the Investigations and 3-D Computations of Electromagnetic Fields and Forces during Transformers Switching,” Cairo Univ., 2003.
- MS students supervision: -
 - “Performance Analysis of Eddy Current Shock Absorber Dampers,” Cairo University, 2019.
 - “Enhancement of Grid Connected Variable Speed Direct-Drive PMSG-Based Wind Energy Conversion System (WECS) through integration of Flywheel Energy Storage System (FESS),” Cairo University, 2018.
 - “Design of a Renewable Microenergy System for Rural Areas Based on A Product Service System Methodology,” Joint M.Sc. Degree: Cairo Univ. (Egypt) – Kassel Univ. (Germany), 2013.
 - “Design and Implementation of Electromagnetic Pulse Propulsion System,” Cairo University, 2013.
 - “Development of a Comprehensive Battery Energy Storage System Model for Grid Analysis Applications,” Joint M.Sc. Degree: Cairo Univ. (Egypt) – Kassel Univ. (Germany), 2013.
 - "Modeling And Control Of Magneto-Elastic Multifunctional Materials For Power Harvesting In Automotive Applications," Cairo University, 2011.
 - "Electrical Field Stress on Circuit Breakers' Contacts and Insulating Container Under Static and Dynamic Conditions," Cairo University, 2011.
 - “Design and Performance Analysis of Power Transformers Using the Finite Element Modeling,” Cairo University, 2006.
 - “Investigation of Electromagnetic Forces Acting on Adjacent Busbars Due to Harmonic and Short-Circuit Currents,” Cairo University, 2006.
 - “Deducing Local Exteremly–Low–Frequency Fields from Large Sense Coil Fluxmeter Measurements,” Cairo University, 2006.
 - “Analytical and Experimental Assessment of Electromagnetically driven Molten Metal Flow Patterns in Aluminum Reduction Cells,” Cairo University, 2003.

- “Design and Construction of a Vibrating Sample Magnetometer for B-H Curve Measurements,” Cairo University, 2002.
- “Computational Analysis of Current Density Distribution in Cathodic Protection Using the Method of Electrostatic Images,” Cairo University, 2001.

Awards and Honors:-

- Recipient of the Egyptian State Medal of Science and Arts of the first class (2017)
- Recipient of the 2016 Egyptian State Appreciation Award in Engineering Sciences
- Recipient of the 2016 University of Maryland ECE Department Distinguished Alumni Award
- Recipient of the 2006 Egyptian State Excellence Award in Engineering Sciences
- Recipient of the 1994 Egyptian State Encouragement Award in Engineering Sciences
- Recipient of the 2002 Shoman Foundation (Jordan) Young Arab Scientist Award
- Elevated to IEEE Fellow status since 2011
- Recipient of 2 out of 10 Ministry of Higher Education 2012 Publications Excellence Awards (for publications having highest Eigen Factors)
- Best Poster Award Recipient of the International Conference on Electrical Engineering, Electronics, Computer, Telecommunications and Information Technology (ECTI-CON 2016), July 2016.
- Cairo University Faculty of Engineering CAPSCU 2018 Best PhD Dissertation Award (Dissertation Entitled: “Active Control of Smart Bearings.”)

Invited Talks: -

- “Higher Education Strategic Requirements for Fulfilling The Fourth Industrial Revolution Job Needs,” (Keynote Speaker), The 4th Higher Education Leadership Forum, Dubai, UAE, February 25-27, 2020.
- “Energy Harvesting Using Magneto-Elastic Materials,” Invited Distinguished Colloquium Speaker (Sponsored by the Booz Allen Hamilton), ECE Dept., University of Maryland, College Park, USA, December 2019.
- “Strategic Priorities and Legislative Environments for Technical and Vocational Education in Egypt,” CCAP Alumni Symposium, US Dept. of State, Washington DC, USA, May 2019.
- “Strengthening the Dialogues Between Higher Education, Government and Industry: Working Together Towards a Common Vision,” (Panel Member and Speaker), The 3rd Higher Education Leadership Forum, Dubai, UAE, November 14-16, 2017.
- “The Relation between Research & Innovation and Industry: Creating Impact,” (Panel Member and Speaker), The 3rd Higher Education Leadership Forum, Dubai, UAE, November 14-16, 2017.
- “The Relations between Research & Innovation and Industry,” (Panel Member and Speaker), The 3rd Higher Education Leadership Forum, Dubai, UAE, November 14-16, 2017.
- “Electrical Energy Harvesting from Mechanical Vibrations Using Magneto-Elastic Materials,” Hiroshima University, Hiroshima, Japan, 2017.
- “Scientific Research in Egyptian Universities and Its Role in Supporting the National GDP,” (Keynote Speaker) FULBRIGHT Student Alumni Regional Conference Gala Dinner, Cairo 2016.
- “Energy Harvesting Using Magnetostrictive Materials,” Instituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy, 2012.
- “Energy Harvesting Using Magneto-Elastic Materials,” EE Dept., Ghent University, Belgium, 2012.
- "Identification of Surface Cracks in Magnetic Bodies Using Wavelets on a Bounded Interval," EE Dept., Univ. Sannio, Benevento, Italy, 2011.
- "Efficient Vector Hysteresis Modeling Using Rotationally Coupled Step Functions," Hysteresis and Micromagnetic Modeling (HMM) 2011 Conference, Levico, Italy.

- "Industry Needs from Engineering Education," ICESCO Chair Activities, Cairo University, Egypt, 2010.
- "Utilizing Magnetostrictive Materials in Energy Harvesting from Mechanical Vibrations," Egypt-Japan Workshop on Advances in Engineering Sciences and Technologies, Cairo, Egypt, 2010.
- "Deducing Local Values From Spatially Averaging Measuring Devices," EE Dept., Univ. Sannio, Benevento, Italy, 2009.
- "Dual Use of Particle Swarm Evolutionary Approach In Energy Minimization And Device Optimization," EE Dept., Univ. Sannio, Benevento, Italy, 2009.
- "Incorporating Core Hysteresis Properties In 3-D Computations of Transformer Inrush Current Forces," EE Dept., Univ. Napoli, Napoli, Italy, 2009.
- "Superconducting Elect. Machines," EE Dept., Univ. Sannio, Benevento, Italy, 2004.
- "Magnetic Measurement Instrumentation," EE Dept., Univ. Napoli, Napoli, Italy, 2003.

