

Reem D. Alghamdi

Al-Baha University (BU)
65779-7738 Kingdom of Saudi Arabia *
(+966) 508146473 *
rhutatah@bu.edu.sa,
marehu10@gmail.com

Assistant Professor in Applied Chemistry

(RESEARCH; NANOPARTICLES, HYBRIDE ORGANIC/INORGANIC NANOMATERIALS, NANOCOMPOSITES MECHANICAL PROPERTIES, POLYMER SYNTHESIS, MACROMOLECULER ARCHETECTURE, POLYOLEFINE NANOCOMPOSITES)

PROFILE:

- Ability to adapt to applied and theoretical chemistry, focusing on nanomaterials, polymers, and nanocomposites.
- A highly talented and enthusiastic chemist with a great deal of experience with spectroscopy, microscope, chromatography, and other analyses.
- Highly capable of reading and interpreting citations for different types of scientific literature.
- Ability to work well independently and as a team member.
- Good experience in using the computer and its Office applications.
- In-depth knowledge of laboratory techniques.
- Strong affluence and effect when working among a group.

EDUCATION:

Ph.D. Chemical Science.

Fall 2015- Fall 2021

Dissertation Topic: Polyethylene Grafted Silica Nanoparticles via Surface-Initiated Polyhomologation: A Novel Filler for Polyolefin Nanocomposites.

Professor Name: Nikos Hadjichristidis.

King Abdullah University of Science and Technology, **GPA 3.84 out of 4.0**

M.S Chemical Science

Fall 2013 - Spring 2015

Thesis Topic: Complex Macromolecular Architectures by Living Cationic Polymerization.

Professor Name: Nikos Hadjichristidis.

King Abdullah University of Science and Technology, **GPA 3.75 out of 4.0**

B.S Chemical Science

2008 - 2011

Al-Baha University, **GPA 3.93 out 4.0.**

TECHNICAL SKILLS:

- **Characterization Techniques:** X-ray photoelectron spectroscopy (XPS), Transmission electron microscopy (TEM), Scanning electron microscopy (SEM), Fourier transforms infrared spectroscopy (FTIR), Brunauer–Emmett–Teller (BET)/ N₂ adsorption analysis, Thermogravimetric analysis (TGA), Nuclear magnetic resonance (NMR), Dynamic light scattering (DLS), Gel permeation chromatography (GPC), Stress-Strain Instron universal machine for mechanical properties analysis.
- **Laboratory Skills:** Synthesis of different nanoparticle and surface functionalization (SiO₂ NPs, TiO₂ NPs, GO Ns), Synthesis of macromolecular architecture via different polymerization techniques, nanocomposite fabrication.

PROFESSIONAL EXPERIENCE:

- **15 AUG 2022 - Present**, Assistant Professor at Al-Baha University.
- **2016 - AUG 2022**, Lecturer at Al-Baha University.
- **2013 - Fall 2021**, KAUST fellowship, M.s, and Ph.D. Researcher, Thwual, KSA.
- **2012 - 2013**, Teaching Assistant at Al-Baha University.
- **2011 - 2012**, Chemistry teacher for elementary and intermediate grades in Al-Baha Private School.
- **2007 - 2008**, Membership in the regional meeting to develop education in Al-Baha City.

RESEARCH EXPERIENCES:

- Synthesis of functionalized colloidal silica nanoparticles for different applications, specifically nanocomposite and drug delivery field.
- Modification of graphene oxide with polypeptoides through Surface Initiated-ROP for drug delivery applications.
- Hybrid Organic/Inorganic nanocomposites fabrication and analyzing their mechanical properties.
- Synthesis of complex macromolecular architecture by the combination of living cationic polymerization of vinyl ethers monomers with other polymerization techniques.
- Quantitative and qualitative analysis of chemical compounds in the water sources.
- Analyze organic and inorganic compounds to determine their physical and chemical properties using different methods.

TEACHING EXPERIENCE:

- Inorganic Chemistry 1 & 2 & 3.
- Analytical Chemistry 1.
- Biochemistry.
- General Chemistry.
- Graduation Projects.

ADMINISTRATIVE COMMITTEE :

- Chemistry department labs committee at Al-Makhwah College in Al-Baha University.
- Chemistry Department Activities Committee at Al-Makhwah College in Al-Baha University.
- Chemistry department exam & scheduling committee at Al-Makhwah College in Al-Baha University.

PUBLICATIONS:

- **Reem D. Alghamdi**, Arief Yudhanto, Gilles Lubineau, Edy Abou-Hamad, and Nikos Hadjichristidis. "Polyethylene grafted silica nanoparticles via surface-initiated polyhomologation: A novel filler for polyolefin nanocomposite." *Polymer*, Elsevier (**2022 Jun 8**): 125029. Impact Factor 4.432 SJR: Q1 (DOI [10.1016/j.polymer.2022.125029](https://doi.org/10.1016/j.polymer.2022.125029))
- Bouchékif, Hassen, A. I. Sulhami, **Reem D. Alghamdi**, Yves Gnanou, and Nikos Hadjichristidis. "Triblock and pentablock terpolymers by sequential base-assisted living cationic copolymerization of functionalized vinyl ethers." *Polymer Chemistry* 6, no. 8 (**2015**): 1236-1247. Impact Factor 5.364 SJR: Q1 (<https://doi.org/10.1039/C4PY01728E>)

CONFERENCES:

- Panayiotis Bilalis, **Reem D. Alghamdi**, George Zapsas, Nikos Hadjichristidis, Modification of Graphene Oxide with Polypept(o)ides through Surface Initiated Ring-Opening Polymerization, Warwick Polymer Conference 2016, University of Warwick, England, 11-14 July 2016.
- **Reem D. Alghamdi et al.**, Polyethylene Grafted Silica Nanoparticles via Surface-Initiated Polyhomologation: A Novel Filler for Polyolefin Nanocomposite, KAUST Research Conference 2018 New Challenges in Heterogeneous Catalysis, 29-31 January 2018.
- **Reem D. Alghamdi et al.**, Surface-Initiated Polyethylene over Modified Silica Nanoparticles and Its Influence on Mechanical Properties of LDPE Matrix, the Chemistry in Industry Conference (ChemIndix 2019), Manama, Kingdom of Bahrain, 29-31 October 2019
- **Reem D. Alghamdi et al.**, Surface-Initiated Polyethylene over Modified Silica Nanoparticles and Its Influence on Mechanical Properties of LLDPE & LDPE Matrices, ICES (Feb 2023), King Saud University, Riyadh, KSA, 06-09 Feb 2023

TRAINING COURSES:

- Multi-training in research, labs, and health safety from the health, safety, and environment department (HSE) at King Abdullah University of Science and Technology (KAUST).
- Multi-training in different core labs for various types of analytical equipment, e.g. Liquid-state NMR, Solid-State NMR, XPS, TEM, SEM, TGA, DSC, DLS, SEC (GPC), FTIR, N₂ adsorption, Stress-Strain Instron universal machine for mechanical properties analysis at King Abdullah University of Science and Technology (KAUST).

CERTIFICATES & ACTIVITIES:

