

CURRICULUM VITAE

Dr. NAVEED AHMAD

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Working Experience

1. Assistant Professor in the Department of Chemical and Material Engineering, Northern Border University, Arar, Kingdom of Saudi Arabia (August 2013 to present).
2. Research Assistant in Department of Chemical and Material Engineering, University of Naples, Federico-II, Naples, Italy (2010-2013).
3. Two years (July 2007 to July 2009) experience of Laboratories demonstration and taking tutorials of different subjects of Chemical Engineering in the department of Chemical Engineering Universiti Teknologi PETRONAS, Malaysia.
4. (Jul 2005 - Aug 2005) Internee in Pakistan Refinery Ltd. During my internship I got practical training in operations (process and utilities, Laboratory, Fire/Safety/HSE and Technology sections).
5. (Sep 2005 - Oct 2005) Internee in Pakistan Council of science and Industrial Research. During my internship in Pakistan Council of science and Industrial Research I got practical training in Material section of the organization.

Scholastic Record

1. Ph.D in Chemical Engineering (March 2010 to May 2013) University of Naples, Federico-II, Naples, Italy.
2. Master in Chemical Engineering (July 2007 to August 2009) Univesity Teknologi PETRONAS, Malaysia.
3. Bachelor in Chemical Engineering (16 Dec 2002 to May 2007) University of Engineering and Technology Peshawar. Pakistan.

Research Interests

Polymer melts Rheology, Wastewater Treatment Processes (Advanced Oxidation Process and Adsorption), and Energy Engineering.

Research Projects completed

1. Removal of Heavy Metals from Wastewater Using Local Clay
2. Influence of Clay Contents on Rheology of Syndiotactic Polypropylene/Clay Composites (2017)
3. Effect of Shear Flow on Crystallization of Syndiotactic Polypropylene/Clay Composites (2018).
4. Viscoelastic study of Starch/Polymer composites (2021).
5. Thermodynamic Study of Syndiotactic Polypropylene/Iron Composites (2022).
6. Evaluation of [Emim]Glu ionic liquid a deconstruction solvent of lignocellulosic biomass to biofuel (2023).
7. Treatment Methods of Thiosulfate removal from Wastewater (2024).

Peer Reviewer for Scientific Journals: Some of my recent reviewing activities for journals include the following:

1. Journal of Environmental Management (Top 5%)
2. Journal of Water Processing
3. Journal of the Pakistan Institute of Chemical Engineers
4. Engineering Technology and Applied Science Research
5. Environmental Chemistry Letters
6. International Journal of Environmental Science and Technology
7. International Journal of Environmental Science and Technology

Editorial Services:

1. Guest Editor of Energy Engineering Journal.
2. Guest Editor of Discover Industrial Chemistry and Materials.

List of Publications

- 1- Nargis Jamila , Rabid Ullah, Fatima Khitab, **Naveed Ahmad**, Farooq Ahmad, Muhammad Siddique Afridi, Farina Kanwal, Naeem Khan. Visible-light-sensitive highly-efficient photocatalytic degradation of hazardous contaminant fast yellow AB in industrial wastewater using zinc ferrite nano-photocatalyst: Synthesis, characterization and removal performance. Accepted in Journal of Spectroscopy Letters, 2025.
- 2- Saira Ikram, Saad Liaqat, Sandleen Feroz, Faiza Sharif, Khaled Fahmi Fawy, **Naveed Ahmad**, Umar Nishan Fahad Alkhtani, Nawshad Muhammad. Effect of zinc oxide-doped hydroxyapatite nanoparticles on the friction reduction and antibacterial properties of orthodontic ceramic brackets and stainless-steel wires. Journal of Materials Science: Materials in Medicine (2025) 36:102.

