Ahmad Allahbakhsh

(BSc, MSc, PhD in Polymer Engineering)

Assistant Professor of Polymer Engineering **Sep 2018-now**

Department of Materials and Polymer Engineering, Hakim Sabzevari University

Date and Place of Birth: 21/04/1984 – Shiraz – IRAN
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Education:

Doctor of Philosophy (Ph.D.) in Polymer Engineering **Sep 2013 - Jul 2017**

Tarbiat Modares University, Tehran, IRAN (GPA: 17.69 out of 20, A)

Dissertation title: "Microstructural variations evaluation and thermal resistance improvement of polymer-derived graphene quantum dots aerogel at high service temperature" (Dissertation Grade: 19.6 out of 20, A^+)

Supervisor: Dr. Ahmad Reza Bahramian (abahramian@modares.ac.ir)

Research Experience:

Researcher **May 2016 - Feb 2017**

Niroo Research Institute (NRI), Tehran, IRAN
Assistant to Dr. Nastaran Riahi Nouri and researcher at the Nanotechnology Development Center of NRI.

Research Assistant **Sep 2015 - Jul 2016**

Tarbiat Modares University, Tehran, IRAN
Assistant to Dr. Ahmad Reza Bahramian. Two Research Assistant contracts with Tarbiat Modares University as part of the Iranian **National Elites Foundation** grant.

Principle Investigator (PI) in Grant#98002008 - INSF **2019**
Iran National Science Foundation (INSF), Tehran, IRAN
Title: "Design and Fabrication of N-doped GQDs Nanoporous Structures for Solar Water Purification Using Steam Generation Technique".

Principle Investigator (PI) in Grant#45899 - HSU **2019**
Hakim Sabzevari University, Sabzevar, IRAN
Title: "Mechanical Properties of graphene/aluminum composites fabricated using friction stirring processing".

Research Experience (continued):

Investigator in Grant#93.2233 - IAU **2016**
Darab Branch – Islamic Azad University (IAU), Darab, IRAN
Title: "Preparation and characterization of polyamide/rice husk/graphite nanosheets nanocomposite: preparation, morphology and mechanical characterizations".

Investigator in Grant#92.1225 - IAU **2015**
Shiraz Branch – Islamic Azad University (IAU), Shiraz, IRAN
Title: "Recycling Polyethylene Terephthalate Bottles Using Hydrotalcite Catalysts".

Investigator in Grant#91.1111 - IAU **2014**
Lahijan Branch – Islamic Azad University (IAU), Lahijan, IRAN
Title: "Preparation and characterization of PVC/rice straw/nanofiller nanocomposite: mechanical and structural properties".

Investigator in Grant#91.996 - IAU **2013**
Shiraz Branch – Islamic Azad University (IAU), Shiraz, IRAN
Title: "Preparation and characterization of modified polysulfide/expanded graphite nanocomposites".

Teaching Experience:

Master degree: Advanced Rheology of Polymers, Advanced Physical Chemistry of Polymers, Advanced Polymer Processing, Engineering Properties of Polymers, Mechanics of Composites, Manufacturing Techniques for Polymer Matrix Composites, Properties of Composites. **Bachelor degree:** Chemical Reaction Engineering and Kinetics, Fundamentals of Industrial Instrumentation, Numerical Methods for Engineers, Unit Operation, Fiber Technology, Professional English in Use: Polymer Engineering, Engineering Mathematics, Environment, Composites, Thin Films.

