

Dr. Syed Shahabuddin



Name: Dr. Syed Shahabuddin

Designation: Assistant Professor
Department of Chemistry,
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BRIEF BIO

Dr. Syed Shahabuddin: did his M.Sc. in Materials Chemistry in 2011 from Jamia Millia Islamia, India. He has been awarded Ph.D. degree in Polymer Chemistry from University of Malaya, Malaysia, in September 2016. He has served as Assistant Manager in Samtel Avionics Limited for almost three years in research and development of avionics grade displays. Formerly, he has worked as a Senior Research Fellow (senior lecture) at Research Centre for Nano-Materials and Energy Technology (RCNMET), Sunway University, Malaysia for more than 2 years. Currently, he is working as an assistant professor in Pandit Deendayal Energy University, Gandhinagar, and Gujrat. He has published more than 80 research articles in International journals of repute and presented 10 papers in International/National conferences. He has successfully completed two research project as PI and two research project as CO-I whereas he is currently Co-I for 8 running projects with different institutes in Malaysia. He is the member of Royal Society of Chemistry (MRSC) and reviewer of many high impact journals. His current research focus on the synthesis of Nanomaterials, 2D-MXene, Graphene, conducting polymer nanocomposites for water treatment, photocatalysis, supercapacitors, DSSCs, nanofluids for solar thermal applications, waste lubricant oil refining and phase change materials.

ACADEMIC QUALIFICATION

Degree/Certificate	Year	Institute/City
Doctor of Philosophy (PhD) Polymer Chemistry	2016	University of Malaya, Kuala Lumpur
M.Sc. Chemistry	2011	Jamia Millia Islamia, New Delhi, India
B.Sc.	2009	Osmania University, Hyderabad, India

Ph.D. DETAILS

- **Ph.D. Thesis Title:** Polyaniline Based Nanocomposites as Adsorbents a Photocatalysts in the Removal of Organic Dyes
- **Guide's Name:** Dr. Norazilawati Binti Muhamad Sarih
- **University:** University of Malaya
- **Year:** 2016

RESEARCH INTERESTS

- Synthesis and Characterization of MXene.
- Synthesis of Graphene-based material for various applications.
- Synthesis of nano-materials having different morphologies such as nanocubes, nanowires, nanospheres, etc. for various potential applications.
- Synthesis of conducting polymer-based polymer nanocomposites for photocatalytic degradation of harmful and toxic water pollutants.
- Energy Storage: Supercapacitors
- Biomaterial for antibacterial, anticancer and antifouling coatings.
- Synthesis of polymer nanocomposites adsorbents for removal of pollutants from waste water.
- Anionic polymerization for synthesis of tailored polymers.
- ATRP Technique
- Using high vacuum standard Schlenk line techniques for handling air-sensitive compounds.
- Synthesis of Chitosan-based hydrogels for drug delivery applications.

TEACHING INTERESTS

- **Physical Chemistry:** Polymer Chemistry, Chemical Thermodynamics, Electrochemistry, Chemical equilibrium, Solutions and colligative properties
- **Organic Chemistry:** Basics of Organic Chemistry, Stereochemistry, Chemistry of Aliphatic Hydrocarbons, Aromatic Hydrocarbons
- **Inorganic Chemistry:** Atomic Structure, Periodicity of Elements, Chemical Bonding, Noble gases, Inorganic Polymers

COURSES HANDLING/TEACHING

- Advance Spectroscopy (Bachelors of Science)
- Instrumental Methods in Analytical Chemistry (Bachelors of Science)
- Analytical Chemistry (Master of Science)
- Advance composite materials (M.Tech)

EXPERIENCE

Sr. no.	Position held	Name of the Institute	From	To
1	Assistant Professor	Pandit Deendayal Energy University	02-12-2019	Present
2	Senior Research fellow	Sunway University, Selangor D.E., Malaysia.	September 2017	December 2019
3	Assistant Manager (Chemical Engineer)	Samtel Avionics Limited, Greater Noida, India.	August 2016	August 2017
4	Research Assistant	University of Malaya, Kuala Lumpur, Malaysia.	September 2013	June 2016
5	Assistant Manager (Chemical Engineer)	Samtel Avionics Limited, Greater Noida, India.	August 2011	September 2013