- 3- Masood Ahmad, Shagufta Rasool, Fatima Khitab,, **Naveed Ahmad**, Farooq Ahmad, Amir Sada Khan and Nargis Jamila. Nickel-Impregnated ZnO Catalysts: A Promising Catalyst for Efficient Methylene Blue Dye Degradation via Photocatalysis and Sonocatalysis. Accepted in Journal of Environmental Science and Pollution Research 2025.
- 4- **Naveed Ahmad**. Effect of Iron Loading on Quiescent Crystallization of Syndiotactic Polypropylene/iron Composites. Engineering Technology & Applied Science Research, 15(2025) 20185-20189.
- 5- Farouq Sabri Mjalli Hajra Khan , Saadat Ullah , Amir Sada Khan , Asma Nasrullah , Abdur Rehaman , Palwasha Khan , Mazhar Amjad Gilani , Sofian Kanan , Fatin Samara , **Naveed Ahmad**. Amine-based deep eutectic solvents for the extraction of Eriochrome Black T from aqueous media: experimental and density functional theory studies. Accepted in Journal of Molecular Liquids, 2025.
- 6- Tahir Hussain, Muhammad Farhan, Kamran, Ioan-Lucian Popa, Naveed Ahmad, Hadi Obaid Alshammari, Leila Jamel, Ibrahim Mahariq. Exact Solutions of Einstein's Field Equations via Homothetic Symmetries of Non-Static Plane Symmetric Space time. Accepted in Open Physics.
- 7- Farheen Suleman, Sajid Muhsat, Fahim Uddin, Saud Hashmi, Azry Borhan, Farooq Ahmad, Naveed Ahmad. Influence of co-pyrolysis temperature on the characteristics of diesel-like fuel produced from waste frying and engine oils. Accepted in Journal of Analytical and Applied Pyrolysis, 2025.
- 8- Zia R, Nazir MS, Rouf H, Ahmad N, Ahmad F, Ali Z, Hassan SU. Modified lignin etched sulphur-doped graphitic carbon nitride for electrochemical sensing of cypermethrin in drinking water: Experimental and theoretical insights. Int J Biol Macromol. 2025 Aug 6;321(Pt 4):146503. doi: 10.1016/j.ijbiomac.2025.146503. Epub ahead of print. PMID: 40752705.
- 9- Laiba Ashraf, Salma Waseem, Maria Khalil, Naveed Ahmad, Pervaiz Ahmad, Imen Kebaili and Murtaza Saleem. Brief investigations on $Cu_xTa_{2-x}O_5$ for thermoelectric and optical response using density functional and experimental techniques. Accepted in Chinese Physics B
- 10- Noureen, S., Ahmad, Z., Sirajuddin, M., Ahmed, A., Haider, A., Mahmood, S., Ayub, K., Yousuf, S., Ihsan-ul-haq, I., Nisar, S., Ismail, M. A., Ahmad, N., & Tariq, M. (2025). Synthesis, physicochemical characterization, exploration of biological potential and DFT study of di- and tri-organotin(IV) carboxylate derivatives. *Journal*

- 11- Chemseddine Maatki , Muhammad Bilal , Naveed Ahmad , Farooq Ahmad , Badr. Alshammari , Karim Kriaa , Lioua Kolsi. Numerical study of three-dimensional unsteady viscous fluid flow across parallel rotating discs with an upward fluctuation and thermal radiation. *Journal of Radiation Research and Applied Sciences*. 18(2025) 101577.
- 12- Khairul Eahsun Fahim, Liyanage C De Silva, Sk. A. Shezan, Md Ashraful Islam , Md Shakib hassan⁶ and Hayati Yassin, Naveed Ahmad. Techno-economic feasibility analysis of grid-connected hybrid PV power sys-3 tem in Brunei. *Journal of Energy Engineering*, Accepted 2025.
- 13- Md. Nimul Hasana, Md. Fatin Ishraquea, Sk. A. Shezan, Innocent Kamwa, Naveed Ahmad. Novel Twin Fang Algorithm for Advanced Optimization of Energy² Coordination in Hybrid Power Systems. *Engineering Science and Technology-An International Journal*. Accepted 2025.
- 14- W. Jan, A.D. Khan, F.J. Iftikhar, M.Z. Abbasi, G. Ali, E. Iwuoha, S. Shahzad, F. Ahmad, N. Ahmad, Electrolyte design for lithium-sulfur batteries: Progress and challenges, *Renewable and Sustainable Energy Reviews*. 221(2025)115916.
- 15- Amina, Kakul Husain, Salhah Hamed Alrefae, Muawya Elhadi, Dilsora Abduvalieva, AS Abiyev, Naseem Akhter, Naveed Ahmad, Vineet Tirth, Ali Algahtani, NMA Hadia, Abid Zaman. First-Principles Investigation of Structural, Electronic, Mechanical and Optical Properties of TI Based Semiconducting Perovskites TlVX₃ (X = Br, I) for Reflective Coating Applications. *J.Inorg. Organomet Polym* (2025). <https://doi.org/10.1007/s10904-025-03670-2>.
- 16- Aliyan Tanweer, Syed Ali Ammar Taqvi, Bilal Kazmi, Safiya Khatoon, Muhammad Taha, Muhammad Nadir, Farooq Ahmad, Naveed Ahmad. Advancing algae-based Bioenergy: Techno-Economic assessment of hydrogen and biochar production from algal biomass, *Biomass and Bioenergy*. 200(2025)108039.
- 17- Md. Nimul Hasan, Md. Fatin Ishraque, Md. Shatez Ahmed, Farhan Tanvir Imam, Sk. A. Shezan and Naveed Ahmad. An Innovative Method for Enhanced Energy Management in Hybrid Power Systems: Dual Predator Optimization (DPO). *Arab J Sci Eng* (2025). <https://doi.org/10.1007/s13369-025-10254-2>.
- 18- Md. Nimul Hasan, Md. Akhlaqur Rahman, Md. Fatin Ishraque, Kamil Ahmad, Sk. A. Shezan, Md. Shatez Ahmed, Naveed Ahmad, Farooq Ahmad. An Improved Energy