Journal Editorial Board Activities:

- Associate Editor-in-Chief for the "IEEE Transactions on Magnetics" since 2010
- Associate Editor for Cairo University Elsevier "Journal of Advanced Research" (JAR) since 2011
- Associate Editor for Cairo University's Faculty of Engineering "Journal of Engineering and Applied Sciences" (JEAS) since 2012.

Reviewing Activities (Research Projects, Journal Papers and Conference):

- Regular Reviewer several research proposals submitted to the "Fonds Wetenschappelijk Onderzoek (FWO) – Research Foundation Flanders", Belgium
- Served as a reviewer for a research proposal submitted to a Special Research Fund at the University of Gent, Belgium
- Served as a Reviewer for the Italian National Agency for the Evaluation of Universities and Research Institutions (ANVUR) through the Evaluation of Research Quality 2004-2010 (VQR 2004-2010)
- Reviewed more than 300 journal and conference and papers. List includes; INTERMAG Conferences, MMM Conferences, HMM Conferences, IEEE Trans Mag, IEEE Trans IAS, IEEE Trans Mechatronics, ACES Journal, Physica-B, JMMM, Electric Power Systems Components, Engineering Review, JAP, Int. J. of Num. Modeling, J. of Alloys and Compounds, JAR, JEAS

Research Projects:

- Egyptian PI for the joint Italy-Egypt research project funded by the Italian Ministry of Foreign Affairs entitled "Modeling and Control of Magneto-Elastic Multifunctional Materials for Power Harvesting in Automotive Applications," Sannio University – Cairo University, 2009-2011.
- Egyptian PI for the joint US-Egypt research project funded by the Egyptian Academy of Scientific Research and Technology (ASRT) entitled "Magnetic Water Treatment For Domestic, Industrial, and Agricultural Purposes," Kansas State University – Cairo University, 2003-2006.
- TEMPUS Project IMG 06-EG3051 Recipient (Short-term scientific event in addition to coordinating a Project submission in collaboration with partners from: Napoli University, Italy)
- Team member in a sequence of research projects for (and funded by) the Egyptian Aluminum Reduction Plant (EGYPTALUM) that took place in the period 1996-2006, Cairo University.
- Team member in the research project funded by the Egyptian Academy of Scientific Research and Technology (ASRT) entitled "Distribution of Magnetic Fields in Electric Power Networks and Working Places", Cairo University, 1997.

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

International Conferences Committees, Editorial Boards and Session Chairing:

- Served on the Program Committee of:
 - The 2020 AIP MMM Conf., Florida, USA
 - The 2020 IEEE INTERMAG Conf., Montreal, Canada
 - The 2016 IEEE Advances in Magnetism Conference (AIM2016), Italy
 - The 2016 Joint IEEE INTERMAG-AIP MMM Conf., San Diego, CA, USA
 - The 2015 IEEE INTERMAG Conf., Beijing, China
 - The 2012 IEEE INTERMAG Conf., Vancouver, Canada
- Served as a Session Chairman within:
 - The 2015 IEEE INTERMAG Conf., Beijing, China
 - The 2011 Int. Symposium on Hysteresis and Micromagnetic Modeling (HMM), Italy
 - The 2010 Joint IEEE INTERMAG-AIP MMM Conf., Washington, DC, USA
 - The 2007 Int. Symposium on Hysteresis and Micromagnetic Modeling (HMM), Italy
 - The 2007 Joint IEEE INTERMAG-AIP MMM Conf., Baltimore, MD, USA
 - The 2006 IEEE INTERMAG Conf., San Diego, CA, USA
 - The 2002 IEEE INTERMAG Conf., Amsterdam, Netherlands
 - The 2001 Joint IEEE INTERMAG-AIP MMM Conf., San Antonio, TX, USA
- Served as an Associate Editor for:
 - The 2018 IEEE INTERMAG Conf., Singapore
 - The 2016 Joint IEEE INTERMAG-AIP MMM Conf., San Diego, CA, USA
 - The 2009 IEEE INTERMAG Conf., Sacramento, CA, USA
- Served as a Steering Committee Member for the 2007 International Symposium on Hysteresis and Micromagnetic Modeling (HMM), Naples, Italy

International Committee Memberships and Affiliations: -

- Served on the Full Professor post 2020 Appointment Committee for the University of Sannio, Benevento, Italy
- Served on the 2018 IEEE Magnetics Society Fellows Evaluation Committee
- Served on the 2012-2016 IEEE Industry Applications Society Fellows Evaluation Committee
- Served as a Technical Committee Member of the IEEE Magnetics Society for more than 10 years
- Served on the IEEE Admission & Advancement (A&A) Committee in the IEEE Senior Member Review Panel
- Served in the period 2006-2017 as a Technical Committee Member of the UNESCO SESAME Synchrotron Project (Jordan)
- IEEE Fellow since 2011
- IEEE Senior Member 1995-2010
- IEEE Member since 1989 (Magnetics, Microwave, and Industrial Applications Societies)

National Committee Memberships and Affiliations: -

- Served as the Chairman of the Fulbright Egypt Board of Directors in the period July 2018 – December 2019.
- Served as a Member of the Evaluation Committee for the Egyptian State Nile and Appreciation Prizes – Most Prestigious 2 Prizes – (Egyptian Academy of Scientific Research ASRT) in 2018, 2019 and 2020.
- Served as the Head of the Evaluation Committee for the M.M. Khalifa Prize in Power Engineering (Egyptian Academy of Scientific Research ASRT) in 2016.

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

- Served as the Head of the Evaluation Committee for the Egyptian State Encouragement Prize in Engineering and Advanced Technological Sciences (Egyptian Academy of Scientific Research ASRT) in 2016.
- Served as a member of the Egyptian State Prizes Criteria Reform Committee (Egyptian Academy of Scientific Research ASRT) in 2015.
- Member of the Egyptian Academy of Scientific Research and Technology (ASRT) Board of Directors 2015-date.
- Served as the Head of the Evaluation Committee for the Egyptian State Prize for Engineering Excellence (Egyptian Academy of Scientific Research ASRT) in 2015.
- Served as the Head of the Evaluation Committee for the Egyptian State Prize for Engineering Excellence (Egyptian Academy of Scientific Research ASRT) in 2014.
- Member of the National Promotions Committee for Egyptian Universities Faculty Members in Power Engineering Departments 2013-date.
- Served as a member of the Evaluation Committee for the Egyptian State Prize for Engineering Excellence (Egyptian Academy of Scientific Research ASRT) in 2012.
- Served as member of the National Science and Technology Development Fund (STDF) Technical Evaluation Committee in the period 2012-2014.
- Served as a judge in the 2009 IEEE Egypt Gold "Made in Egypt" (MIE) Graduation Project Competition.
- Served in the period 2008-2014 as a Promotion Committee Member for Associate & Full Professorship at the "Tabbin Institute for Metallurgical Studies" (Helwan, Egypt) affiliated to the Ministry of Industry.
- Served as a member of the Egyptian CIGRE Transformer Committee, the Egyptian IEC Superconductivity Committee, and the Egyptian IEC Over-head Transmission Lines Committee.
- Member of the Egyptian Syndicate of Engineers since 1984.

