

## Publications

- Amiri, A.; Naraghi, M.; Ahmadi, G.; Soleymaniha, M.; Shanbedi, M., A review on liquid-phase exfoliation for scalable production of pure graphene, wrinkled, crumpled and functionalized graphene and challenges. *Flatchem* **2018**.
- Amiri, A.; Zubir, M. N. M.; Dimiev, A. M.; Teng, K.; Shanbedi, M.; Kazi, S.; Rozali, S. B., Facile, environmentally friendly, cost effective and scalable production of few-layered graphene. *Chemical Engineering Journal* **2017**, *326*, 1105-1115.
- Amiri, A.; Shanbedi, M.; Ahmadi, G.; Eshghi, H.; Kazi, S.; Chew, B.; Savari, M.; Zubir, M. N. M., Mass production of highly-porous graphene for high-performance supercapacitors. *Scientific reports* **2016**, *6*, 32686.
- Amiri, A.; Ahmadi, G.; Shanbedi, M.; Savari, M.; Kazi, S.; Chew, B., Microwave-assisted synthesis of highly-crumpled, few-layered graphene and nitrogen-doped graphene for use as high-performance electrodes in capacitive deionization. *Scientific reports* **2015**, *5*, 17503.
- Amiri, A.; Ahmadi, G.; Shanbedi, M.; Etemadi, M.; Zubir, M. N. M.; Chew, B.; Kazi, S., Heat transfer enhancement of water-based highly crumpled few-layer graphene nanofluids. *RSC Advances* **2016**, *6* (107), 105508-105527.
- Zare-Zardini, H.; Taheri-Kafrani, A.; Amiri, A.; Bordbar, A.-K., New generation of drug delivery systems based on ginsenoside Rh2-, Lysine-and Arginine-treated highly porous graphene for improving anticancer activity. *Scientific reports* **2018**, *8* (1), 586.
- Amiri, A.; Maghrebi, M.; Baniadam, M.; Heris, S. Z., One-pot, efficient functionalization of multi-walled carbon nanotubes with diamines by microwave method. *Applied Surface Science* **2011**, *257* (23), 10261-10266.
- Amiri, A.; Sadri, R.; Shanbedi, M.; Ahmadi, G.; Chew, B.; Kazi, S.; Dahari, M., Performance dependence of thermosyphon on the functionalization approaches: an experimental study on thermo-physical properties of graphene nanoplatelet-based water nanofluids. *Energy Conversion and Management* **2015**, *92*, 322-330.
- Amiri, A.; Sadri, R.; Shanbedi, M.; Ahmadi, G.; Kazi, S.; Chew, B.; Zubir, M. N. M., Synthesis of ethylene glycol-treated graphene nanoplatelets with one-pot, microwave-assisted functionalization for use as a high performance engine coolant. *Energy Conversion and Management* **2015**, *101*, 767-777.
- Amiri, A.; Shanbedi, M.; Ahmadi, G.; Eshghi, H.; Chew, B.; Kazi, S., Microwave-assisted direct coupling of graphene nanoplatelets with poly ethylene glycol and 4-phenylazophenol molecules for preparing stable-colloidal system. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **2015**, *487*, 131-141.
- Amiri, A.; Shanbedi, M.; Ahmadi, G.; Rozali, S., Transformer oils-based graphene quantum dots nanofluid as a new generation of highly conductive and stable coolant. *International Communications in Heat and Mass Transfer* **2017**, *83*, 40-47.
- Amiri, A.; Shanbedi, M.; aliakbarzade, M. J., The specific heat capacity, effective thermal conductivity, density, and viscosity of coolants containing carboxylic acid functionalized multi-walled carbon nanotubes. *Journal of Dispersion Science and Technology* **2016**, *37* (7), 949-955.
- Amiri, A.; Shanbedi, M.; Amiri, H.; Heris, S. Z.; Kazi, S. N.; Chew, B. T.; Eshghi, H., Pool boiling heat transfer of CNT/water nanofluids. *Applied Thermal Engineering* **2014**, *71* (1), 450-459.
- Amiri, A.; Shanbedi, M.; Chew, B.; Kazi, S.; Solangi, K., Toward improved engine performance with crumpled nitrogen-doped graphene based water-ethylene glycol coolant. *Chemical Engineering Journal* **2016**, *289*, 583-595.

- Amiri, A.; Shanbedi, M.; Dashti, H., Thermophysical and rheological properties of water-based graphene quantum dots nanofluids. *Journal of the Taiwan Institute of Chemical Engineers* **2017**, *76*, 132-140.