LIST OF PUBLICATIONS

1. Ahmad, M. S., Abd Rahim, N., Mehmood, S., & Khan, A. D. (2021). Effect of WS₂ nano-sheets on the catalytic activity of polyaniline nano-rods based counter electrode for dye sensitized solar cell. *Physica E: Low-dimensional Systems and Nanostructures*, 126, 114466.
2. Ahmed, U., Shahid, M., Shahabuddin, S., Abd Rahim, N., Alizadeh, M., Pandey, A., & Sagadevan, S. (2021). An efficient platform based on strontium titanate nanocubes interleaved polypyrrole nanohybrid as counter electrode for dye-sensitized solar cell. *Journal of Alloys and Compounds*, 860, 158228.
3. Gabris, M., Jume, B. H., Amiri, I. S., Khanam, R., Nodeh, H. R., & Shahabuddin, S. (2021). Magnetic graphene oxide nanocomposite functionalized with glucamine for the trace extraction of arsenic (III) from aqueous media. *International Journal of Environmental Science and Technology*, 18(5), 1109-1118.
4. Kalidasan, B., Pandey, A., Shahabuddin, S., George, M., Sharma, K., Samykano, M., Tyagi, V., & Saidur, R. (2021). Synthesis and characterization of conducting Polyaniline@ cobalt-Paraffin wax nanocomposite as nano-phase change material: Enhanced thermophysical properties. *Renewable Energy*, 173, 1057-1069.

5. Pandey, A., George, M., Abd Rahim, N., Tyagi, V., Shahabuddin, S., & Saidur, R. (2021). Preparation, characterization and thermophysical properties investigation of A70/polyaniline nanocomposite phase change material for medium temperature solar applications. *Energy and Built Environment*, 2(3), 271-277.
6. Shahabuddin, S., Mazlan, N. A., Baharin, S. N. A., & Sambasevam, K. P. (2021). Introduction to Conducting Polymers. In *Advances in Hybrid Conducting Polymer Technology* (pp. 1-18). Springer.
7. Deepika, K., Shankar, R., Pandey, A. K., Shahabuddin, S., Kothari, R., & Agarwal, P. (2021). Reduction of Emission Gas Concentration from Coal Based Thermal Power Plant using Full Combustion and Partial Oxidation System. *Journal of Engineering Research*.
8. Sherino, B., Abdul Halim, S. N., Shahabuddin, S., & Mohamad, S. (2021). Simultaneous removal of carcinogenic anionic and cationic dyes from environmental water using a new Zn-based metal–organic framework. *Separation Science and Technology*, 56(2), 330-343.
9. Sofiah, A., Samykano, M., Shahabuddin, S., Kadirgama, K., & Pandey, A. (2021). A comparative experimental study on the physical behavior of mono and hybrid RBD palm olein based nanofluids using CuO nanoparticles and PANI nanofibers. *International Communications in Heat and Mass Transfer*, 120, 105006.

10. Thachnatharen, N., Shahabuddin, S., & Sridewi, N. (2021). The Waste Management of Polyethylene Terephthalate (PET) Plastic Waste: A Review. IOP Conference Series: Materials Science and Engineering.
11. Abdelnasir, S., Mungroo, M. R., Shahabuddin, S., Siddiqui, R., Khan, N. A., & Anwar, A. (2021). Polyaniline-Conjugated Boron Nitride Nanoparticles Exhibiting Potent Effects against Pathogenic Brain-Eating Amoebae. *ACS chemical neuroscience*, 12(19), 3579-3587.
12. Ahmad, M. S., Shahid, M., Shahabuddin, S., Munawar, K., Rahim, N. A., & Ahmed, W. (2021). Effect of concentration of MoS₂ on the TCO-Pt free polyaniline nano-rod based counter electrode for dye sensitised solar cell application. *Materials Technology*, 1-9.
13. Baharin, S. N. A., Hashim, N. H., Norsham, I. N. M., Shahabuddin, S., & Sambasevam, K. P. (2021). Optimization of Tungsten Disulfide/Polypyrrole Composite as Photocatalyst in Sunlight-Assisted Photodegradation of Methylene Blue in Aqueous Solution.
14. Bt Abd Ghafar, N. S., Samykano, M., Shahabuddin, S., Kadirgama, K., Pandey, A., & Noor, M. M. (2021). A Brief Review on Thermal Behaviour of PANI as Additive in Heat Transfer Fluid. *Emerging Advances in Integrated Technology*, 2(1), 47-52.
15. Shahabuddin, S., Pandey, A. K., Khalid, M., & Jagadish, P. (2021). *Advances in Hybrid Conducting Polymer Technology*. Springer.

16. Fitriya, A., Shahabuddin, S., Sridewi, N., Norsyarizad, M., & Pandey, A. (2021). A Brief Review on Conducting Polymer Nanocomposite Based Epoxy Coatings for Marine Applications. IOP Conference Series: Materials Science and Engineering,
17. Masri, A., Abdelnasir, S., Anwar, A., Iqbal, J., Numan, A., Jagadish, P., Shahabuddin, S., & Khalid, M. (2021). Antimicrobial properties of multifunctional polypyrrole-cobalt oxide-silver nanocomposite against pathogenic bacteria and parasite. *Applied microbiology and biotechnology*, 105(8), 3315-3325.
18. Mukheem, A., Shahabuddin, S., Khan, A. A., Hossain, M. M., Jasni, A. H., & Sridewi, N. (2021). Bio-plastic Polyhydroxyalkanoate (PHA): Applications in Modern Medicine. In *Bioplastics for Sustainable Development* (pp. 231-257). Springer.
19. Pandey, A. K., Ahmad, M. S., & Shahabuddin, S. (2021). Dye-Sensitized Solar Cells: Emerging Trends and Advanced Applications.
20. Rashidi, L., Nodeh, H. R., & Shahabuddin, S. (2021). Determination of Vitamin D3 in the Fortified Sunflower Oil: Comparison of Two Developed Methods. *Food Analytical Methods*, 1-8.
21. Shah, S. N. A., Shahabuddin, S., & Sabri, M. F. M. (2021). Perspectives of Conducting Polymers Towards Heat Transfer Applications. *Advances in Hybrid Conducting Polymer Technology*, 125-134.