Patents, Books and Publications:-

(A) Patent:

Edward R. Burke, Isaak D. Mayergoyz, **Amr A. Adly** and Romel D. Gomez, "Method of Measuring Magnetic Fields on Magnetically Recorded Media using a Scanning Tunneling Microscope and Magnetic Probe".

U.S. Patent No. 5,264,794 Date of Patent: Nov. 23, 1993.

(B) Book:

A. Elrefaie, O.A. Mahgoub and **A.A. Adly**, "Design and Implementation of Electromagnetic Pulse Propulsion System," Lambert Academic Publishing, Saarbrucken, Germany, 2016.

(C) Publications:

- [1] A.A. Adly and S.K. Abd-El-Hafiz, "Utilizing Four-Node Tetrahedra-Shaped Hopfield Neural Network Configurations in the Local Magnetization Assessment of 3D Objects Exhibiting Hysteresis," AIP Advances, Vol. 11, No. 2, p. 025018, 2021.
- [2] A.A. Adly and S.K. Abd-El-Hafiz, "An Efficient Vector Hysteresis Model for Unidirectional Magneto-Elastic Interactions," IEEE Trans. Magn., Vol. 57, p. 7300205, 2021.
- [3] A.A. Adly, "Computer-aided transformer design capacity building: A sample industry-oriented senior level university course," Transformers Magazine, Vol. 8, Issue 1, pp. 72-77, 2021.
- [4] A.A. Adly, "On The Quest For Economic Prosperity: A Higher Education Strategic Perspective For The Mena Region," arXiv:2009.14408v1 [econ.GN], September 2020.

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

- [5] T.M. Abdo, A.A. Huzayyin, A.A. Abdallah and A.A. Adly, "Characteristics and Analysis of an Eddy Current Shock Absorber Damper Using Finite Element Analysis," *Actuators*, Vol. 8, No. 4, p. 77, 2019.
- [6] A.A. Adly and A. Huzayyin, "The impact of demagnetization on the feasibility of permanent magnet synchronous motors in industry applications," *Journal of Advanced Research (Elsevier JAR)*, Vol. 17, pp. 103-108, 2019.
- [7] A. Elkomy, A. Huzayyin, T.M. Abdo, A.A. Adly and H.M. Yassin, "Enhancement of Wind Energy Conversion Systems Active and Reactive Power Control via Flywheel Energy Storage Systems Integration," *Proceedings of the 2017 International Middle East Power System Conference (MEPCON)*, Egypt, December 19-21, pp. 1151-1156, 2018.
- [8] A.A. Abdullah, T.M. Abdo, A.A. Huzayyin and A.A. Adly, "Performance Analysis of Eddy Current Shock Absorber Damper Using Finite Element Analysis," *Proceedings of the 2017 International Middle East Power System Conference (MEPCON)*, Egypt, December 19-21, pp. 1010-1015, 2018.
- [9] A.A. Adly and S.K. Abd-El-Hafiz, "A Wave Shaping Approach of Ferrite Inductors Exhibiting Hysteresis Using Orthogonal Field Bias," *AIP Advances*, Vol. 8, No. 5, p. 056643, 2018.
- [10] A.A. Adly and S.K. Abd-El-Hafiz, "Construction of a Magnetostrictive Hysteresis Operator Using a Tripod-Like Primitive Hopfield Neural Network," *AIP Advances*, Vol. 8, No. 5, p. 056802, 2018.
- [11] A.A. Adly and S.K. Abd-El-Hafiz, "A Deconvolution Approach to the Three Dimensional Identification of Cracks in Magnetic Slabs," *International Journal of Electrical and Computer Engineering (IJECE)*, Vol. 7, No. 5, pp. 2357-2364, 2017.
- [12] A.A. Adly and S.K. Abd-El-Hafiz, "An efficient hysteresis modeling methodology and its implementation in field computation applications," *Journal of Magnetism and Magnetic Materials*, Vol. 434, pp. 151-156, 2017.
- [13] A.A. Adly, "A Specifications-Oriented Initial Design Methodology for Power Transformers," *Energy Systems (Springer)*, Vol. 8, No. 2, pp. 285-296, 2017.
- [14] T.M. Abdo, A.L. Elrefai, A.A. Adly and O.A. Mahgoub, "Performance Analysis of Coil-Gun Electromagnetic Launcher Using a Finite Element Coupled Model," *Proceedings of the International Middle East Power System Conference (MEPCON)*, Egypt, December 27-29, pp. 506-511, 2016.
- [15] M.A. Adly and A.A. Adly, "Steady State Analysis of a Human Motion Electromechanical Energy Harvester," *Proc. of the 27th IEEE International Conference on Microelectronics (ICM)*, Giza, Egypt, December 17-20, pp. 281-284, 2016.
- [16] A.A. Adly and M.A. Adly, "Utilizing Electromechanical Energy Harvesting in Vehicle Suspension Vibration Damping," *Proc. of the 23rd IEEE International Conference on Electronics, Circuits and Systems (ICECS)*, Monte Carlo, Monaco, December 11-14, pp. 672-675, 2016.
- [17] A.A. Adly and S.K. Abd-El-Hafiz, "Simulation of Magneto-Elastic Materials Using a Novel Vector Hysteresis Model," *Proc. of the International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON 2016)*, Chiang Mai, Thailand, June 28th-July 1st, Paper# 1067, pp. 1-6, 2016.
- [18] A.A. Adly and S.K. Abd-El-Hafiz, "Vector Hysteresis Modeling in Arbitrarily Shaped Objects Using an Energy Minimization Approach," *Journal of the Applied Computational Electromagnetics Society (ACES)*, Vol. 31, No. 7, pp. 765-770, 2016.
- [19] S.K. Abd-El-Hafiz and A.A. Adly, "A Deconvolution Approach to the Three Dimensional Identification of Embedded Cracks in Magnetic Slabs," *Proc. of the IEEE Advances in Magnetics Conference (AIM2016)*, Bormio, Italy, Paper# 116, March 2016.
- [20] A.A. Adly and S.K. Abd-El-Hafiz, "An Efficient Hysteresis Modeling Methodology and Its Implementation," *Proc. of the IEEE Advances in Magnetics Conference (AIM2016)*, Bormio, Italy, Paper# 065, March 2016.

