EMAD ALI SOLIMAN ALI

PROFESSOR OF POLYMER SCIENCE AND TECHNOLOGY

PERSONAL INFORMATION	Full Name: Affiliations: Address: Mobile No.: E-mail: Important links	Emad Ali Soliman Full Professor in Polymer Science and Technology Universities and Research Centers Dist., New Borg El-Arab City, 21934, Alexandria, Egypt. 00201001670546 esoliman@srtacity.sci.eg and emadasoliman@gmail.com www.scopus.com/authid/detail.uri?authorId=26433813200 www.scopus.com/authid/detail.uri?authorId=57197129018 scholar.google.com/citations?view_op=list_works&hl=en&user=HfYDlNgAAAAJ www.researchgate.net/profile/Emad_Soliman2
EDUCATION	▪ **Ph.D. in Food Science and Technology, 2004** Department of Food Science and Technology, Alexandria University. *Major Specialization: Polymeric Packaging Materials* *Minor Specialization: Biodegradable Polymers* ▪ **M.Sc. in Food Science and Technology, 1996** Department of Food Science and Technology, Alexandria University. *Major Specialization: Analytical Food Chemistry* *Minor Specialization: Polymeric Packaging Materials* ▪ **B.Sc. in Food Science and Technology**(Honor)**, 1989** Department of Food Science and Technology, Alexandria University.	
ACTIVITIES	**Scientific Activities** **Research Projects Sponsoring Grants;** ▪ IMHOTEP Project: "Development of Biosensor Based on Nano Fibrous Composites Enzymatically Sensitized for Detection of Pesticides Residues in Foodstuffs" (IMHOTEP # 35192XF), IMHOTEP Program "Egypt-France Joint Projects", Egyptian Academy of Scientific Research & Technology, Funded by Ministry of Scientific Research and Technology of both of Egypt and France, 26/5/2016 -24/5/2018. ▪ RDI Project: "Constructing the First Pilot Biodegradable Plastics Production Line in Egypt" (RDI III/C1/D9/20), Research, Development and Innovation	

(RDI) Programme, Funded by European Union, 26/5/2010 -24/5/2012

Participation in Research Projects:

Co-principal Investigator

- Joint Project: "New Phosphorylated Alginate-Chitosan Polyelectrolyte Complex for Bone Regeneration and Drug Delivery Systems" Egypt-Bulgaria Joint Projects, Egyptian Academy of Scientific Research & Technology, Funded by Ministry of Scientific Research and Technology of both of Egypt and Bulgaria, 6/2014- 6/2015.
- Joint Project: "Nano-polymeric Materials Loaded with Immobilized Enzymes for Bio-treatment of Water Contaminated with Endocrine Hormones Disruptors". Egypt-Italy Joint Projects, Egyptian Academy of Scientific Research & Technology, Funded by Ministry of Scientific Research and Technology of both of Egypt and Italy, 6/2013- 6/2014.
- STDF Project: "Development of Polymeric Electrolyte Membrane for Fuel Cells Based on Direct Injection by Methanol" (STDF ID-4989), Funded by Science, Technology and Development Fund (STDF), 5/2007-5/2009.
- PAPERTECH Project: "Innovative Materials and Technologies for the Conservation of Paper of Historical, Artistically and Archaeological Value". (PAPERTECH 6FP-STREP-INCO-MPC1-509095), Funded by European Union, 1/7/2004-30/6/2006.

Participation in Seminars, Forums and Workshops

- Electro-spun Nano-fibers for biosensors construction. In Training Course entitled: Nano-Technology for Environmental Applications. Held on 4 February 2016 in Electron Microscope Unit, Faculty of Science, Alexandria University, Alexandria, Egypt.
- Transmission Electron Microscopy: Recent Techniques. In: TEM Applications Workshop. Held in SRTA-City on 17-19 April 2018, Alexandria, Egypt.
- Hazards Analysis and Critical Control Points (HACCP). In: Safety Precautions in Laboratories and Industry Workshop. Held in SRTA-City on 27 January 2019, Alexandria, Egypt.
- Lecture entitled: Nanotechnology for Biological Wastewater Treatment and Pollution Diagnosis involving in the cultural season for

Arabian Society for Material Science, High Studies and Research Institute, Alexandria University on 19 April 2018, Alexandria, Egypt.

