

MOHAMMED A. SHARAF

*Department of Chemistry
Helwan University Ain Helwan, Cairo 11795, EGYPT*

University degree: Computer engineering

Corse: Chemistry:

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Curriculum

EDUCATION:

- 1974-1979 The University of Michigan, Ann Arbor, Michigan, USA
Majored in Physical Chemistry of Macromolecules.
Received the Degree of Doctor of Philosophy in Chemistry
Thesis: "Physical Properties of Polymer Networks"
Advisor: Professor James E. Mark.
Co-advisor: Professor C. G. Overberger.
- 1969-1974 Cairo University, Cairo, Egypt
Majored in Chemistry and Physics
Received the Degree of Bachelor and Master of Science
Thesis: "Complexes of Co(II) with Pyridine and Some of its Derivatives"
Advisors: Professors E. M. Khairy and A. Mahgoub, Cairo University
 Professor Pakinam Askalani, American University, Cairo, Egypt
- 1971-1974 The American University in Cairo, Egypt
Majored in Solid-State Science.

POSITIONS HELD:

- 1997-Present Associate Professor of Chemistry
 Helwan University, Cairo
- 2000
(Jan-Oct) Associate Director
 Center for Technological Development
 Helwan University, Cairo
- 1994-1997 Associate Professor of Chemistry
 Cairo University at Beni-Suef
- 1996-1997 Associate Dean, Research and Graduate Studies
 College of Education, Cairo University at Beni-Suef
- 1988-1994 Assistant Professor of Chemistry

1986-1993	United Arab Emirates University (on assignment from Cairo University) Assistant Professor of Chemistry Cairo University at Beni-Suef
1986-1988	Adjunct Professor of Chemistry Egyptian Air Force Academy
1981-1985	Assistant Professor of Chemistry United Arab Emirates University
1980-1981	Assistant Professor of Chemistry Department of Chemistry & Chemical Engineering University of Detroit
1979-1980	Research Chemist Uniroyal Chemical, Naugatuck, CT, U.S.A.
1974-1979	Research and Teaching Fellow The University of Michigan and The University of Cincinnati.
1971-1974	Teaching Fellow Cairo University and The American University, Cairo.

VISITING SCHOLARSHIPS and PROFESSORSHIPS

2001-2003	Visiting Scientist School of Textile and Fiber Engineering Georgia Institute of Technology
2003	Visiting Scholar, with J. E. Mark Polymer Research Center The University of Cincinnati
2003	Visiting Professor, with Meriam Rafailovich Department of Materials Science & Engineering State University of New York, Stony Brook
1999 (July- December)	Visiting Scholar, with J. E. Mark Polymer Research Center The University of Cincinnati
1998 (February - October)	Visiting Professor, with R. Ernst, Nobel 1991, and U. Suter Institute fur Polymere, Department of Materials Eidgenossische Technische Hochschule, ETH Zurich, Switzerland
January - February 1997	Visiting Professor, with R. Ernst and U. Suter Institute of Polymers Eidgenossische Technische Hochschule, ETH Zurich, Switzerland
(summers) 97, 96, 93, 92, 91	Visiting Scholar, with J. E. Mark Polymer Research Center

90, 88, 84, 83 The University of Cincinnati

August -Visiting Scientist, with R. S. Stein
September Department of Polymer Science and Engineering
1995 University of Massachusetts

February -June Visiting Scholar, with J. E. Mark
1995 Polymer Research Center. The University of Cincinnati

October 1994- Visiting Professor, with L. Monnerie and L. Bokobza
February 1995 Ecole Superieure De Physique Et Chimie Industrielles
Paris, France

July 1985- Visiting Scientist, with R. E. Cohen
December Department of Chemical Engineering
1985 Massachusetts Institute of Technology

INDUSTRIAL POSTIONS

1979-1980 Uniroyal Chemical, Naugatuck, CT, U.S.A.
Thermoplastic elastomers, toughened polyolefins, polymer chracterization, processing,
product development, and vacuum forming

1970 National Plastics Company, Cairo, Egypt
(Summer) physical properties of plastics, testing, and quality control

1969 Iron and steel Company, El-Tabin, Egypt chemical analysis of
(Summer) ores and products, physical properties of metals, materials
testing, and quality control

HONORS, PROFESSIONAL SOCIETIES, ETC. :

High School President Award (1966)
Anna Doprina Award for the 1st best student majoring in Chem. and Phys. (1971)
The American University in Cairo Scholarship (1971-1974)
Horace H. Rackham Graduate Fellowship, University of Michigan (1976)
Dow Corning Fellowship, University of Cincinnati (1984)

Member of :

Who is Who in the World.
Who is Who in the Midwest, USA.
Men and Women of Achievement, Cambridge, England
The Egyptian Syndicate of Science [Council of Chem. Experts, Continuing Education]
The Egyptian Society of Polymer Science.
The Egyptian Society of Solid State Science.
The Egyptian Society of Crystallography.