Management Strategy for Hybrid Power Systems using Dual Predator Optimization. Journal of Sustainable Development of Energy, Water and Environment Systems, 13(2025) 1130586.

- 19- Syeda Asma Shah, Muhammad Shahid Nazir, Faiza Mustafa, Syed Irfan, Naveed Ahmad, Farooq Ahmad, Zulfiqar Ali, Sadaf Ul Hassan. Sustainable oxidative desulfurization of fuel via lignin-derived heterogeneous catalysis: Optimized by Box-Behnken design for high efficiency under mild conditions, International Journal of Biological Macromolecules, Volume 310, Part 4, 2025, 143404.
- 20- Rana Muhammad Mubeen Muhsin, Teh Sabariah Binti Abd Manan, Joseph Bidai, Muhammad Sarfraz Ahmad Mangat, Zarimah Mohd Hanafiah, Adel Gohari, Naveed Ahmad, Farooq Ahmad, Salmia Beddu, Nur Liyana Mohd Kamal, Daud Mohamad, Shatha Aser Hamad Aldala'in, Muhammad Raza Ul Mustafa, Wan Hanna Melini Wan Mohtar, Mohamed Hasnain Isa, Mohd Suffian Yusoff, Hamidi Abdul Aziz. Polycyclic aromatic hydrocarbons (PAHs) occurrences in water bodies, extraction techniques, detection methods, and standardized guidelines for PAHs in aqueous solutions. Science of The Total Environment. 972(2025) 179123.
- 21- Naseer Ahmed Khan, Naveed Ahmad, Farooq Ahmad, Ibrahim Ali Alsayer, Ibrahim Abdullah Altuwair, Syed Afzal Ahmad, Rayan Zaheer, Reyan Khan. Copper Recovery from Scrap Electrical Cables based on an Environmentally Sustainable Gravity Separation Technique. Engineering, Technology & Applied Science Research, 15(2025) 20891-20897.
- 22- Saqib Jamil, Usman Khan Khalil, Saima Jamil, Naveed Ahmad, Farooq Ahmad, Adnan Daud Khan. Dynamic Plasmonic Control in Bowtie Nanostructure: The Role of Gap Variation and Polarization Orientation. Plasmonics. (2025)1-10. <https://doi.org/10.1007/s11468-025-02916-6>.
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- 26- Moneeza abbas, Javeria malik, Tuba shafique, Qamar uz zaman, Nudrat ghulam rasool, Naveed ahmad, Sumaira amin, Rimsha fatima and Afifa tariq. Treatment of industrial wastewater by using eco-friendly technique. *J. Plantarum.*, 6(2024): 82-93.
- 27- Farooq Ahmad, Naveed Ahmad, Abdul Aal Zuhayr Al-Khazaal. Machine Learning-assisted Prediction and Optimization of Exergy Efficiency and Destruction of Cumene Plant under Uncertainty. *Engineering Technology & Applied Science Research* 14(2024) 12892-12899.
- 28- Gul, S., Khan, M. A., Liaqat, S., Naveed Ahmad, & Muhammad, N. (2024). Assessment of chlorohexidine-coated cotton filler addition on resin-based fissure sealants' mechanical, water sorption, and antibacterial properties. *European Journal of Materials*, 4 (1), 2336225.
- 29- Naveedul Hasan Syed, Naseer Ahmed Khan, Naveed Ahmad, Murad Khan, Farooq Ahmad, Fiza Humayun, Samiul Haq, Ibrahim Ali Alsayer, Ibrahim Abdullah Altuwair. A CFD Analysis to Investigate the Effect of Inserts on the Overall Heat Transfer Coefficient in a Concentric Tube Heat Exchanger. *Engineering Technology & Applied Science Research*. 6(2024) 18077-18085.
- 30- Naveedul Hasan Syed, Imranul Haq, Farooq Ahmad, Naseer Ahmed Khan, Muddasar Habib, Naveed Ahmad, Imran Khan Rind. A Low Cost Wastewater Reclamation Unit comprising a Lamella Settler for reducing Fresh Water Usage in Carwash Stations. *ETASR*, 14(2024) 16221-16228.
- 31- Farah Bashir, Nawshad Muhammad, Meshal Alshamrani, Maliha Uroos, Ahmad Salaw i, Awaji Y. Safhi, Naveed Ahmad · Abdullah Alsalhi, Fahad Y. Sabei, and Osama A. Madkhali. (2023). Synthesis and Characterization of Cosmetic Grade Ionic Liquids and Their Application as Skin Whitening Agents. *Journal of Pharmaceutical Innovation* 18 (4), 2277-2286
- 32- Naveed Ahmad and Farooq Ahmad. The Effect of Iron Content on the Thermodynamic Properties of Syndiotactic Polypropylene/Iron Composites. *Technology & Applied Science Research*, 13(2023).