22. George, M., Pandey, A., Abd Rahim, N., Shahabuddin, S., Tyagi, V., & Saidur, R. (2021). Investigation on Thermal Properties of AL₂O₃ Based Phase Change Material Composite for Solar Thermal System Application. IOP Conference Series: Materials Science and Engineering.
23. Shahabuddin, S., Mazlan, N. A., Baharin, S. N. A., Sambasevam, K. P., & Pandey, A. K. (2021). Intrinsically Conducting Polymer Based Nanocomposite in Photocatalytic Study. In *Advances in Hybrid Conducting Polymer Technology* (pp. 19-51). Springer.
24. Shahabuddin, S., Shah, S. N. A., Sabri, M. F. M., & Pandey, A. (2021). Influence of SDBS Surfactant on Stability, Thermal Conductivity and Viscosity of h-BN/EG Based Nanofluids. IOP Conference Series: Materials Science and Engineering.
25. Ahmad, M. S., Abd Rahim, N., Mehmood, S., & Khan, A. D. (2021). Effect of WS₂ nano-sheets on the catalytic activity of polyaniline nano-rods based counter electrode for dye sensitized solar cell. *Physica E: Low-dimensional Systems and Nanostructures*, 126, 114466.
26. Shah, S. N. A., Shahabuddin, S., Sabri, M. F. M., Salleh, M. F. M., Said, S. M., & Khedher, K. M. (2020). Thermal conductivity, rheology and stability analysis of 2D tungsten disulphide-doped polyaniline-based nanofluids: An experimental investigation. *International Journal of Energy Research*, 45(2), 1550-1575.

27. George, M., Pandey, A., Abd Rahim, N., Tyagi, V., Shahabuddin, S., & Saidur, R. (2020). Long-term thermophysical behavior of paraffin wax and paraffin wax/polyaniline (PANI) composite phase change materials. *Journal of Energy Storage*, *31*, 101568.
28. Iqbal, F., Mumtaz, A., Shahabuddin, S., Abd Mutalib, M. I., Shaharun, M. S., Nguyen, T. D., Khan, M. R., & Abdullah, B. (2020). Photocatalytic reduction of CO₂ to methanol over ZnFe₂O₄/TiO₂ (p-n) heterojunctions under visible light irradiation. *Journal of Chemical Technology & Biotechnology*, *95*(8), 2208-2221.
29. Mohd Norsham, I. N., Baharin, S. N. A., Raoov, M., Shahabuddin, S., Jakmune, J., & Sambasevam, K. P. (2020). Optimization of waste quail eggshells as biocomposites for polyaniline in ammonia gas detection. *Polymer Engineering & Science*, *60*(12), 3170-3182.
30. Nodeh, R., Shakiba, M., Gabris, M. A., Esmaili Bid Hendi, M., Shahabuddin, S., & Khanam, R. (2020). Spherical iron oxide methyltrimethoxysilane nanocomposite for the efficient removal of lead (II) ions from wastewater: Kinetic and equilibrium studies. *Desalination Water Treat*, *192*, 297-305.
31. Shah, S. N. A., Shahabuddin, S., Mohd Sabri, M. F., Mohd Salleh, M. F., Mohd Said, S., Khedher, K. M., & Sridewi, N. (2020). Two-Dimensional Tungsten Disulfide-Based Ethylene Glycol Nanofluids: Stability, Thermal Conductivity, and Rheological Properties. *Nanomaterials*, *10*(7), 1340.