Supervision on Postgraduate Students

- Supervision on 15 Ph.D. and 20 M.Sc. theses for post-graduate students in Faculties of Science, Engineering, Agriculture, Dentistry, and Fine Arts belonging to differentEgyptian Governmental Universitiessuch as Alex., Ain Shams., Cairo, …etc. and National Universities such as E-JUST and Institute of High Graduation and Research, Alexandria University.

Administrative Activities

- Quality Assurance Manager, Central Lab. for Materials Characterization and Analysis, SRTA City, Alexandria, Egypt (January 2006 - August 2008).
- Technical Manager for Compositional and Elemental Analysis Lab., Central Lab. for Materials Characterization and Analysis, SRTA City, Alexandria, Egypt (January 2006 – May 2007 and then May 2009 – June 2011).
- Acting Head of Polymeric Materials Research Department (Charge d'affaires), Institute of New Materials and Advanced Technologies, SRTA City, Alexandria, Egypt (January 2011 – May 2012).
- Manger of Central Laboratories for Materials Characterization and Analysis, SRTA-City, Alexandria, Egypt (July 2012 – September 2014).
- Acting Head (Charge d'affaires) of Polymeric Materials Research Department, Institute of New Materials and Advanced Technologies, SRTA City, Alexandria, Egypt (September 2014 -July 2017).
- Head of Polymeric Materials Research Department, Institute of New Materials and Advanced Technologies, SRTA City, Alexandria, Egypt (July 2017 tell now).

Extra-curriculum Activities

Professional Society Memberships

- Member of Egyptian Society of Polymers.
- Member of the Scientific Society of Food Industries.

- Member of the Arab Society of Materials Science.
- Member of American Society for Testing and Materials.
- Member of International Society of Food, Agriculture and Environment.

Arbitration Activities

- Referee of Standing Committee of Applied Chemistry for Associate Professor/Professor Promotion.
- Referee for Specific Councils, Egyptian Academy of Scientific Research and Technology.
- Referee for many research projects funded by STDF and Egyptian Universities.
- Referee for several M.Sc. and Ph.D. theses for many universities.
- Reviewer of Refereed International Journals including
  - International Journal of Biotechnology and Biochemistry – Inderscience
  - Journal of Applied Polymer Science – John & Wiley Sons, Inc.
  - Journal of Food Science and Technology – Springer
  - Journal of Pharmaceutical Sciences –Wiley
  - Arabian Journal of Chemistry–Elsevier
  - Applied Materials & Interfaces – ACS
  - Journal of Agricultural and Food Chemistry – ACS
  - Food and Nutrition Sciences – Scientific Research Publisher
  - Journal of Scientific Research and Reports
  - Journal of Reinforced Plastics and Composites
  - British Microbiology Research Journal
  - European Journal of Medicinal Plants
  - International Journal of Biochemistry Research & Review
  - Pharmaceutical Development and Technology
  - British Journal of Applied Science & Technology
  - Energy and Fuels – ACS

Editing Board of Refereed Journals

- International Journal of Food, Agriculture and Environment – Inderscience

Admin and Other Activities

- In charge of committee of technical checking of scientific instruments.
- In-charge of committee of setting up and operating of scientific instruments.
- In-charge of department's website building.