- Amiri, A.; Shanbedi, M.; Eshghi, H.; Heris, S. Z.; Baniadam, M., Highly dispersed multiwalled carbon nanotubes decorated with Ag nanoparticles in water and experimental investigation of the thermophysical properties. *The Journal of Physical Chemistry C* **2012**, *116* (5), 3369-3375.
- Amiri, A.; Shanbedi, M.; Rafieerad, A.; Rashidi, M. M.; Zaharinie, T.; Zubir, M. N. M.; Kazi, S.; Chew, B., Functionalization and exfoliation of graphite into mono layer graphene for improved heat dissipation. *Journal of the Taiwan Institute of Chemical Engineers* **2017**, *71*, 480-493.
- Amiri, A.; Shanbedi, M.; Savari, M.; Chew, B.; Kazi, S., Cadmium ion sorption from aqueous solutions by high surface area ethylenediaminetetraacetic acid-and diethylene triamine pentaacetic acid-treated carbon nanotubes. *RSC Advances* **2015**, *5* (87), 71144-71152.
- Amiri, A.; Shanbedi, M.; Yarmand, H.; Arzani, H. K.; Gharehkhani, S.; Montazer, E.; Sadri, R.; Sarsam, W.; Chew, B.; Kazi, S., Laminar convective heat transfer of hexylamine-treated mwcnts-based turbine oil nanofluid. *Energy conversion and management* **2015**, *105*, 355-367.
- Amiri, A.; Zardini, H. Z.; Shanbedi, M.; Maghrebi, M.; Baniadam, M.; Tolueinia, B., Efficient method for functionalization of carbon nanotubes by lysine and improved antimicrobial activity and water-dispersion. *Materials Letters* **2012**, *72*, 153-156.
- Amiri, A.; Zare-Zardini, H.; Shanbedi, M.; Kazi, S. N.; Taheri-Kafrani, A.; Chew, B. T.; Zarrabi, A., Microbial toxicity of different functional groups-treated carbon nanotubes. In *Surface Chemistry of Nanobiomaterials*, 2016; pp 33-70.
- Soleymaniha, M.; Shahbazi, M. A.; Rafieerad, A. R.; Maleki, A.; Amiri, A., Promoting Role of mxene Nanosheets in Biomedical Sciences: Therapeutic and Biosensing Innovations. *Advanced healthcare materials* **2019**, *8* (1), 1801137.
- Sarsam, W. S.; Amiri, A.; Kazi, S.; Badarudin, A., Stability and thermophysical properties of non-covalently functionalized graphene nanoplatelets nanofluids. *Energy conversion and management* **2016**, *116*, 101-111.
- Sarsam, W. S.; Amiri, A.; Shanbedi, M.; Kazi, S.; Badarudin, A.; Yarmand, H.; Bashirnezhad, K.; Zaharinie, T., Synthesis, stability, and thermophysical properties of aqueous colloidal dispersions of multi-walled carbon nanotubes treated with beta-alanine. *International Communications in Heat and Mass Transfer* **2017**, *89*, 7-17.
- Sarsam, W. S.; Amiri, A.; Zubir, M. N. M.; Yarmand, H.; Kazi, S.; Badarudin, A., Stability and thermophysical properties of water-based nanofluids containing triethanolamine-treated graphene nanoplatelets with different specific surface areas. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **2016**, *500*, 17-31.
- Shazali, S. S.; Amiri, A.; Zubir, M. N. M.; Rozali, S.; Zabri, M. Z.; Sabri, M. F. M., Colloidal stability measurements of graphene nanoplatelets covalently functionalized with tetrahydrofurfuryl polyethylene glycol in different organic solvents. *Current Applied Physics* **2018**, *18* (2), 209-219.
- Shazali, S. S.; Amiri, A.; Zubir, M. N. M.; Rozali, S.; Zabri, M. Z.; Sabri, M. F. M., Facile hydrothermal method for synthesizing nitrogen-doped graphene nanoplatelets using aqueous ammonia: dispersion, stability in solvents and thermophysical performances. *Materials Research Express* **2018**, *5* (3), 035042.
- Shazali, S. S.; Amiri, A.; Zubir, M. N. M.; Rozali, S.; Zabri, M. Z.; Sabri, M. F. M.; Soleymaniha, M., Investigation of the thermophysical properties and stability performance of non-covalently

functionalized graphene nanoplatelets with Pluronic P-123 in different solvents. *Materials Chemistry and Physics* **2018**, *206*, 94-102.