Industrial Experience:

Industrial research **Feb 2018 - May 2018**
Head of Polymer Department at Noyan Industrial Research Institute[†] (part-time)

Petrochemical industry **Apr 2011 - Sep 2011**
Production engineer at Kermanshah Polymer Petrochemical Company[‡] (full-time)

[†]Noyan Industrial Research Institute is an NGO company in Shiraz - IRAN
[‡]Kermanshah Polymer Petrochemical Company is a HDPE petrochemical plant in Kermanshah - IRAN

Publications:

https://scholar.google.com/citations?user=HoFziHoAAAAJ

http://www.researcherid.com/rid/G-3918-2017

http://orcid.org/0000-0003-0105-6551

https://www.researchgate.net/profile/Ahmad_Allahbakhsh

Citation indices	All	Since 2015
Citations	331	297
h-index	11	10
i10-index	11	10

*Updated from Google Scholar on: February 2, 2020

Journal Papers:

1- **Ahmad Allahbakhsh*** and Mohammad Arjmand. "Graphene-based phase change composites for energy harvesting and storage: State of the art and future prospects", ***Carbon*** (**2019**) 148, 441-480. doi: 10.1016/j.carbon.2019.04.009 (*corresponding author). **(Impact Factor: 7.466)**

2- **Ahmad Allahbakhsh** and Ahmad Reza Bahramian. "Self-assembled and Pyrolyzed Carbon Aerogels: an Overview on Preparation Mechanisms, Properties and Applications", ***Nanoscale*** (**2015**) 7, 14139-14158. doi: 10.1039/c5nr03855c. **(Impact Factor: 6.970)**

3- **Ahmad Allahbakhsh** and Ahmad Reza Bahramian. "Self-assembly of graphene quantum dots into hydrogels and cryogels: dynamic light scattering, UV–Vis spectroscopy and structural investigations", ***Journal of Molecular Liquids*** (**2018**) 265, 172-180. doi: 10.1016/j.molliq.2018.05.123. **(Impact Factor: 4.561)**

4- **Ahmad Allahbakhsh***, Fereidoon Noei Khodabadi, Fatemeh Sadat Hosseini and Amir hossein Haghighi. "3-Aminopropyl-triethoxysilane-Functionalized Rice Husk and Rice Husk Ash Reinforced Polyamide 6/Graphene Oxide Sustainable Nanocomposites", ***European Polymer Journal*** (**2017**) 94, 417-430. doi: 10.1016/j.eurpolymj.2017.07.031 (*corresponding author). **(Impact Factor: 3.621)**

5- **Ahmad Allahbakhsh*** and Saeedeh Mazinani. "Influences of sodium dodecyl sulfate on vulcanization kinetics and mechanical performance of EPDM/graphene oxide nanocomposites", ***RSC Advances*** (**2015**) 5, 46694-46704. doi: 10.1039/c5ra00394f (*corresponding author). **(Impact factor: 3.049)**

6- **Ahmad Allahbakhsh** and Ahmad Reza Bahramian. "Novolac-derived carbon aerogels pyrolyzed at high temperatures: experimental and theoretical studies", ***RSC Advances***, (**2016**) 76, 72777-72790. doi: 10.1039/C6RA12947A **(Impact factor: 3.049)**

7- **Ahmad Allahbakhsh**, Saeedeh Mazinani, Mohammadreza Kalaee and Farhad Sharif. "Cure Kinetics and Chemorheology of EPDM/Graphene Oxide Nanocomposites", ***Thermochimica Acta,*** (**2013**) 563, 22-32 doi: 10.1016/j.tca.2013.04.010 **(*twice has been included in the journal's top-25 list*) (Impact Factor: 2.251)**

8- **Ahmad Allahbakhsh***, Amir Hossein Haghighi, Milad Sheydaei. "Poly(ethylene trisulfide)/graphene oxide nanocomposites: A study on interfacial interactions and thermal performance", ***Journal of Thermal Analysis and Calorimetry*** (**2017**) 128, 427-442 doi: 10.1007/s10973-016-5915-7 (*corresponding author). **(Impact Factor: 2.471)**

9- **Ahmad Allahbakhsh**, Milad Sheydaei, Saeedeh Mazinani, Mohammadreza Kalaee. "Enhanced thermal properties of poly(ethylene tetrasulfide) via expanded graphite incorporation by in situ polymerization method", ***High Performance Polymers,*** (**2013**) 25, 576-583. doi: 10.1177/0954008313476314 **(Impact Factor: 1.584)**

Publications (continued):