Community services

- **Industrial Community**
  - Providing manyconsultations for factories, companies and

	organizations in field of plastics, food, detergents and pharmaceuticals. ▪ **Scientific Community** - Preparation new courses (Nano-polymeric Materials Principals and Technology and Nano-devices and Nano-bio-sensors for Environmental Applications) for post-graduate students - Teaching Nano-polymeric Materials Principles Course for Ph.D. graduates, Faculty of Fine Art, Alexandria University. - Teaching Specialized Projects Course for Ph.D. graduates, Faculty of Fine Art, Alexandria University.
GRANTS & AWARDS	**Fellowship;** ▪ Post-doctor Fellowship, May 2007 – May 2008 Department of Biological Sciences, Graduate School of Science, Osaka Prefecture University, Osaka, Japan. ▪ Post-doctor Fellowship, one year, March 2014 (not implemented) Department of Quantum and Radiation Engineering, School of Engineering, Osaka Prefecture University- Osaka, Japan.
	Awards ▪ Distinguished Scientific Achievement Award (2015), SARTA-City. ▪ Distinguished Scientific Achievement Award (2013), SARTA-City. ▪ Distinguished Scientific Achievement Award (2012), SARTA-City. ▪ Distinguished Scientific Achievement Award (2011), SARTA-City. ▪ Distinguished Scientific Achievement Award (2008), MUCSAT. ▪ Ideal Honor Undergraduate, (1988-1989), Faculty of Agriculture, Alexandria University. ▪ B.Sc. degree class distinction, (1989), Alexandria University.
LIST OF PUBLICATIONS	▪ Novel Sulphonated Poly (vinyl chloride)/Poly (2-acrylamido-2-methpropane sulphonic acid) Blends-Based for Direct Methanol Fuel Cells. Polymer Testing, 89, 106604, (2020). ▪ Flow of Heavy Oils at Low Temperatures: Potential Challenges and Solutions. In Processing of Heavy Crude Oils: Challenges and Opportunities R. M. Gounder (Ed.). Intech Open Limited, London, England (2019) ISBN: 978-1-83968-410-4 ▪ Carboxylated Alginate Hydrogel Beads for Methylene Blue Removal: Formulation, Kinetic and Isothermal Studies. *Desalination and Water Treatment* 168: 308-323 (2019). ▪ Synthesis and Performance of Maleic Anhydride Copolymers withAlkyl Linoleate or Tetra-esters as Pour Point Depressants for Waxy Crude Oil. *Fuel*, 211:535–547(2018).

- Click Grafting of Chitosan onto PVC Surfaces for Biomedical Applications. *Advances in Polymer Technology* 37(1): 21640(1–12) (2018).
- Chitosan-Ciprofloxacin Schiff Bases: Synthesis, Characterization and in Vitro Antimicrobial Activity Evaluation. *Int. J. Adv. Res.* 5(8), 1147-1155 (2017).
- Biosensor Based on Electro-Spun Blended Chitosan/Poly (vinyl alcohol) Nano-fibrous Enzymatically Sensitized Membranes for Pirimiphos-methyl Detection in Olive Oil. *Talanta* 155: 258-264 (2016).
- Ultra-sensitive Biosensor Based on Genetically Engineered Acetylcholinesterase Immobilized in Poly (vinyl alcohol)/Fe–Ni Alloy Nanocomposite for Phosmet Detection in Olive Oil. *Food Chemistry* 203: 73–78 (2016).
- Limiting the Migration of Bisphenol A from Polycarbonate Using Dielectric Barrier Discharge. *Open Journal of Synthesis Theory and Applications* 3: 27-36 (2014).
- Optimization of Graft Polymerization and Performance of Carboxymethyl Chitosan/Polyacrylamide Flocculants. *Journal of Research and Development in Chemistry* 1, 1-18 (2014).
- Influence of Phase Behavior and Miscibility on Mechanical, Thermal Properties and Micro-structure of Soluble Starch–Gelatin Thermoplastic Biodegradable Blend Films. *Food and Nutrition Sciences* 5, 1040-1055 (2014).
- Polyacrylamide-Grafted Gelatin: Swellable Hydrogel Delivery System for Agricultural Applications. In A. K. Haghi and E. Carvajal-Millan (Eds.) Food Composition and Analysis: Methods and Strategies (Chapter 11), London, England: Apple Academic Press (2013). ISBN: 9781926895857
- Encapsulated Antifungal Essential Oils. Saarbrucken, Germany: LAP LAMBERT Academic Publishing. (2013). ISBN: 9783659281815
- Statistical Modeling and Optimization of Chitosan Production from *Absidia coerulea* using Response Surface Methodology. *Current Biotechnology* 2, 125 – 133 (2013).
- Preparation, Characterization and Evaluation of Water-Swellable Hydrogel via Grafting Cross-Linked Polyacrylamide Chains onto Gelatin Backbone by Free Radical Polymerization. In L. Shu Liu and A. Ballada (Eds.), Engineering of Polymers and Chemical Complexity Volume I: A Systematic Approach (Chapter 11), London, England: Apple Academic Press (2013). ISBN:

9781926895864.

- Superabsorbent Polyacrylamide Grafted Carboxymethyl Cellulose pH Sensitive Hydrogel: I. Preparation and Characterization. *Desalination and Water Treatment* 51, 3196 -3206 (2013).
- Affinity Separation of Enzymes Using Immobilized Metal Ions PGMA Grafted Cellophane Membranes: β-Galactosidase Enzyme Model. In A. Hamrang (Ed.) Advanced Non-Classical Materials with Complex Behavior Volume I: Modeling and Applications, (Chapter 2), London, England: Apple Academic Press (2013). ISBN: 9781771880008.
- Low Molecular Weight Chitosan-based Schiff Bases: Synthesis, Characterization and Antibacterial activity. *American Journal of Food Technology* 8, 17-30 (2013).
- Antifungal Activity of Aminated Chitosan against Three Different Fungi Species. In D. Balköse, D. Horak, L. Šoltés (Eds.), Key Engineering Materials Volume I: Current State-of-the-Art on Novel Materials (Chapter 26), London, England: CRC Press (2013). ISBN: 97819268957.
- Microencapsulation of Essential Oils within Alginate: Formulation and in Vitro Evaluation of Antifungal Activity. *Journal of Encapsulation and Adsorption Sciences* 3, 48-55 (2013).
- Biopolymer Modifications for Biomedical Applications. In T. Theophanides (Ed.), Infrared Spectroscopy - Life and Biomedical Sciences (Chapter 4), InTech Publishers (2012). ISBN: 978-953-51-0538-1
- Antimicrobial Activity of Novel Aminated Chitosan Derivatives for Biomedical Applications. *Advances in Polymer Technologies* 31, 414-428 (2012).
- Antifungal Activity of Some Essential Oils Applied as Fumigants Against Two Stored Grains Fungi. *J. Adv. Agric. Res*. 17, 2, 296-306 (2012).
- Survey of Bisphenol A in Infant Feeding Baby Bottles in the Local Market of Egypt. *Al-Azhar Bull. Sci.* (8th I.SC.), 21-32 (2012).
- Synthesis, Characterization and Antibacterial Activity of Biodegradable Films Based on Schiff Bases of Zein. *J. Food Sci. Technol*. 49, 1-10 (2012).
- Preparation and Characterization of Imino Diacetic Acid Functionalized Alginate Beads for Removal of Contaminates from Waste Water: I. Methylene

Blue Cationic Dye Model. *Desalination and Water Treatment* 40, 15-23 (2012).

- Comparative Study between High Performance Liquid Chromatography and Gas Chromatography for Determination of Bisphenol in baby bottles. *Al-Azhar Bull. Sci*., 22 (2), 139-204 (2011).
- Nano-sulphonated Polyglycidylmethacrylate Cation Exchanger for Removal of Heavy Metals: Optimization of the Operational Conditions. *Desalination* 279, 152–162 (2011).
- Polyacrylamide Grafted Carboxymethyl Cellulose: Smart pH-Sensitive Hydrogel for Protein Concentration. *Journal of Applied Polymer Science* 122, 469-479 (2011).
- Laboratory Studies and Numerical Modeling of using Natural Micro-beads for Environmental Applications. *Int. J. Electrochem. Sci*. 5, 1887-1897 (2010)
- Experimental and Simulation Study on Removal of Methylene Blue Dye by Alginate Micro-beads. *Journal of American Science* 6 (10), 846-851(2010).
- Removal of Cadmium Ions from Synthetic Aqueous Solutions Using a Novel Nano-sulphonated Polyglycidylmethacrylate Cation Exchanger: Kinetic and Equilibrium Studies. *Journal of Applied Polymer Science* 118 (6), 3111-3122 (2010)
- Modification of Poly-tetrafluoroethylene Surface Properties for Biocatalytic Membrane Applications. *Trends Biomater. Artif. Organs* 23 (3), 150-158 (2010)
- Influence of γ-Irradiation on Mechanical and Water Barrier Properties of Corn Protein-Based Films. *Radiation Physics and Chemistry* 78, 651-654 (2009)
- Evaluation of Alginate-Chitosan Bioadhesive Beads as a Drug Delivery System for the Controlled Release of Theophylline. *Journal of Applied Polymer Science* 111 (5), 2452-2459 (2009)
- Biodegradable Zein-Based Films: Influence of γ-Irradiation on Structural and Functional Properties. *Journal of Agricultural and Food Chemistry* 57 (6), 2529-2535 (2009).
- Immobilized Metal Ions Cellophane – PGMA Grafted Membranes for Affinity Separation of β-Galactosidase enzyme: 1-Preparation and Characterization. *Journal of Applied Polymer Science*. 111 (5), 2647-2656 (2009).

- Chitosan Modified Membranes for Wound Dressing Applications: Preparations, Characterization and Bio-evaluation. *Trends Biomater. Artif. Organs* 22 (3), 154 – 164 (2008).
- Antibacterial Activity of Chitosan Chemically Modified with New Technique. *Trends Biomater. Artif. Organs* 22 (3), 121- 133 (2008).
- Starch Biodegradable Blend Films: Preparation and Characterization. "*Proceeding of the 3rd international Symposium on Material Cycling Engineering*", 13-14 March, 2008, Osaka, Japan, pp. 38-39 (2008).
- Biodegradable Zein-Based Films: Influence of γ-irradiation on Mechanical and Barrier Properties. "*Proceeding of the 3rd international Symposium on Material Cycling Engineering*", 13-14 March, 2008, Osaka, Japan, pp. 33-35 (2008).
- Wet Drawing of Gelatin Films: Structural and Functional Properties. "*Proceeding of the 3rd international Symposium on Material Cycling Engineering*", 13-14 March, 2008, Osaka, Japan, pp. 36-38 (2008).
- Starch–PVA Biodegradable Polymeric Blend Films: Preparation and Characterization. In "*Proceeding of the 1st international conference on materials science & nanotechnology - Future challenges*" 2-4 December, 2007, NRC, Cairo, Egypt. pp 317-326 (2007).
- Preparation and Characterization of Soy Protein Based Edible/ Biodegradable films. *American Journal of Food Technology* 2 (6), 462-476 (2007).
- Preparation and Characterization of Starch Based Edible/ Biodegradable Films. *Journal of Agriculture Sciences (Mansoura University)* 32 (4) 2641-2659 (2007).
- Preparation and in Vitro Release of Theophylline Loaded Sodium Alginate Microspheres. In "*Proceeding of the fourth SRO conference*" Syria, December 14 – 15 (2006).
- Preparation, Characterization and Utilization of Biodegradable Films and Edible Coatings from Renewable Natural Resources. *Alexandria Journal of Agricultural Science* 51 (2), pp 169 -175 (2003).
- Effect of Debittering Techniques and Packaging Materials on Quality of Lime Juice. In "*Proceeding of 2nd Arab International Conference on Food Industries*", 25 – 28 March, 1998, Sharjah, United Arab Emirates, pp 454 – 462

	(1998). ▪ Chemical and Technological Studies on Packaging Materials as Factors Affecting Quality of Some Vegetables and Fruits. *Alexandria Journal of Agricultural Science* 43, (4), pp 278- 281 (1996).