- Shazali, S. S.; Rozali, S.; Amiri, A.; Zubir, M. N. M.; Sabri, M. F. M.; Zabri, M. Z., Evaluation on stability and thermophysical performances of covalently functionalized graphene nanoplatelets with xylitol and citric acid. *Materials Chemistry and Physics* **2018**, *212*, 363-371.
- Ghiadi, B.; Baniadam, M.; Maghrebi, M.; Amiri, A., Rapid, one-pot synthesis of highly-soluble carbon nanotubes functionalized by L-arginine. *Russian Journal of Physical Chemistry A* **2013**, *87* (4), 649-653.
- Heris, S. Z.; Fallahi, M.; Shanbedi, M.; Amiri, A., Heat transfer performance of two-phase closed thermosyphon with oxidized CNT/water nanofluids. *Heat and Mass Transfer* **2016**, *52* (1), 85-93.
- Mohd Zubir, M. N.; Badarudin, A.; Kazi, S.; Nay Ming, H.; Sadri, R.; Amiri, A., Investigation on the use of graphene oxide as novel surfactant for stabilizing carbon based materials. *Journal of Dispersion Science and Technology* **2016**, *37* (10), 1395-1407.
- Rafieerad, A.; Bushroa, A.; Amiri, A.; Gopinath, V.; Sookhakian, M.; Baradaran, S.; Rafieerad, M.; Saber-Samandari, S.; Vadivelu, J., Large-scale hybrid silver nanowall-reduced graphene oxide biofilm: A novel morphology by facile electrochemical deposition. *Surface and Coatings Technology* **2018**, *347*, 297-303.
- Rafieerad, A.; Bushroa, A.; Amiri, A.; Kalaiselvam, K.; Vellasamy, K.; Vadivelu, J., Antibacterial biocompatible arginine functionalized mono-layer graphene: No more risk of silver toxicity. *Journal of hazardous materials* **2018**, *360*, 132-140.
- Rafieerad, A.; Bushroa, A.; Banihashemian, S.; Amiri, A., Not-yet-designed multilayer Nb/HA/MWCNT-Au/Se/aunps and nbo2/HA/GO/Se biocomposites coated Ti6Al7Nb implant. *Materials Today Communications* **2018**, *15*, 294-308.
- Rafieerad, A.; Bushroa, A.; Nasiri-Tabrizi, B.; Amiri, A.; Yusof, F.; Vadivelu, J.; Basirun, W., Anodic pine cone-like WO<sub>3</sub>/moo<sub>3</sub>/tio<sub>2</sub> film with well-defined nanoflakes on Ti-6Al-7Nb implant. *Journal of the Australian Ceramic Society* **2018**, *54* (1), 129-137.
- Rafieerad, A.; Bushroa, A.; Nasiri-Tabrizi, B.; Baradaran, S.; Amiri, A.; Saber-Samandari, S.; Khanahmadi, S.; Zeimaran, E.; Basirun, W.; Kalaiselvam, K., Simultaneous enhanced antibacterial and osteoblast cytocompatibility performance of Ti6Al7Nb implant by nano-silver/graphene oxide decorated mixed oxide nanotube composite. *Surface and Coatings Technology* **2019**, *360*, 181-195.
- Rafieerad, A.; Bushroa, A.; Nasiri-Tabrizi, B.; Kaboli, S.; Khanahmadi, S.; Amiri, A.; Vadivelu, J.; Yusof, F.; Basirun, W.; Wasa, K., Toward improved mechanical, tribological, corrosion and in-vitro bioactivity properties of mixed oxide nanotubes on Ti-6Al-7Nb implant using multi-objective PSO. *Journal of the mechanical behavior of biomedical materials* **2017**, *69*, 1-18.
- Rafieerad, A.; Bushroa, A.; Nasiri-Tabrizi, B.; Vadivelu, J.; Baradaran, S.; Zalnezhad, E.; Amiri, A., Optimized fabrication and characterization of tio<sub>2</sub>-Nb<sub>2</sub>O<sub>5</sub>-Al<sub>2</sub>O<sub>3</sub> mixed oxide nanotube arrays on Ti-6Al-7Nb. *RSC Advances* **2016**, *6* (13), 10527-10540.
- Savari, M.; Moghaddam, A. H.; Amiri, A.; Shanbedi, M.; Ayub, M. N. B., Comprehensive heat transfer correlation for water/ethylene glycol-based graphene (nitrogen-doped graphene) nanofluids derived by artificial neural network (ANN) and adaptive neuro-fuzzy inference system (ANFIS). *Heat and Mass Transfer* **2017**, *53* (10), 3073-3083.