32. Rohaizad, A., Shahabuddin, S., Shahid, M. M., Rashid, N. M., Hir, Z. A. M., Ramly, M. M., Awang, K., Siong, C. W., & Aspanut, Z. (2020). Green synthesis of silver nanoparticles from *Catharanthus roseus* dried bark extract deposited on graphene oxide for effective adsorption of methylene blue dye. *Journal of Environmental Chemical Engineering*, 8(4), 103955.
33. Sambasevam, K. P., Yunus, N., Rashid, H. N. M., Baharin, S. N. A., Suhaimi, N. F., Raoov, M., & Shahabuddin, S. (2020). Optimization of Natural Colour Extraction from Dragon Fruit (*Hylocereus polyrhizus*) Peel. *Scientific Research Journal*, 17(2), 33-44.
34. Shirani, M., Akbari-Adergani, B., Nodeh, H. R., & Shahabuddin, S. (2020). Ultrasonication-facilitated synthesis of functionalized graphene oxide for ultrasound-assisted magnetic dispersive solid-phase extraction of amoxicillin, ampicillin, and penicillin G. *Microchimica Acta*, 187(11), 1-11.
35. Asadi, M., Mollahosseini, A., Shahabuddin, S., Kaur, J., & Saidur, R. (2020). Correction to: Electrospun Magnetic Zeolite/Polyacrylonitrile Nanofibers for Extraction of PAHs from Water Samples: Optimized with Central Composite Design. *Journal of Inorganic and Organometallic Polymers and Materials*, 30(3), 1008-1009.
36. Bakthavatchalam, B., Habib, K., Saidur, R., Shahabuddin, S., & Saha, B. B. (2020). Influence of solvents on the enhancement of thermophysical properties and stability of multi-walled carbon nanotubes nanofluid. *Nanotechnology*, 31(23), 235402.

37. George, M., Pandey, A., Abd Rahim, N., Tyagi, V., Shahabuddin, S., & Saidur, R. (2020). A novel polyaniline (PANI)/paraffin wax nano composite phase change material: Superior transition heat storage capacity, thermal conductivity and thermal reliability. *Solar Energy*, 204, 448-458.
38. Hussin, S. A. M., Varanusupakul, P., Shahabuddin, S., Hui, B. Y., & Mohamad, S. (2020). Synthesis and characterization of green menthol-based low transition temperature mixture with tunable thermophysical properties as hydrophobic low viscosity solvent. *Journal of Molecular Liquids*, 308, 113015.
39. Kalidasan, B., Pandey, A., Shahabuddin, S., Samykano, M., Thirugnanasambandam, M., & Saidur, R. (2020). Phase change materials integrated solar thermal energy systems: Global trends and current practices in experimental approaches. *Journal of Energy Storage*, 27, 101118.
40. Mukheem, A., Shahabuddin, S., Akbar, N., Anwar, A., Sarih, N. M., Sudesh, K., Khan, N. A., & Sridewi, N. (2020). Fabrication of biopolymer polyhydroxyalkanoate/chitosan and 2D molybdenum disulfide-doped scaffolds for antibacterial and biomedical applications. *Applied microbiology and biotechnology*, 104(7), 3121-3131.
41. Shah, S. N. A., Shahabuddin, S., & Sabri, M. F. M. (2020). Evaluation of thermal conductivity, stability and viscosity of two dimensional hexagonal boron nitride nanofluids. *International Journal of Advanced Science and Technology*, 29(1), 304-317.

42. Nodeh, H. R., Rashidi, L., Gabris, M. A., Gholami, Z., Shahabuddin, S., & Sridewi, N. (2020). Chemical and Physical Characterization of the Hackberry (*Celtis australis*) Seed Oil: Analysis of Tocopherols, Sterols, ECN and Fatty Acid Methyl Esters. *Journal of Oleo Science*, ess20128.
43. Sambasevam, K. P., Yunos, N., Mohd Rashid, H. N., Baharin, S. N. A., Suhaimi, N. F., Raaov, M., & Shahabuddin, S. (2020). Evaluation of natural pigment extracted from dragon fruit (*Hylocereus Polyrhizus*) peels. *Scientific Research Journal*, 17(2), 34-43.
44. Shah, S. N. A., Shahabuddin, S., Sabri, M. F. M., Salleh, M. F. M., Ali, M. A., Hayat, N., Sidik, N. A. C., Samykano, M., & Saidur, R. (2020). Experimental investigation on stability, thermal conductivity and rheological properties of rGO/ethylene glycol based nanofluids. *International Journal of Heat and Mass Transfer*, 150, 118981.
45. Sofiah, A., Samykano, M., Shahabuddin, S., Kadirgama, K., & Pandey, A. (2020). An experimental study on characterization and properties of eco-friendly nanolubricant containing polyaniline (PANI) nanotubes blended in RBD palm olein oil. *Journal of Thermal Analysis and Calorimetry*, 1-15.
46. Pandey, A., George, M., Rahim, N. A., Shahabuddin, S., Samykano, M., & Saidur, R. (2020). Investigation on the suitability of polyaniline (Pani) based composite phase change material for low concentration photovoltaic thermal application. *International Journal of Advanced Science and Technology*, 29(1), 245-255.