10- **Ahmad Allahbakhsh***, Farhad Sharif and Saeedeh Mazinani. "The influence of oxygen-containing functional groups on the surface behavior and roughness characteristics of graphene oxide", ***NANO***, (**2013**) 8, 1350045. doi: 10.1142/S1793292013500458 (*corresponding author). **(Impact Factor: 1.293)**

11- Amir Hossein Haghighi, Milad Sheydaei, **Ahmad Allahbakhsh***, Marzieh Ghatarband and Fatemeh Sadat Hosseini. "Thermal performance of poly(ethylene disulfide)/expanded graphite nanocomposites", ***Journal of Thermal Analysis and Calorimetry,*** (**2014**) 117, 525-535. doi: 10.1007/s10973-014-3752-0 (*corresponding). **(Impact Factor: 2.471)**

12- Milad Sheydaei, **Ahmad Allahbakhsh***, Amir Hossein Haghighi & Arezou Ghadi. "Synthesis and characterization of poly(methylene disulfide) and poly(ethylene disulfide) polymers in the presence of a phase transfer catalyst", ***Journal of Sulfur Chemistry*****,** (**2013**) 35, 67-73. doi: 10.1080/17415993.2013.794800 (*corresponding).

13- Mohammad Khalaj, **Ahmad Allahbakhsh**, Ahmad Reza Bahramian and Alireza Sharif. "Structural, mechanical and thermal behaviors of novolac/graphene oxide nanocomposite aerogels", ***Journal of Non-Crystalline Solids,*** (**2017**) 460, 19-28. doi: 10.1016/j.jnoncrysol.2017.01.026 **(Impact Factor: 2.600)**

14- M. Sheydaei, M. R. Kalaee, **A. Allahbakhsh**, M. Samar, A. Aghili, M. Dadgar & G. S. Moosavi. "Characterization of synthesized poly(aryldisulfide) through interfacial polymerization using phase-transfer catalyst", ***Journal of Sulfur Chemistry*****, (2012)** 33, 303-311. doi: 10.1080/17415993.2012.662669 **(Impact Factor: 1.370)**

15- Milad Sheydaei, Mohammad Reza Kalaee, **Ahmad Allahbakhsh**, Enayat O'llah Moradi-e-rufchahi, Milad Samar, Golsima Moosavi & Navid Sedaghat. "Synthesis and characterization of poly(p-xylylene tetrasulfide) via interfacial polycondensation in the presence of phase transfer catalysts", ***Designed Monomers and Polymers,*** (**2012**) 16, 191-196. doi: 10.1080/15685551.2012.725213 **(Impact Factor: 1.528)**

16- Mohamad Mehdi Seraji, Nafiseh Sadat Ghafoorian, Ahmad Reza Bahramian and **Ahmad Allahbakhsh**. "Preparation and characterization of C/SiO_2/SiC aerogels based on novolac/silica hybrid hyperporous materials", ***Journal of Non-Crystalline Solids*****,** (**2015**) 425, 146-152. doi: 10.1016/j.jnoncrysol.2015.06.011 **(Impact Factor: 2.600)**

17- Mohammadreza Kalaee, Shahin Akhlaghi, Ali Nouri, Saeedeh Mazinani, Mehrzad Mortezaei, Mehdi Afshari, Dariush Mostafanezhad, **Ahmad Allahbakhsh**, Hamidreza Aliasgari Dehaghi, Ali Amirsadri and Donya Pakdaman Gohari. "Effect of nano-sized calcium carbonate on cure kinetics and properties of polyester/epoxy blend powder coatings", ***Progress in Organic Coatings*****, (2011)** 71, 173-180. doi: 10.1016/j.porgcoat.2011.02.006 **(Impact Factor: 3.420)**

18- Ahmad Allahbakhsh, Farhad Sharif, Saeedeh Mazinani and M. R. Kalaee. "Synthesis and characterization of Graphene Oxide in suspension and powder forms by chemical exfoliation method", ***International Journal of Nano Dimension,*** (**2014**) 5, 11-20. doi: 10.7508/ijnd.2014.01.002 **(indexed in Web of Science - ESCI)**

Conference Papers:

1- **Ahmad Allahbakhsh**, *et al.* "Enhanced mechanical and rheological properties of EPDM/Graphite oxide nanosheets nanocomposite", *Polymer Processing Society 2011 Asia/Australia Regional Meeting (PPS 2011),* **Oral presentation**, November **2011**.