- [21] A. Dimitri, A. El-Shafei, A.A. Adly and J. Mahfoud, "Magnetic actuator control of oil whip instability in bearings," *IEEE Trans. Magn.*, Vol. 51, p. 8500304, 2015.
 - [22] A.A. Adly and S.K. Abd-El-Hafiz, "A performance-oriented power transformer design methodology using multi-objective evolutionary optimization," *Journal of Advanced Research (Elsevier JAR)*, Vol. 6, pp. 417-423, 2015.
 - [23] H.H. Hanafy, T.M. Abdo and A.A. Adly, "Analysis and force computations of single-phase permanent-capacitor induction motors using FEM at broken bar conditions," *Proc. of the 7th IET International Conference on Power Electronics, Machines and Drives (PEMD)*, Manchester, UK, Paper#0079, 8-10 April, 2014.
 - [24] H.H. Hanafy, T.M. Abdo and A.A. Adly, "2D Finite Element Analysis and Force Calculations for Induction Motors with Broken Bars," *Ain Shams University Journal (Elsevier ASUJ)*, Vol. 5, pp. 421-431, 2014.
 - [25] A.A. Adly and S.K. Abd-El-Hafiz, "Utilizing Neural Networks in Magnetic Media Modeling and Field Computation," *Journal of Advanced Research (Elsevier JAR)*, Vol. 5, pp. 615-627, 2014.
 - [26] H.H. Hanafy, T.M. Abdo and A.A. Adly "The Investigation and 2D Computations of Electromagnetic Fields and Forces Distribution of Squirrel Cage Induction Motor with Broken End Ring", *Journal of Electrical Engineering*, Vol. 13, No. 4, pp. 80-87, 2013.
 - [27] A.A. Adly, O.A. Mahgoub and S.K. Abd-El-Hafiz, "Design and Construction of a Low Cost Single-Phase Induction Motor Test Bench," *Proc. IEEE International Conference on Electronics, Circuits, and Systems (ICECS2013)*, Abu-Dhabi, United Arab Emirates, pp. 113-116, December 2013.
 - [28] H.H. Hanafy, T.M. Abdo and A.A. Adly, "Using 2D Finite Element Analysis in the Calculation of Current and Force Distributions for Induction Motors with Broken Bars," *Proc. of The 39th Annual IEEE Industrial Electronics Society Conference (IECON 2013)*, Vienna, Austria, pp. 3192-3197 November 2013.
 - [29] H.H. Hanafy, T.M. Abdo and A.A. Adly, "Force Computation and Analysis of Single-Phase Capacitor-Start Induction Motors Using Finite Element Method at Broken Bars Conditions," *International Review of Electrical Engineering (IREE)*, Vol. 8, No. 5, pp. 1427-1436, 2013.
 - [30] A.A. Adly and S.K. Abd-El-Hafiz, "Active electromagnetic suspension system design using hybrid neural-swarm optimization," *International Journal of Applied Electromagnetics and Mechanics* Vol. 43, Number 1-2, pp. 85-91, 2013.
 - [31] S.K. Abd-El-Hafiz and A.A. Adly, "Three Dimensional Identification of Crack Location in Conducting Slabs Using Wavelets," *IEEE Trans. Magn.*, Vol. 49, pp. 3472-3475, 2013.
 - [32] A.A. Adly and S.K. Abd-El-Hafiz, "Efficient Modeling of Vector Hysteresis Using a Novel Hopfield Neural Network Implementation of Stoner-Wohlfarth-Like Operators," *Journal of Advanced Research (Elsevier JAR)*, Vol. 4, pp. 403-409, 2013.
 - [33] A.A. Adly, D. Davino, A. Giustiniani and C. Visone, "Vector Magnetic Hysteresis Modeling of Stress Annealed Galfenol," *Journal of Applied Physics*, Vol. 113, pp. 17A931, 2013.
 - [34] A.A. Adly and S.K. Abd-El-Hafiz, "A wavelet approach for three dimensional crack detection in slabs using current injection perturbation," *Proc. of the 12th International Workshop on Optimization and Inverse Problems in Electromagnetism*, Ghent, Belgium, pp. 30-31, September 19 – 21, 2012.
 - [35] A.A. Adly and S.K. Abd-El-Hafiz, "Active electromagnetic suspension system design using hybrid neural-swarm optimization," *Proc. of the 12th International Workshop on Optimization and Inverse Problems in Electromagnetism*, Ghent, Belgium, pp. 42-43, September 19 – 21, 2012.
 - [36] M. El-Hakim, T. Sakr, A. Dimitri, J. Mahfoud, A.A. Adly and A. El-Shafei, "Numerical and experimental identification of a combined Journal-Magnetic bearing: Smart Integrated Bearing," *Proceedings of the 10th International Conference on Vibrations in Rotating Machinery, IMechE*, London UK, pp. 399-407, 11-13 September 2012.
-