INVITED LECTURES and VISITS

Atomic Energy Establishment, Cairo, Egypt, February 2007
Center for Continuing Education, Ain Shams University, March 2006.

US-Egypt Tissue Engineering Workshop, January 2006.
 Department of Physics, Alminia University, December 2005.
 Tissue Engineering Center, Alexandria University, Alexandria, Egypt, 2005
 "US/Africa Materials Workshop" Academy of Science and Technol., Cairo, Egypt, 2004.
 Garcia MRSEC, Department of Mat. Sci. and Eng., SUNY, Stony Brook, USA, 2003.
 American Chem. Soc., Composites, New Orleans, LA, 2003
 Gordon Research Conference, Elastomers, 2003
 Kimberly Clark Corp, Atlanta, GA, 2003
 School of Mechanical Engineering, Georgia Tech., 2003
 Garcia MRSEC, Department of Mat. Sci. and Eng., SUNY, Stony Brook, USA, 2001.
 Gordon Research Conference, New Hampshire, USA, 2001.
 "Japanese-Egyptian Symposium on Current Trends in Materials," Assiut University, Egypt, 2000.
 Gordon Research Conference, New Hampshire, USA, 1999.
 Gordon Research Conference, New Hampshire, USA, 1997.
 Uniroyal Chemical, Naugatuck, CT, U.S.A, 1997.
 Institute Des Chimie des Surfaces et Interfaces-CNRS, Mulhouse, France, February 1997.
 Inst. of Phys. Chem., Eidgenossische Technische Hochschule, ETH, Zurich, Switzerland, 1997.
 The Goodyear Tire and Rubber Co., Akron, USA, 1995.
 Department of Polymer Science and Engineering, University of Massachusetts, Amherest, 1995.
 Biosym Technologies, Utrecht, Netherlands, 1994.
 Massachusetts Institute of Technology, Chem. Eng., USA, 1980.

SPONSORED RESEARCH

The World Bank Egypt-HEEPF, "Development of Accredited Chemistry Education at Helwan University."

The US-Egypt-NSF Joint Technology Fund, USA, International Program, "Role of the Interface in the Reinforcement of Nanocomposites" 2003; with H. Bechham, Georgia Tech.

The National Science Foundation, USA, International Program, "Processing Techniques for Improving the Mechanical Properties of Biodegradable packaging polymers." 2001 – 2003.

The National Science Foundation, USA, International Program, "Segmental Orientation and Strain-Induced Crystallization in Poly(tetramethylene oxide) (PTMO)." 1997 – 2000.

The National Science Foundation, USA., International Program grant US-EGYPT, 1992-94. "Filler Reinforcement of Polymers." 1992-94.

The National Science Foundation, Army Research Office, Dow Corning, Eastman Kodak, and Raychem; financial support provided to the University of Cincinnati, during the summers of 1988 - 1994.

The University of Detroit, USA, seed grant, 1981, Physical Properties of Networks.

RESEARCH INTERESTS

Mechanical and Elastic Behavior of Polymer Networks.
 Computer Simulations and Polymer Modeling of Composite Networks.
 Sol-Gels and Hybrid Organic-Inorganic Materials in Sensors, Lasers.
 Optical Properties of Polymers.
 Crystallization, Polymer Networks.
 Thermodynamics of Polymer Solutions.
 Polymeric Materials in Corrosion Control of Reinforcing-Bars.

CURRENT COLLABORATIONS

- J. E. Mark, University of Cincinnati, USA.
Elastic Behavior of Polymer Networks. Reinforcement of Elastomers, Molecular Simulations.
- R. S. Stein, University of Massachusetts, Amherst, USA.
Optical Properties of Polymers, Strain-Induced Crystallization, Polymer Education.
- G. Beaucage, University of Cincinnati, USA.
Small Angle Neutron and X-ray Scattering of Polymer Networks.
- K. I. Jacob, Georgia Institute of Technology, Atlanta, GA, USA.
Modeling and Crystallization of Polymers.
- H. Bechham and J. Leisen, Georgia Institute of Technology, Atlanta, GA, USA.
Solid-state NMR studies of crystallizable networks.
- Rina Tannenbaum, Georgia Institute of Technology, Atlanta, GA, USA.
Nanoreinforcement
- M. Rafailovich, SUNY, Stony Brook, USA.
AFM and morphology studies of crystallizable networks.
- Mike Roland, Naval Research Lab, Washington DC, USA
Rheology of star-branched elastomers.