Publications (continued):

2- **Ahmad Allahbakhsh**, *et al.* "A facile and efficient method for graphite oxide nanosheets powder preparation", *Polymer Processing Society 2011 Asia/Australia Regional Meeting (PPS 2011),* **Poster presentation,** November **2011**.

3- M. Sheidaie, M. R. Kalaee, M. Dadgar, M. H. N. Famili, A. Shockravi, S. M. Samar, **Ahmad Allahbakhsh**, *et al.* "Synthesis and Characterization of a Novel Aromatic Polysulfide in the Presence of Phase Transfer Catalyst", *27th World Congress of the Polymer Processing Society (PPS-27),* **Poster presentation**, May **2011**.

Books:

- Chapter 20: **Ahmad Allahbakhsh,** High barrier graphene/polymer nanocomposite films, Book title: Food Packaging (Nanotechnology in the agri-food industry, Volume 7), editor: Alexandru Grumezescu, ELSEVIER (Academic Press), Cambridge, USA (**2017**) 699-737. ISBN: 9780128043028. doi: 10.1016/B978-0-12-804302-8.00020-0
- Chapter 17: **Ahmad Allahbakhsh,** Graphene-based Advanced Nanostructures, Book title: Handbook of Graphene, Volume 8 - Technology and Innovations, editor: Sulaiman Wadi Harun, Wiley-Scrivener, USA (**2019**) 471-493. ISBN: 9781119469803. doi: 10.1002/9781119468455.ch140

Patents:

1- Two Iranian patents No. 75588 and 75583 **Jun 2012**

"Synthesis of Poly aryl di-sulfide and poly xylene tetra-sulfide using PTC catalysts"

2- Iranian patent No. 76276 (MSc) **Jul 2012**

"EPDM/graphene oxide nanocomposites"

3- Iranian patent No. 85772 (Grant#92.1225) **May 2015**

"Hydrolysis of polymer PET bottles using hydrotalcite"

4- Iranian patent No. 87804 (Grant#91.1111) **Jan 2016**

"PVC/rice straw/graphene oxide composites"

Other information:

Reviewer:

publons https://publons.com/a/1347539

1- ACS Applied Materials & Interfaces (ACS)
2- Macromolecules (ACS)
3- Journal of Thermal Analysis and Calorimetry (Springer)
4- Industrial & Engineering Chemistry Research (ACS)
5- Journal of Advanced Research (Elsevier)
6- Materials Letters (Elsevier)
7- Materials Chemistry and Physics (Elsevier)
8- Journal of Vinyl & Additive Technology (Wiley)
9- Journal of Experimental Nanoscience (Taylor & Francis)

Other information (continued):

10- Journal of Thermoplastic Composite Materials (Sage)

11- Nanoscience Methods (Taylor & Francis)

12- Polymer Composites (Wiley)

13- Journal of Sulfur Chemistry (Taylor & Francis)

Honors and Awards:

Exceptional talent researcher honor* **2015**

* Young researchers and elite club, Shiraz Branch – Islamic Azad University, Shiraz, IRAN

National Elites Foundation Ph.D. scholarship **2016**

Iran Nanotechnology Initiative Council Ph.D. scholarship **2014**

Iran Nanotechnology Initiative Council M.S. scholarship **2011**

Two Certificates of Outstanding Contribution in Reviewing* **2015 and 2018**

* Editors of *MATERIALS LETTERS* and *MATERIALS CHEMISTRY AND PHYSICS*, Elsevier, Netherlands

Research Interests:

- **Graphene-based Nanostructures**
- **Graphene/Polymer Nanocomposites**
- **Graphene-based and Polymeric Porous Nanostructures**
- **Graphene-based Sustainable Energy Harvesting and Storage Systems**