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

- [37] D. Davino, A. Giustiniani, C. Visone and A.A. Adly, "Energy harvesting tests with Galfenol at variable magneto-mechanical conditions," *IEEE Trans. Magn.*, Vol. 48, pp. 3096-3099, 2012.
- [38] J. Shazly and A.A. Adly, "Extensions to the Finite Element Technique for the Magneto-Thermal Analysis of Aged Oil Cooled-Insulated Power Transformers," *Journal of Electromagnetic Analysis and Applications*, Vol. 4, pp. 167-176, 2012.
- [39] A.A. Adly and S.K. Abd-El-Hafiz, "A Wavelet Approach for the Identification of Surface Cracks Using Current Injection Perturbation," *Journal of Applied Physics*, Vol. 111, pp. 07E316, 2012.
- [40] A.A. Adly and S.K. Abd-El-Hafiz, "Efficient Vector Hysteresis Modeling Using Rotationally Coupled Step Functions," *Physica-B: Condensed Matter*, Vol. 407, pp. 1350-1353, 2012.
- [41] A.A. Adly and S.K. Abd-El-Hafiz, "Vector Hysteresis Modeling Using Octal Clusters of Coupled Step Functions," *Journal of Applied Physics*, Vol. 109, pp. 07D342, 2011.
- [42] A.A. Adly and S.K. Abd-El-Hafiz, "An Evolutionary Computation Approach for Time-Harmonic Field Problems Involving Nonlinear Magnetic Media," *Journal of Applied Physics*, Vol. 109, pp. 07D321, 2011.
- [43] D. Davino, A. Giustiniani, C. Visone and A.A. Adly, "Experimental Analysis of Vibrations Damping Due to Magnetostrictive Based Energy Harvesting," *Journal of Applied Physics*, Vol. 109, pp. 07E509, 2011.
- [44] S.K. Abd-El-Hafiz and A.A. Adly, "Identification of Surface Cracks in Magnetic Bodies Using Wavelets on a Bounded Interval," *Physica-B: Condensed Matter*, Vol. 406, pp. 280-286, 2011.
- [45] M.M. Abd-El-Aziz, M.N. Nashed, A. Adly and E. Abou-El-Zahab, "Electromagnetic Forces Densities for 3 Phase Busbar Parallel Connected to Rectifier Load," *Proceedings of the International Conference on Advanced Power System Automation and Protection (APAP)*, Beijing, China, Vol. 1, pp. 484-488, Oct. 2011.
- [46] A.A. Adly, A.O. Mahgoub, C. Visone, and D. Davino, "Exploiting Magnetostrictive Materials For Vibration Energy Harvesting," *Proceedings of the 17th International Congress on Sound and Vibration (ICSV17)*, Cairo, Egypt, Paper #423, July 2010.
- [47] A.A. Adly, D. Davino, A. Giustiniani, and C. Visone, "Experimental Tests of a Magnetostrictive Energy Harvesting Device and Its Modeling," *Journal of Applied Physics*, Vol. 107, pp. 09A935, 2010.
- [48] C. Visone, D. Davino and A.A. Adly, "Vector Preisach Modeling of Magnetic Shape Memory Materials Oriented to Power Harvesting Applications," *IEEE Trans. Magn.*, Vol. 46, pp. 1848-1851, 2010.
- [49] S.K. Abd-El-Hafiz and A.A. Adly, "Deducing Local Field Values From Large Sense Coil Fluxmeter Measurements Using Semi-Orthogonal Compactly Supported Spline Wavelets," *IEEE Trans. Magn.*, Vol. 46, pp. 1869-1872, 2010.
- [50] A.A. Adly, M.M. Abdel-Aziz and N.S. Hosny, "Deducing Local ELF Field Values From Large Sense Coil Fluxmeter Measurements," *Journal of Applied Physics*, Vol. 105, pp. 07E721, 2009.
- [51] A.A. Adly and H.H. Hanafy, "Incorporating Core Hysteresis Properties In 3-D Computations of Transformer Inrush Current Forces," *Journal of Applied Physics*, Vol. 105, pp. 07A329, 2009.
- [52] A.A. Adly and S.K. Abd-El-Hafiz, "Utilizing Particle Swarm Optimization in the Field Computation of Nonlinear Media Subject To Mechanical Stress," *Journal of Applied Physics*, Vol. 105, pp. 07D507, 2009.
- [53] A.A. Adly and S.K. Abd-El-Hafiz, "Efficient Modeling of Vector Hysteresis Using Fuzzy Inference Systems," *Physica-B: Condensed Matter*, Vol. 403, pp. 3812-3818, 2008.
- [54] A.A. Adly and S.K. Abd-El-Hafiz, "Efficient Modeling of Magnetostrictive Media Using Fuzzy Inference Systems," *IEEE Trans. Magn.*, Vol. 44, pp. 2219-2226, 2008.

- [55] A.A. Adly and S.K. Abd-El-Hafiz, "Implementation of Magnetostriction Preisach-Type Models Using Orthogonally-Coupled Hysteresis Operators," *Physica-B: Condensed Matter*, Vol. 403, pp. 425-427, 2008.
- [56] M.M. Abd-El-Aziz, M.N. Nashed, A.A. Adly and E.M. Abou-El-Zahab, "Computation of Busbars Local Electromagnetic Force Densities Connected to 3-Pulse Rectifier Load over a Complete Cycle," *Proceedings of the Middle East Power System Conference (MEPCON)*, Egypt, pp. 550-554, 2008.
- [57] H.I. Anis, A.A. Adly, M. Morcos, and A.A. Huzayyin, "Experimental Investigation Of Water Quality Modification Using Magnetic Means," *Proceedings of Second Ain Shams International Conference on Environmental Engineering*, Cairo, Egypt, pp. 216-224, April 2007.
- [58] A.A. Adly and S.K. Abd-El-Hafiz, "Speed Range Based Optimization of Non-linear Electromagnetic Braking Systems," *IEEE Trans. Magn.*, Vol. 43, pp. 2606-2608, 2007.
- [59] A.A. Adly and S.K. Abd-El-Hafiz, "Efficient Implementation of Anisotropic Vector Preisach-Type Models Using Coupled Step Functions," *IEEE Trans. Magn.*, Vol. 43, pp. 2962-2964, 2007.
- [60] H.I. Anis, A.A. Adly, and M. Morcos, "Analytical and Experimental Investigation of Water Quality Modification Using Magnetic Means," *Proceedings of The Fourth Conference on Scientific Research Outlook and Technology Development in the Arab World (SRO4)*, Paper#39, Damascus, Syria, December 2006 .
- [61] A.A. Adly and S.K. Abd-El-Hafiz, "Using the particle swarm evolutionary approach in shape optimization and field analysis of devices involving non-linear magnetic media," *IEEE Trans. Magn.*, Vol. 42, pp. 3150-3152, 2006.
- [62] A.A. Adly, A.F. Zobaa and G.J. Nolan, "Trends, features and recent research efforts in the field of hybrid electric vehicles," *International Journal of Alternative Propulsion (Inderscience Enterprises, Ltd. UK)*, Vol. 1, pp. 1-5, 2006.
- [63] A.A. Adly, A.A. Huzayyin, and S. Abu-Shady, "Analytical Assessment of Molten Metal Flow Patterns in Aluminum Reduction Cells," *International Journal of Pure and Applied Mathematics (IJPAM)*, Vol. 28, No. 4, pp. 477-486, 2006.
- [64] A.A. Adly and S.K. Abd-El-Hafiz, "Efficient implementation of vector Preisach-type models using orthogonally coupled hysteresis operators," *IEEE Trans. Magn.*, Vol. 42, pp. 1518-1525, 2006.
- [65] A.A. Adly, D. Davino and C. Visone, "Simulation of field effects on the mechanical hysteresis of Terfenol rods and magnetic shape memory materials using vector Preisach-type models," *Physica-B: Condensed Matter*, Vol. 372, pp. 207-210, 2006.
- [66] A.A. Adly, V. Basso, M. d'Aquino, D. Davino, C. Serpico and C. Visone, "Identification of a new class of vector hysteresis models," *HMM Conference Proceedings*, Budapest, Hungary, 2005.
- [67] A.A. Adly, A.A. Huzayyin, H.I. Anis and M. Morcos, "Analytical and experimental estimation of fields generated by magnetic water treatment units," *Proceedings of First Ain Shams International Conference on Environmental Engineering*, Cairo, Egypt, pp. 1-15, April 2005.
- [68] M.M. Abdel-Aziz, A.A. Adly and E.M. Abou-El-Zahab, "Assessment of electromagnetic forces resulting from arbitrary geometrical busbar configurations," *Proceedings of the 2004 International Conference on Electrical, Electronic and Computer Engineering (ICEEC'04)*, Cairo–Egypt, pp. 774-777, September 2004.
- [69] N.S. Hosny, A.A. Adly and M.M. Abdel-Aziz, "Deducing local ELF field values from large sense coil fluxmeter measurements," *Proceedings of the 2004 International Conference on Electrical, Electronic and Computer Engineering (ICEEC'04)*, Cairo–Egypt, pp. 897-900, September 2004.
- [70] A. Saleh, A. Omar, A. Amin, A. Adly, T. Fawzi, and S. El-Debeiky, "Estimation and minimization techniques of transformer tank losses," *Proceedings of the CIGRE Conference*, Paris, France, Paper No. A2-104, August, 2004.