- Savari, M.; Rashidi, S.; Amiri, A.; Shanbedi, M.; Zeinali Heris, S.; Kazi, S., Hydrodynamic and thermal performance prediction of functionalized MWNT-based water nanofluids under the laminar flow regime using the adaptive neuro-fuzzy inference system. *Numerical Heat Transfer, Part A: Applications* **2016**, *70* (1), 103-116.



- Shanbedi, M.; Amiri, A.; Heris, S. Z.; Eshghi, H.; Yarmand, H., Effect of magnetic field on thermo-physical and hydrodynamic properties of different metals-decorated multi-walled carbon nanotubes-based water coolants in a closed conduit. *Journal of Thermal Analysis and Calorimetry* **2018**, *131* (2), 1089-1106.
- Shanbedi, M.; Amiri, A.; Heris, S. Z.; Kazi, S. N., Nanofluids: Basic Principles and Modern Aspects. In *CRC Concise Encyclopedia of Nanotechnology*, CRC Press: 2015; p 1186.
- Shanbedi, M.; Amiri, A.; Rashidi, S.; Heris, S. Z.; Baniadam, M., Thermal performance prediction of two-phase closed thermosyphon using adaptive neuro-fuzzy inference system. *Heat Transfer Engineering* **2015**, *36* (3), 315-324.
- Shanbedi, M.; Heris, S. Z.; Amiri, A.; Adyani, S.; Alizadeh, M.; Baniadam, M., Optimization of the thermal efficiency of a two-phase closed thermosyphon using active learning on the human algorithm interaction. *Numerical Heat Transfer, Part A: Applications* **2014**, *66* (8), 947-962.
- Shanbedi, M.; Heris, S. Z.; Amiri, A.; Baniadam, M., Improvement in heat transfer of a two-phased closed thermosyphon using silver-decorated MWCNT/water. *Journal of Dispersion Science and Technology* **2014**, *35* (8), 1086-1096.
- Shanbedi, M.; Heris, S. Z.; Amiri, A.; Eshghi, H., Synthesis of water-soluble Fe-decorated multi-walled carbon nanotubes: a study on thermo-physical properties of ferromagnetic nanofluid. *Journal of the Taiwan Institute of Chemical Engineers* **2016**, *60*, 547-554.
- Shanbedi, M.; Heris, S. Z.; Amiri, A.; Hosseinipour, E.; Eshghi, H.; Kazi, S., Synthesis of aspartic acid-treated multi-walled carbon nanotubes based water coolant and experimental investigation of thermal and hydrodynamic properties in circular tube. *Energy conversion and management* **2015**, *105*, 1366-1376.
- Shanbedi, M.; Heris, S. Z.; Baniadam, M.; Amiri, A.; Maghrebi, M., Investigation of heat-transfer characterization of EDA-MWCNT/DI-water nanofluid in a two-phase closed thermosyphon. *Industrial & Engineering Chemistry Research* **2012**, *51* (3), 1423-1428.
- Shanbedi, M.; Jafari, D.; Amiri, A.; Heris, S. Z.; Baniadam, M., Prediction of temperature performance of a two-phase closed thermosyphon using artificial neural network. *Heat and Mass Transfer* **2013**, *49* (1), 65-73.
- Shanbedi, M.; Zeinali Heris, S.; Baniadam, M.; Amiri, A., The effect of multi-walled carbon nanotube/water nanofluid on thermal performance of a two-phase closed thermosyphon. *Experimental Heat Transfer* **2013**, *26* (1), 26-40.
- Solangi, K.; Amiri, A.; Luhur, M.; Ghavimi, S. A. A.; Kazi, S.; Badarudin, A.; Zubir, M. N. M., Experimental investigation of heat transfer performance and frictional loss of functionalized GNP-based water coolant in a closed conduit flow. *RSC Advances* **2016**, *6* (6), 4552-4563.
- Solangi, K.; Amiri, A.; Luhur, M.; Ghavimi, S. A. A.; Zubir, M. N. M.; Kazi, S.; Badarudin, A., Experimental investigation of the propylene glycol-treated graphene nanoplatelets for the enhancement of closed conduit turbulent convective heat transfer. *International Communications in Heat and Mass Transfer* **2016**, *73*, 43-53.
- Solangi, K.; Kazi, S.; Luhur, M.; Badarudin, A.; Amiri, A.; Sadri, R.; Zubir, M.; Gharehkhani, S.; Teng, K., A comprehensive review of thermo-physical properties and convective heat transfer to nanofluids. *Energy* **2015**, *89*, 1065-1086.
- Soleymaniha, M.; Amiri, A.; Shanbedi, M.; Chew, B. T.; Wongwises, S., Water-based graphene quantum dots dispersion as a high-performance long-term stable nanofluid for two-phased closed thermosyphons. *International Communications in Heat and Mass Transfer* **2018**, *95*, 147-154.