47. Yunus, F., Kassim, M. S., Shahabuddin, S., Said, N. R., & Baharin, S. N. A. (2020). Boron Nitride Doped Polypyrrole Hybrid Composites for Photocatalytic Degradation of 2-Chlorophenol from Aqueous Solution. *Solid State Phenomena*.
48. Esmaeili Bidhendi, M., Asadi, Z., Bozorgian, A., Shahhoseini, A., Gabris, M. A., Shahabuddin, S., Khanam, R., & Saidur, R. (2020). New magnetic Co₃O₄/Fe₃O₄ doped polyaniline nanocomposite for the effective and rapid removal of nitrate ions from ground water samples. *Environmental Progress & Sustainable Energy*, 39(1), 13306.
49. Anwar, A., Chi Fung, L., Anwar, A., Jagadish, P., Numan, A., Khalid, M., Shahabuddin, S., Siddiqui, R., & Khan, N. A. (2019). Effects of shape and size of cobalt phosphate nanoparticles against *Acanthamoeba castellanii*. *Pathogens*, 8(4), 260.
50. Issam, A. M., Shahabuddin, S., Kareem, H. S., Mohamad, S., & Saidur, R. (2019). Synthesis of a Novel Ladder Poly (azomethine-ester) Based on PET Waste Bottles. *International Polymer Processing*, 34(3), 296-306.
51. Shahid, M. M., Rameshkumar, P., Numan, A., Shahabuddin, S., Alizadeh, M., Khiew, P. S., & Chiu, W. S. (2019). A cobalt oxide nanocubes interleaved reduced graphene oxide nanocomposite modified glassy carbon electrode for amperometric detection of serotonin. *Materials Science and Engineering: C*, 100, 388-395.

52. Asadi, M., Shahabuddin, S., Mollahosseini, A., Kaur, J., & Saidur, R. (2019). Electrospun magnetic zeolite/polyacrylonitrile nanofibers for extraction of PAHs from waste water: optimized with central composite design. *Journal of Inorganic and Organometallic Polymers and Materials*, 29(4), 1057-1066.
53. Baharin, S. N. A., Sarih, N. M., Mohamad, S., Shahabuddin, S. S., & Said, N. R. (2019). HYBRID MAGNETIC NANOPARTICLE-FUNCTIONALIZED POLYTHIOPHENES AND ITS POTENTIAL AS A SORBENT TO EXTRACT PHTHALATES. *e-Academia Journal*, 7(SI-TeMIC18).
54. George, M., Pandey, A., Abd Rahim, N., Tyagi, V., Shahabuddin, S., & Saidur, R. (2019). Concentrated photovoltaic thermal systems: A component-by-component view on the developments in the design, heat transfer medium and applications. *Energy Conversion and Management*, 186, 15-41.
55. Hejazi, I. I., Shahabuddin, S., Bhat, A. R., & Athar, F. (2019). Pharmacokinetic evaluation, molecular docking and in vitro biological evaluation of 1, 3, 4-oxadiazole derivatives as potent antioxidants and STAT3 inhibitors. *Journal of pharmaceutical analysis*, 9(2), 133-141.
56. Nodeh, M. K., Bidhendi, G. N., Gabris, M. A., Akbari-adergani, B., Nodeh, H. R., Masoudi, A., & Shahabuddin, S. (2019). Strontium oxide decorated iron oxide activated carbon nanocomposite: a new adsorbent for removal of nitrate from well water. *Journal of the Brazilian Chemical Society*, 31, 116-125.

57. Jamil, N., Kaur, J., Pandey, A., Shahabuddin, S., Hassani, S., Saidur, R., Ali, R. R., Sidik, N. A. C., Naim, M. (2019). A review on nano enhanced phase change materials: an enhancement in thermal properties and specific heat capacity. *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences*, 57(1), 110-120.
58. Khanam, R., Kumar, R., Hejazi, I. I., Shahabuddin, S., Meena, R., Rajamani, P., Yadav, N., Bhat, A. I., & Athar, F. (2019). New N-benzhydrylpiperazine/1, 3, 4-oxadiazoles conjugates inhibit the proliferation, migration, and induce apoptosis in HeLa cancer cells via oxidative stress-mediated mitochondrial pathway. *Journal of cellular biochemistry*, 120(2), 1651-1666.
59. Shahabuddin, S., Numan, A., Shahid, M. M., Khanam, R., Saidur, R., Pandey, A., & Ramesh, S. (2019). Polyaniline-SrTiO₃ nanocube based binary nanocomposite as highly stable electrode material for high performance supercapattery. *Ceramics International*, 45(9), 11428-11437.
60. Syafiq, A., Pandey, A. K., Abd Rahim, N., Vengadaesvaran, B., & Shahabuddin, S. (2019). Self-cleaning and weather resistance of nano-SnO₂/modified silicone oil coating for photovoltaic (PV) glass applications. *Journal of Materials Science: Materials in Electronics*, 30(13), 12584-12596.
61. Hussein, O. A., Habib, K., Saidur, R., Muhsan, A. S., Shahabuddin, S., & Alawi, O. A. (2019). The influence of covalent and non-covalent functionalization of GNP based nanofluids on its thermophysical, rheological and suspension stability properties. *RSC advances*, 9(66), 38576-38589.