- 33- Sumaira Aziz, Rabia Javed, Anna Nowak, Saad Liaqat, Zia Ul Haq Khan, Naveed Ahmad, Mateusz Dulski, Krzysztof Matus, Pervaiz Ahmad, Nawshad Muhammad. 2023. Effects of TiO₂, Ag-TiO₂, and Cu-TiO₂ nanoparticles on mechanical and anticariogenic properties of conventional pit and fissure sealants. *Journal of Open Nano*. 14(3):100185
- 34- Mabkhoot Alsaiani, Khumara Roghani, Saad Liaqat, Ali S Alkorbi, Faiza Sharif, Muhammad Irfan, Moustafa A Rizk, Maliha Uroos, Naveed Ahmad, Nawshad Muhammad. Effect of Ionic Liquids on Mechanical, Physical, and Antifungal Properties and Biocompatibility of a Soft Denture Lining Material. *Journal of ACS Omega*. 8(2023) 27300–27311.
- 35- Humaira Jabeen, Nawshad Muhammad, Usama Siddique, Muhammad Sabir, Naveed Ahmad, Saad Liaqat. Effect of TiO₂ Decorated Cellulosic Materials Addition on Mechanical and Biological Properties of Dental Adhesive Composites. *Journal of Cellulose Chemistry and Technology*. 57 (5-6), 541-549(2023).
- 36- Saddam Hussain, Adnan Daud Khan, Mudasar Rashid, Naveed Ahmad, Haseeb Ahmad Khan. Design and numerical characterization of high-performance all-perovskite multi-junction solar cells. *Journal of Optiks*, 277(2023) 170714.
- 37- Naveed Ahmad, Farooq Ahmad and Abdul Aal. Effect of Iron contents on rheological properties of syndiotactic polypropylene/iron composites. *Plastics Processing Technology & Innovative Materials International Conference - (PPTIMIC-23)*, 2023, California, USA.
- 38- Abdul Aal and Naveed Ahmad. A Study of the Impact of Iron Content on the Thermal Response of the sPP/Fe Composites. *Technology & Applied Science Research*, 12(2022) 8555-8558.
- 39- Naveed Ahmad, Farooq Ahmad and Ibrahim Alenezi. Influence of Starch Content on Thermal and Rheological Properties of Syndiotactic polypropylene/starch composites. *Engineering Technology & Applied Science Research*, 11(2021) 7228-7232.
- 40- Abdulaal Z. Al-Khazaal, Farooq Ahmad and Naveed Ahmad. Study on the removal of thiosulfate from wastewater by catalytic oxidation. *Technology & Applied Science Research*, 9(2019) 4053-4056.
- 41- Naveed Ahmad, Elsayed Fouad and Farooq Ahmad. Effect of Shear Flow on Crystallization of Syndiotactic Polypropylene/Clay Composites. *Engineering, Technology & Applied Science Research*, 8(2018) 3108-3112.