- [71] A.A. Adly and S.K. Abd-El-Hafiz, "Field computation in non-linear magnetic media using particle swarm optimization," *Journal of Magnetism and Magnetic Materials*, Vol. 272-276, pp. 690-692, 2004.
- [72] A.A. Adly, M.M. Abd-El-Aziz, and H.H. Zeineldin, "Design and construction of a low cost vibrating sample magnetometer for B-H curve inference," *Journal of Engineering and Applied Science*, (Faculty of Engineering, Cairo University), vol. 51- No. 1, pp. 99-117, February 2004.
- [73] A.A. Adly, M.M. Abd-El-Aziz, and H.H. Zeineldin, "A low cost device for deducing B-H curves of magnetic materials," *Proc. 46th IEEE International Midwest Symposium on Circuits and Systems*, Cairo, Egypt, Paper# 127I, pp. 900-902, December 2003.
- [74] A.A. Huzayyin, A.A. Adly, and S. Abu-Shady, "Sensing molten metal velocity patterns in Aluminum reduction cells," *Proc. 46th IEEE International Midwest Symposium on Circuits and Systems*, Cairo, Egypt, Paper# 124I, pp. 896-899, December 2003.
- [75] A.A. Adly and S.K. Abd-El-Hafiz, "Using neural and evolutionary computation techniques in the field computation of nonlinear media," *Sci. Bull. Fac. Eng. Ain Shams Univ.*, Vol. 38, No. 4, pp. 777-794, December 2003.
- [76] A.A. Adly and S.K. Abd-El-Hafiz, "Utilizing particle swarm optimization in the field computation of non-linear magnetic media," *Journal of the Applied Computational Electromagnetics Society*, Vol. 18, No.3, pp. 202-209, 2003.
- [77] A.A. Adly, H.H. Hanafy, and S. Abu-Shady, "Incorporating Preisach models of hysteresis in the computation of 1-phase transformer inrush currents," *Sci. Bull. Fac. Eng. Ain Shams Univ.*, Vol. 38, No.3, pp. 417-426, September 2003.
- [78] C. Serpico, M. d'Aquino, C. Visone and A. Adly, "A New Vector Model of Magnetic Hysteresis Based on a Novel Class of Play Hystérons," *IEEE Trans. Magn.*, Vol. 39, No.5, pp. 2537-2539, 2003.
- [79] A.A. Adly and S.K. Abd-El-Hafiz, "Identification and testing of an efficient Hopfield neural network magnetostriction model," *Journal of Magnetism and Magnetic Materials*, Vol. 263, No.3, pp. 301-306, 2003.
- [80] A.A. Adly, H.H. Hanafy, and S. Abu-Shady, "Utilizing Preisach models of hysteresis in computation of three-phase transformer inrush currents," *Electric Power Systems Research*, Vol. 65, No.3, pp. 233-238, 2003.
- [81] A. Saleh, T. Fawzi, A. Adly, A. Omar and S. El-Debeiky, "Optimal design of transformers for subtransmission and distribution networks," *Proceedings of the 17th International Conference on Electricity Distribution (CIRED)*, Barcelona, Spain, Session 1, Paper No. 89, pp. 1-4, May 2003.
- [82] A.A. Adly and S.K. Abd-El-Hafiz, "Automated two-dimensional field computation in nonlinear magnetic media using Hopfield neural networks," *IEEE Trans. Magn.*, Vol. 38, pp. 2364-2366, 2002.
- [83] A. Saleh, A. Adly, T. Fawzi, A. Omar and S. El-Debeiky, "Estimation And Minimization Techniques Of Eddy Current Losses In Transformer Windings", *Proceedings of the CIGRE Conference*, Paris, France, Paper No. 12-105, August, 2002.
- [84] A.A. Adly, M.F. El-Demerdash, H.A. Ahmed and A.A. Afifi, "Computational analysis of pipe cathodic protection using the method of electrostatic images," *Proc. of the International Conf. on Industrial Electronics, Technology & Automation*, Paper#123, Dec. 2001, Cairo, Egypt.
- [85] I.D. Mayergoyz, C. Tse, C. Krafft and A.A. Adly, "Spin-stand imaging of transverse magnetization profiles of recorded tracks," *Journal of Applied Physics*, Vol. 89, pp. 6775-6777, 2001.
- [86] A.A. Adly, "Computation of Inrush Current Forces on Transformer Windings," *IEEE Trans. Magn.*, Vol. 37, pp. 2891-2893, 2001.
- [87] A.A. Adly, "Controlling Linearity and Permeability of Iron Core Inductors Using Field Orientation Techniques," *IEEE Trans. Magn.*, Vol. 37, pp. 2855-2857, 2001.