62. Masri, A., Anwar, A., Khan, N. A., Shahbaz, M. S., Khan, K. M., Shahabuddin, S., & Siddiqui, R. (2019). Antibacterial effects of quinazolin-4 (3H)-one functionalized-conjugated silver nanoparticles. *Antibiotics*, 8(4), 179.
63. Ahmad, M. S., Pandey, A. K., Abd Rahim, N., Shahabuddin, S., & Tyagi, S. K. (2018). Chemical sintering of TiO₂ based photoanode for efficient dye sensitized solar cells using Zn nanoparticles. *Ceramics International*, 44(15), 18444-18449.
64. Gabris, M. A., Jume, B. H., Rezaali, M., Shahabuddin, S., Nodeh, H. R., & Saidur, R. (2018). Novel magnetic graphene oxide functionalized cyanopropyl nanocomposite as an adsorbent for the removal of Pb (II) ions from aqueous media: equilibrium and kinetic studies. *Environmental Science and Pollution Research*, 25(27), 27122-27132.
65. Khanam, R., Kumar, R., Hejazi, I. I., Shahabuddin, S., Meena, R., Jayant, V., Kumar, P., Bhat, A. R., & Athar, F. (2018). Piperazine clubbed with 2-azetidinone derivatives suppresses proliferation, migration and induces apoptosis in human cervical cancer HeLa cells through oxidative stress mediated intrinsic mitochondrial pathway. *Apoptosis*, 23(2), 113-131.
66. Mohammed, I. A., Shahabuddin, S., Khanam, R., & Saidur, R. (2018). Synthesis, characterization and antibacterial activity of novel poly (silyl ether) s based on palm and soy oils. *Polímeros*, 28, 406-412.

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68. Rozi, S. K. M., Shahabuddin, S., Manan, N. S. A., Mohamad, S., Kamal, S. A. A., & Rahman, S. A. (2018). Palm fatty acid functionalized Fe₃O₄ nanoparticles as highly selective oil adsorption material. *Journal of nanoscience and nanotechnology*, 18(5), 3248-3256.
69. Shahabuddin, S., Khanam, R., Khalid, M., Sarih, N. M., Ching, J. J., Mohamad, S., & Saidur, R. (2018). Synthesis of 2D boron nitride doped polyaniline hybrid nanocomposites for photocatalytic degradation of carcinogenic dyes from aqueous solution. *Arabian journal of chemistry*, 11(6), 1000-1016.
70. Shahabuddin, S., Tashakori, C., Kamboh, M. A., Korrani, Z. S., Saidur, R., Nodeh, H. R., & Bidhendi, M. E. (2018). Kinetic and equilibrium adsorption of lead from water using magnetic metformin-substituted SBA-15. *Environmental Science: Water Research & Technology*, 4(4), 549-558.
71. Syafiq, A., Pandey, A., Balakrishnan, V., Shahabuddin, S., & Abd Rahim, N. (2018). Organic-inorganic composite nanocoatings with superhydrophobicity and thermal stability. *Pigment & Resin Technology*.

72. Ahmed, U., Abd Rahim, N., Shahabuddin, S., Alizadeh, M., & Pandey, A. (2018). Influence of concentration of polyaniline (PANI) as counter electrode in dye sensitized solar cell.
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75. Pandey, A., Shahabuddin, S., Kaur, J., Saidur, R., Ahmad, M. S., Abd Rahim, N., & Tariq, S. (2018). Preparation of Fuel Pellets and Extraction of Natural Dyes from Falling Leaves to be used as Sensitizer in Dye Sensitized Solar Cell. 2018 International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE).
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79. Mukheem, A., Muthoosamy, K., Manickam, S., Sudesh, K., Shahabuddin, S., Saidur, R., Akbar, N., & Sridewi, N. (2018). Fabrication and Characterization of an Electrospun PHA/Graphene Silver Nanocomposite Scaffold for Antibacterial Applications. *Materials*, *11*(9), 1673.
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82. Shahabuddin, S., Sarih, N. M., Afzal Kamboh, M., Rashidi Nodeh, H., & Mohamad, S. (2016). Synthesis of polyaniline-coated graphene oxide@ SrTiO₃ nanocube nanocomposites for enhanced removal of carcinogenic dyes from aqueous solution. *Polymers*, 8(9), 305.
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84. Syed, S. (2016). *Polyaniline based nanocomposites as adsorbents and photocatalysts in the removal of organic dyes*/Syed Shahabuddin University of Malaya].
85. Syed, S. (2016). *Polyaniline based nanocomposites as adsorbents and photocatalysts in the removal of organic dyes*/Syed Shahabuddin University of Malaya.
86. Shahabuddin, S., Muhamad Sarih, N., Mohamad, S., & Joon Ching, J. (2016). SrTiO₃ nanocube-doped polyaniline nanocomposites with enhanced photocatalytic degradation of methylene blue under visible light. *Polymers*, 8(2), 27.
87. Shahabuddin, S., Hamime Ismail, F., Mohamad, S., & Muhamad Sarih, N. (2015). Synthesis of well-defined three-arm star-branched polystyrene through arm-first coupling approach by atom transfer radical polymerization. *International Journal of Polymer Science*, 2015.