- 42- Farooq Ahmad, Naveed Ahmad, Abdulaal Z. Al-Khazaal and Ibrahim Alenezi. Remediation of sulfidic wastewater by aeration in the presence of ultrasonic vibration, *Engineering, Technology & Applied Science Research* , 4(2018)2919-2922.
- 43- **Naveed Ahmad** and Elsayed Fouad. Influence of Clay Contents on Rheology of Syndiotactic Polypropylene/Clay Composites. *Arabian Journal of Science and Engineering*. 42(2017)1537-1543 (Springer link).
- 44- Farooq Ahmad, Saikat Maitra, **Naveed Ahmad**. Treatment of Sulfidic Wastewater Using Iron Salts. *Arabian Journal of Science and Engineering*. 42(2017)1455-1462 (Springer link).
- 45- Elsayed Fouad, Farooq Ahmad, Naveed Ahmad. Optimization of chromium extraction from aqueous solutions by emulsion liquid membrane. *Desalination and Water Treatment*. 65(2017) 428-434 (Springer link).
- 46- **Naveed Ahmad**, Farooq Ahmad, Adnan Daud Khan and Ihsanullah. Studies on the Oxidative Removal of Sodium Thiosulfate from Aqueous Solution. *Arabian Journal of Science and Engineering*. 40(2015)289-293 (Springer link).
- 47- Ihsanullah, Sumaira Shah, Muhammad Ayaz, Iftikhar Ahmad, Murad Ali, Muataz Ali Atieh, Irshad Ahmad, **Naveed Ahmad**. Collection and utilization of potential spirogyra algal specie for biodiesel production in Khyber Pakhtunkhwa, Pakistan. *Journal of Pure and Applied Microbiology*. 9(2015)79-85.
- 48- Farooq Ahmad, ElsayedFoud and **Naveed Ahmad**. Removal of lead from wastewater by adsorption using saudiarabianclay. *International Journal of Chemical and Environmental Engineering*. 5(2014)65-68.
- 49- Adnan Daud Khan, Sultan DaudKhan,RehanUllah Khan, **Naveed Ahmad** , AmjadAli,Akhtar Khalil and Farman Ali Khan. Generation of Multiple Fano Resonances in Plasmonic Split Nanoring Dimer. *Plasmonics* .5(2014) 1091-1102 (Springer link).
- 50- Adnan Daud Khan, Sultan Daud Khan, RehanUllah Khanand **Naveed Ahmad**. Excitation of Multiple Fano-Like Resonances Induced by Higher Order Plasmon modes in Three-Layered Bimetallic Nanoshell Dimer. *Plasmonics*. 9(2014) 461-475(Springer link).
- 51- **Naveed Ahmad**, Rocco Di Girolamo, FiniziaAuriemma, Claudio De Rosa and Nino Grizzuti. Relations between Stereoregularity and Melt Viscoelasticity of Syndiotactic Polypropylene. *Macromolecules*. 46 (2013)7940-7946 (ACS).

- 52- **Naveed Ahmad**, Nino Grizzutti, Ilaria Di Rienzo. Influence of Tacticity on the Rheology of Syndiotactic Polypropylene. Annual Transactions of the Nordic Rheology Society. 19(2011)4-8.
- 53- **Naveed Ahmad**, Ilaria di Rienzo, Nino Grizzuti. Relations between Structure and rheology in syndiotactic polypropylene. The Society of Rheology 83rd Annual Meeting, October 2011.
- 54- Masita Mohammad ,SaikatMaitra, **Naveed Ahmad** and Binay K. Dutta . “Metal ion removal from aqueous solution using physic seed hull”. Journal of Hazardous Material. 179 (2010) 363-372 (Elsevier).
- 55- **NaveedAhmad**,SaikatMaitra,BinaykantiDutta and FarooqAhmad.”Remediation of Sulfidic Waste Water by catalytic oxidation using hydrogen peroxide” Journal of Environmental Sciences. 21(2009) 1735-1740 (Elsevier).
- 56- Patent: Binayk.Dutta,**Naveed Ahmad** and PutriNazarulFaizuraMegat. Removal of Dissolved Sulfide from Waste Water by Oxidation in the presence of Ultraviolet radiation”.Malaysian Patent .Jan (2009) P120090321.
- 57- **Naveed Ahmad** and SaikatMaitra. “Removal of Sodium Sulfide by oxidation in the Presence of Nano ferric Oxide Catalyst”. Proceedings of CHEMECA Conference Australia Sep, 2009.

Work shops

- (1) Dynacop Summer school. Understanding polymer Dynamics: State of the art and challenges. Anacapri (Italy), July 18th to 26th 2011.

Distinction

The patented work has got gold medal in the Geneva Exhibition April, 2009.

Languages

Competent in Written & Spoken English, Urdu & Pashto, Written and Reading of Arabic, Reading and spoken Italian.

References

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