Prof. Amr Adly (Fellow, IEEE)
Curriculum Vitae

- [88] A.A. Adly, "A Variable Frequency Electromagnetic Technique for locating Embedded Cracks in Conducting Media," *IEEE Trans. Magn.*, Vol. 37, pp. 2800-2802, 2001.
- [89] A.A. Adly and S.K. Abd-El-Hafiz, "Utilizing Hopfield Neural Networks in the Analysis of Reluctance Motors," *IEEE Trans. Magn.*, Vol. 36, pp. 3147-3149, 2000.
- [90] C.E. Korman, A.A. Adly, Isaak D. Mayergoyz, and Pattana Rugkwamsook, "A Model for Magnetic Aftereffect in the Presence of Time Varying Demagnetizing Fields," *IEEE Trans. Magn.*, Vol. 36, pp. 3182-3184, 2000.
- [91] I.D. Mayergoyz, A.A. Adly, M.W. Huang, and C. Krafft, "Experimental Testing of Vector Preisach Models for Superconducting Hysteresis," *IEEE Trans. Magn.*, Vol. 36, pp. 3505-3507, 2000.
- [92] I.D. Mayergoyz, A.A. Adly, M.W. Huang, and C. Krafft, "Scaling and Data Collapse in Magnetic Viscosity of Superconductors," *IEEE Trans. Magn.*, Vol. 36, pp. 3208-3210, 2000.
- [93] M.F. El-Demerdash, A.A. Adly, S.E. Abu-Shady, W. Ismail and F.M. El-Dawi, "Towards a More Stable Aluminum Cell Via Busbar Configuration Optimization," *Light Metals*, pp. 291-295, 2000.
- [94] A.A. Adly, S.K. Abd-El-Hafiz, and I.D. Mayergoyz, "Identification of Vector Preisach Models from Arbitrary Measured Data Using Neural Networks," *Journal of Applied Physics*, Vol. 87, pp. 6821-6823, 2000.
- [95] I.D. Mayergoyz, A.A. Adly, Mingwei Huang, and C. Krafft, "Experimental Testing of the Preisach Modeling of Superconducting Hysteresis," *Journal of Applied Physics*, Vol. 87, pp. 5552-5554, 2000.
- [96] C. Visone, C. Serpico, I.D. Mayergoyz, M.W. Huang, and A.A. Adly, "Neural-Preisach-Type Models and their Application to the Identification of Magnetic Hysteresis from Noisy Data," *Physica B*, Vol. 275, pp. 223-227, 2000.
- [97] A.A. Adly, S.K. Abd-El-Hafiz, and I.D. Mayergoyz, "Using Neural Networks in the Identification of Preisach-Type Magnetostriction and Field-Temperature Models," *Journal of Applied Physics*, Vol. 85, pp. 5211-5213, 1999.
- [98] I.D. Mayergoyz, A.A. Adly, C. Korman, M.W. Huang, and C. Krafft, "Scaling and Data Collapse in Magnetic Viscosity," *Journal of Applied Physics*, Vol. 85, pp. 4358-4360, 1999.
- [99] A.A. Adly and S.K. Abd-El-Hafiz, "Automated Transformer Design and Core Rewinding Using Neural Networks," *Journal of Engineering and Applied Science*, Faculty of Engineering, Cairo University, Vol. 46, no. 2., pp. 351-364, April 1999.
- [100] A.A. Adly, W. Ismail, and S. Abu-Shady, "Analytical Determination of 3-D Current Density Distribution in Aluminum Reduction Cells," *Proceedings of the Sixth International Conference on Mining, Petroleum and Metallurgy*, Faculty of Engineering, Cairo University, Egypt, Vol. 3, pp. 1-9, Feb. 1999.
- [101] A.A. Adly and I.D. Mayergoyz, "Simulation of Field-Temperature Effects in Magnetic Media Using Anisotropic Preisach Models," *IEEE Transactions on Magnetics*, vol. 34, pp. 1264-1266, 1998.
- [102] A.A. Adly and S.K. Abd-El-Hafiz, "Using neural networks in the identification of Preisach-type hysteresis models," *IEEE Transactions on Magnetics*, vol. 34, pp. 629-635, 1998.
- [103] A.A. Adly and I.D. Mayergoyz, "Accurate Modeling of Vector Hysteresis using a Superposition of Preisach-Type Models," *IEEE Transactions on Magnetics*, vol. 33, pp. 4155-4157, 1997.
- [104] A.A. Adly, I.D. Mayergoyz, and A. Bergqvist, "Utilizing Anisotropic Preisach-Type Models in the Accurate Simulation of Magnetostriction," *IEEE Transactions on Magnetics*, vol. 33, pp. 3931-3933, 1997.
- [105] H.A. Elghazaly, A.A. Adly, and H.I. Anis, "Magnetic Field Measurement in Egyptian Residential and Commercial Buildings," *Fifth International Middle East Power System Conference (MEPCON97)*, Alexandria, Egypt, January 4-6, Vol. 2, pp. 514-518, 1997.