88. Shahabuddin, S., Sarih, N. M., Ismail, F. H., Shahid, M. M., & Huang, N. M. (2015). Synthesis of chitosan grafted-polyaniline/Co₃O₄ nanocube nanocomposites and their photocatalytic activity toward methylene blue dye degradation. *RSC advances*, 5(102), 83857-83867
89. Vashist, A., Shahabuddin, S., Gupta, Y., & Ahmad, S. (2013). Polyol induced interpenetrating networks: chitosan–methacrylate based biocompatible and pH responsive hydrogels for drug delivery system. *Journal of Materials Chemistry B*, 1(2), 168-178.

ORAL PRESENTATION/LECTURES/TALKS

- **Syed Shahabuddin, N.M. Sarih, *Chitosan grafted polyaniline/ Co₃O₄ nanocomposite and its photocatalytic activity for degradation of methylene blue dye under UV lights irradiation, The 4th Federation of Asian Polymer Societies International Polymer Congress (2015).***
- **Syed Shahabuddin, Muhamad Sarih, N., & Mohamad, S. (2016a). *Synthesis & Characterization of Conducting Polymer Based Nanocomposite and Their Photocatalytic Activity for Degradation of Methylene Blue Dye.* Paper presented at **The International Conference on Emerging Research in Sciences & Humanities (ERSH-2016), Kuala Lumpur.****
- **Syed Shahabuddin, Muhamad Sarih, N., & Mohamad, S. (2016b). *Synthesis and Characterization of Polyaniline/ SrTiO₃ Nanocomposite and Its Photocatalytic Activity for Degradation of Methylene Blue Dye Under Visible Light.* Paper presented at **The International Symposium on Advanced Polymeric Materials 2016 (ISAPM), Kuala Lumpur, Malaysia.****

- **Syed Shahabuddin**, Muhamad Sarih, N., & Mohamad, S.. *SrTiO₃ Nanocube-doped Polyaniline for Effective Photocatalytic Degradation of Methylene Blue Dye Under Visible Light*. Poster presented at **UM #111 Chemistry Symposium, Department of Chemistry, University of Malaya, Kuala Lumpur, Malaysia. (2016)**
- **Syed Shahabuddin**, Nurul Aqilla Mazlan, Siti Nor Atika Baharin, A K Pandey and R. Saidur. “*Conducting Polymers: New Arena in Dye-Sensitized Solar Cells*”. **5th IET International Conference on Clean Energy and Technology (CEAT 2018) UMPEDAC, University of Malaya, Kuala Lumpur, Malaysia .**
- **Syed Shahabuddin**, R. Saidur and Numan Arshid. “*SrTiO₃ Nanocube doped Polyaniline nanoflakes Nanocomposite as Highly Stable Electrode Material for Supercapacitors*”. **2018 Asia Power and Energy Engineering Conference (APEEC) Science and Engineering Institute, Shanghai, China.**
- **Syed Shahabuddin**. Invited talk on Strategies to Publish in High Quality Journals and Improving Citations Impact Workshop. **Sunway University, Selangor, Malaysia. 9th July 2018.**
- **Syed Shahabuddin**. Invited Talk on Polishing Your Article for High Impact Journal. **Universiti Teknologi MARA (UiTM), Kuala Pilah, Malaysia. 21st March 2018**

REVIEWER

Elsevier Publications (Journal of Hazardous Material)

Jan 2016 - Current

- Active reviewer for peer-reviewed journal of Hazardous Material

Elsevier Publications (Journal of Saudi Chemical Society)

Jan 2016 - Current

- Active reviewer for peer-reviewed journal of Hazardous Material

Elsevier Publications (Pigment & Resin Technology)

Jan 2018 - Current

- Active reviewer for peer-reviewed journal of Hazardous Material

Elsevier Publications (Journal of Electroanalytical Chemistry)

June 2018 - Current

- Active reviewer for peer-reviewed journal of Hazardous Material

Journal of Environmental and Material Science (JEMS)

June 2018 - Current

- Active reviewer for peer-reviewed journal: Journal of Environmental and Material Science (JEMS).

Journal of Nanoscience and Nanotechnology (JNN)

November 2018 - Current

- Active reviewer for peer-reviewed journal: Journal of Nanoscience and Nanotechnology (JNN).

PLOS ONE

December 2018 - Current

- Active reviewer for peer-reviewed journal: PLOS ONE.

American Chemical Society, ACS Publications (ACS Omega)

December 2018 - Current

- Active reviewer for peer-reviewed journal: ACS Omega.