- [106] S.K. Abd-El-Hafiz and A.A. Adly, "A hybrid Preisach-neural network approach for modeling systems exhibiting hysteresis," Proc. of the Fourth IEEE International Conference on Electronics, Circuits, and Systems (ICECS'97), Cairo, Egypt, pp. 976-979, December 1997.
- [107] M. Gilany, A.A. Adly, and R. Radwan, "A Novel Method for Eliminating the Transformer Magnetizing Inrush Current; Part-I: Theory and Analysis," Proc. of the Fourth IEEE International Conference on Electronics, Circuits, and Systems (ICECS'97), Cairo, Egypt, pp. 425-429, December 1997.
- [108] H.I. Anis, H.A. Elghazaly, A.A. Adly, M.A. Awadallah, and S.Mahmoud, "Measurements of ELF Magnetic Field Levels in Egypt," Proceedings of The CIGRE Regional Meeting for the African Continent, paper No. IV-102, Cairo, Sept. 1997.
- [109] H.I. Anis, H.A. Elghazaly, and A.A. Adly, "Harmonic ELF Magnetic Fields - Their Measurements and Risk Assessment," The 1996 Annual Review of Research on Biological Effects of Electric, and Magnetic Fields from Generation, Delivery and Use of Electricity, San Antonio, Texas, USA, Nov., pp. 102-103, 1996.
- [110] A.A. Adly and I.D. Mayergoyz, "Magnetostriction simulation using anisotropic vector Preisach-type models," IEEE Transactions on Magnetics, vol. 32, pp. 4773-4775, 1996.
- [111] A.A. Adly, A.A. Mahfouz, O.A. Mahgoub, and S.A. Zeid, "Field Distribution and Power Loss Assessment in Conductive Rod Cores," IEEE Transactions on Magnetics Vol. 32, pp. 4293-4295, 1996.
- [112] A.A. Adly, "Solution of Induction Heating Problems Involving Media With Hysteresis," Journal of Applied Physics, Vol. 79, pp. 4657-4659, 1996.
- [113] A.A. Adly, H.A. Elghazaly, and H.I. Anis, "A Fluxmeter for Frequency- Based Sorting of ELF Magnetic Fields" Proceedings of the 1995 IEEE/KHT Stockholm Power Tech Conference, Sweden, High Voltage Technology Volume, pp. 381-385, 1995.
- [114] A.A. Adly, "Determination of Total Transformer Losses Resulting from Semirotating Flux Excitation," IEEE Transactions on Magnetics Vol. 31, pp. 4253-4255, 1995.
- [115] A.A. Adly, "Performance Simulation of Hysteresis Motors Using Accurate Rotor Media Models," IEEE Transactions on Magnetics Vol. 31, pp. 3542-3544, 1995.
- [116] A. El-Erian, H.I. Anis, M.A. Tawfik, M.K. El-Sherbini and A.A. Adly, "Evaluation of Engineering Education Programs (Egypt Case Study)," Proceedings of the 3rd World Congress on Engineering Education and Training, Vol. 1, pp. 227-239, Nov. 1994.
- [117] A.A. Adly, "Numerical Implementation and Testing of New Vector Isotropic Preisach-Type Models," IEEE Transactions on Magnetics, Vol. 30, pp. 4383-4385, 1994.
- [118] A.A. Adly and Y. J. Zhao, "Efficient Preisach Demagnetization Algorithm and its Experimental Testing," Journal of Applied Physics, Vol. 75, pp. 5502-5504, 1993.
- [119] E.R. Burke, R.D. Gomez, A.A. Adly, and I.D. Mayergoyz, "Magnetic Scanning Tunneling Microscopy: Theory and Experiment," The International Society for Optical Engineering (SPIE) Proceedings, Vol. 1855, pp. 166-177, 1993.
- [120] R. D. Gomez, A. A. Adly, I. D. Mayergoyz, and E. R. Burke, "Magnetic Force Scanning Tunneling Microscopy: Theory and Experiment," IEEE Transactions on Magnetics, Vol. 29, pp. 2494-2499, 1993.
- [121] A.A. Adly, I.D. Mayergoyz, R.D. Gomez, and E.R. Burke, "Computation of Magnetic Fields in Hysteretic Media," IEEE Transactions on Magnetics, Vol. 29, pp. 2380-2382, 1993.
- [122] I.D. Mayergoyz and A.A. Adly, "A New Isotropic Vector Preisach-Type Model of Hysteresis and Its Identification," IEEE Transactions on Magnetics, Vol. 29, pp. 2377-2379, 1993.
- [123] R.D. Gomez, A.A. Adly, I.D. Mayergoyz, E.R. Burke, J. Gorczyca, and M. Kryder, "Magnetic Force Scanning Tunneling Microscopy of High Density Recording," Journal of Applied Physics, Vol. 73, pp. 6180-6182, 1993.

-
- [124] R. D. Gomez, E. R. Burke, A. A. Adly, I. D. Mayergoyz, J. Gorczyca, and M. Kryder, "Microscopic Investigations of Overwritten Data," *Journal of Applied Physics*, Vol. 73, pp. 6001-6003, 1993.
 - [125] A.A. Adly and I.D. Mayergoyz, "A New Vector Preisach-Type Model of Hysteresis," *Journal of Applied Physics*, Vol. 73, pp. 5824-5826, 1993.
 - [126] I.D. Mayergoyz, A.A. Adly, R.D. Gomez, and E.R. Burke, "Magnetization Image Reconstruction from Magnetic Force Scanning Tunneling Microscopy Images," *Journal of Applied Physics*, Vol. 73, pp. 5799-5801, 1993.
 - [127] I.D. Mayergoyz, A.A. Adly, R.D. Gomez, and E.R. Burke, "Experimental Testing of Point Charge Model of Magnetic Force Scanning Tunneling Microscopy," *Journal of Applied Physics*, Vol. 73, pp. 5796-5798, 1993.
 - [128] E.R. Burke, R.D. Gomez, A.A. Adly, and I.D. Mayergoyz, "Tunneling Magnetic Force Microscopy," *NASA Conference Publication 3189*, Vol. 2, pp. 429-438, 1992.
 - [129] R.D. Gomez, E.R. Burke, A.A. Adly, and I.D. Mayergoyz, "Magnetic Force Scanning Tunneling Microscope Imaging of Overwritten Data," *IEEE Transactions on Magnetics*, Vol. 28, pp. 3141-3143, 1992.
 - [130] E.R. Burke, R.D. Gomez, A.A. Adly, and I.D. Mayergoyz, "Analysis of Tunneling Magnetic Force Microscopy Using a Flexible Triangular Probe," *IEEE Transactions on Magnetics*, Vol. 28, pp. 3135-3137, 1992.
 - [131] I.D. Mayergoyz and A.A. Adly, "Numerical Implementation of the Feedback Preisach Model," *IEEE Transactions on Magnetics*, Vol. 28, pp. 2605-2607, 1992.
 - [132] A.A. Adly and I.D. Mayergoyz, "Experimental Testing of the Average Preisach Model of Hysteresis," *IEEE Transactions on Magnetics*, Vol. 28, pp. 2268-2270, 1992.
 - [133] R.D. Gomez, E.R. Burke, A.A. Adly, and I.D. Mayergoyz, "Magnetic Field Imaging by Using Magnetic Force Scanning Tunneling Microscopy," *Applied Physics Letters*, 60 (7), pp. 906-908, 1992.
 - [134] A.A. Adly, I. D. Mayergoyz, and A. Bergqvist, "Preisach Modeling of Magnetostrictive Hysteresis," *Journal of Applied Physics*, 69 (8), pp. 5777-5779, 1991.
 - [135] I.D. Mayergoyz, A.A. Adly, and G. Friedman, "New Preisach-Type Models of Hysteresis and their Experimental Testing," *Journal of Applied Physics*, 67 (9), pp. 5373-5375, 1990.
 - [136] M.N. Abdel-Hamid, M.H. El-Markabi, and A.A. Adly, "Operation of Cage Induction Motor with Unbalanced Voltages and Rotor Cage," *Proceedings of the Middle East Power System Conference (MEPCON)*, Egypt, paper no. EM03-020, pp. 139-145, 1989.

(C) Other Magazine Articles (in Arabic):

- [1] A.A. Adly, "Magnetic Storage of Data", *Arab Electricity*, Vol. 93, pp. 33-35, Jul-Sept. 2008.
- [2] A.A. Adly, "Superconductors", *Arab Electricity*, Vol. 91, pp. 30-32, Jan-March 2008.