Royal Society of Chemical, RSC Publications (New Journal of Chemistry)

December 2018 - Current

- Active reviewer for peer-reviewed journal: New of Chemistry

Taylor & Francis Publications (Environmental Technology)

January 2019 - Current

- Active reviewer for peer-reviewed journal: Environmental Technology.

Elsevier Publications (Material Chemistry and Physics)

Jan 2019 - Current

- Active reviewer for peer-reviewed journal: Materials Chemistry and Physics.

Springer Publications (DARU Journal of Pharmaceutical Sciences)

Jan 2019 - Current

- Active reviewer for peer-reviewed journal: DARU Journal of Pharmaceutical Sciences.

Wiley Online Library (Environmental Progress & Sustainable Energy)

April 2019 - Current

- Active reviewer for peer-reviewed journal: Environmental Progress & Sustainable Energy.

COMMITTEE ROLES

- **Session Chair:** “5th IET International Conference on Clean Energy and Technology (CEAT 2018) UMPEDAC, University of Malaya, Kuala Lumpur, Malaysia”.
- **Session Judge:** Young Inventors Challenge (YIC’2018), **Pertubuhan Sains, Teknologi Dan Inovasi (ASTI), Cheras Malaysia.**
- **Organising Committee Member:** Strategies to Publish in High Quality Journals and Improving Citations Impact Workshop. **Sunway University, Selangor, Malaysia. 2018**
- **Selection panellist:** Member of selection committee for admissions in M.Sc. Chemistry at **Pandit Deendayal Petroleum University (PDPU), India.**

SPONSORED RESEARCH PROJECTS

Project Completed as PI:

1. MXene/Conducting Polymer-Based Nanocomposites as Photocatalyst for Waste Water Treatment

Amount Granted : RM 47,500

Project Code : INT-2019-SST-RCNMET-02

Duration : 1st January 2019 - 31st December 2019

Funding Agency: Sunway University

2. Synthesis of conducting polymer nanocomposites for dye sensitised solar cells and photocatalytic degradation of pollutants from waste water

Amount Granted : RM 40,000

Project Code : INT-2019-SST-RCNMET-02

Duration : 1st January 2019 – 31st December 2019

Funding Agency: Sunway University

Project Completed as Co-PI:

- 1. Development of a new correlation for the thermal and rheological properties of nano phase change materials (nano PCM) for solar collectors**

Amount Granted : RM 40,000

Duration : 1st January 2018 – 31st December 2018

- 2. Synthesis and Characterization of advances nanocomposites phase change materials for PV and PV/T application**

Amount Granted : RM 40,000

Duration : 1st January 2018 – 31st December 2018

Funding Agency: Sunway University

- 3. Improving specific heat capacity and thermal conductivity of molten salt based nano-fluids for solar energy harvesting in concentrated solar power systems.**

Amount Granted : RM 212,500

Duration : 15th October 2019 – 14th October 2021

Funding Agency: Sunway University

4. In Vitro antibacterial and cytocompatibility assessment of polyhydroxyalkanoate: chitosan/tungsten disulphide nanocomposites scaffolds for tissue engineering applications.

Amount Granted : RM 20000.00

Duration : 1st July 2019 – 30th June 2020

Funding Agency: National Defence University of Malaysia (UPNM)

5. Development of PLA-3D printed structure using fused deposition method

Amount Granted : RM 25000.00

Duration : 5th March 2019 – 4th March 2021

Funding Agency: University Malaysia Pahang (UMP), Malaysia

6. Role of acrylonitrile-butadiene-styrene (ABS) to develop 3D printed components using additive manufacturing technique

Amount Granted : RM 25000.00

Duration : 5th March 2019 – 4th March 2021

Funding Agency: University Malaysia Pahang (UMP), Malaysia

7. Fused deposition modelling to formulate PLA-metal structure for 3D-printed applications

Amount Granted : RM 25000.00

Duration : 5th March 2019 – 4th March 2021

Funding Agency: University Malaysia Pahang (UMP), Malaysia

8. Investigation on thermophysical properties of nano-enhanced phase change materials for concentrated photovoltaic thermal (CPVT) systems.

Amount Granted : RM 424,000

Duration : 1st September 2019 – 31st August 2021

Ongoing projects as Co-PI:

1. Photocatalytic activity of hybrid conducting polymers nanocomposite

Amount Granted : RM 91725

Duration : 1st January 2019 – 31st December 2021

Funding Agency: Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education, Malaysia

2. Formulation of PLA-Wood hybrid biomaterial mechanical property prepared through 3D printing technique.

Amount Granted : RM 73,800.00

Duration : 1st September 2019 – 31th August 2022

Funding Agency: University Malaysia Pahang (UMP), Malaysia

Ph.D. AND MASTER SUPERVISION

- Ph.D. - 3 (Undergoing); 3(Awarded)
- Master's - 2 (Undergoing)