- Teng, K.; Amiri, A.; Kazi, S.; Bakar, M.; Chew, B., Fouling mitigation on heat exchanger surfaces by EDTA-treated MWCNT-based water nanofluids. *Journal of the Taiwan Institute of Chemical Engineers* **2016**, *60*, 445-452.
- Teng, K.; Amiri, A.; Kazi, S.; Bakar, M.; Chew, B.; Al-Shamma'a, A.; Shaw, A., Retardation of heat exchanger surfaces mineral fouling by water-based diethylenetriamine pentaacetate-treated CNT nanofluids. *Applied Thermal Engineering* **2017**, *110*, 495-503.
- Yarmand, H.; Gharehkhani, S.; Shirazi, S. F. S.; Amiri, A.; Alehashem, M. S.; Dahari, M.; Kazi, S., Experimental investigation of thermo-physical properties, convective heat transfer and pressure drop of functionalized graphene nanoplatelets aqueous nanofluid in a square heated pipe. *Energy Conversion and Management* **2016**, *114*, 38-49.
- Yarmand, H.; Gharehkhani, S.; Shirazi, S. F. S.; Amiri, A.; Montazer, E.; Arzani, H. K.; Sadri, R.; Dahari, M.; Kazi, S., Nanofluid based on activated hybrid of biomass carbon/graphene oxide: synthesis, thermo-physical and electrical properties. *International Communications in Heat and Mass Transfer* **2016**, *72*, 10-15.
- Yarmand, H.; Gharehkhani, S.; Shirazi, S. F. S.; Goodarzi, M.; Amiri, A.; Sarsam, W. S.; Alehashem, M. S.; Dahari, M.; Kazi, S., Study of synthesis, stability and thermo-physical properties of graphene nanoplatelet/platinum hybrid nanofluid. *International Communications in Heat and Mass Transfer* **2016**, *77*, 15-21.
- Zardini, H. Z.; Amiri, A.; Shanbedi, M.; Maghrebi, M.; Baniadam, M., Enhanced antibacterial activity of amino acids-functionalized multi walled carbon nanotubes by a simple method. *Colloids and Surfaces B: Biointerfaces* **2012**, *92*, 196-202.
- Zardini, H. Z.; Davarpanah, M.; Shanbedi, M.; Amiri, A.; Maghrebi, M.; Ebrahimi, L., Microbial toxicity of ethanalamines—Multiwalled carbon nanotubes. *Journal of Biomedical Materials Research Part A* **2014**, *102* (6), 1774-1781.
- Zare-Zardini, H.; Amiri, A.; Shanbedi, M.; Memarpoor-Yazdi, M.; Asoodeh, A., Studying of antifungal activity of functionalized multiwalled carbon nanotubes by microwave-assisted technique. *Surface and Interface Analysis* **2013**, *45* (3), 751-755.
- Zare-Zardini, H.; Taheri-Kafrani, A.; Ordooei, M.; Amiri, A.; Karimi-Zarchi, M., Evaluation of toxicity of functionalized graphene oxide with ginsenoside Rh2, lysine and arginine on blood cancer cells (K562), red blood cells, blood coagulation and cardiovascular tissue: In vitro and in vivo studies. *Journal of the Taiwan Institute of Chemical Engineers* **2018**, *93*, 70-78.
- Zubir, M. N. M.; Badarudin, A.; Kazi, S.; Misran, M.; Amiri, A.; Sadri, R.; Khalid, S., Experimental investigation on the use of highly charged nanoparticles to improve the stability of weakly charged colloidal system. *Journal of colloid and interface science* **2015**, *454*, 245-255.
- Zubir, M. N. M.; Badarudin, A.; Kazi, S. N.; Misran, M.; Ibrahim, R.; Amiri, A.; Sadri, R., Exploration of the environmentally benign and highly effective approach for improving carbon nanotube homogeneity in aqueous system. *Journal of Thermal Analysis and Calorimetry* **2016**, *124* (2), 815-825.
- Arzani, H. K.; Amiri, A.; Arzani, H. K.; Rozali, S. B.; Kazi, S.; Badarudin, A., Toward improved heat transfer performance of annular heat exchangers with water/ethylene glycol-based nanofluids containing graphene nanoplatelets. *Journal of Thermal Analysis and Calorimetry* **2016**, *126* (3), 1427-1436.
- Arzani, H. K.; Amiri, A.; Kazi, S.; Badarudin, A.; Chew, B., Heat transfer performance of water-based tetrahydrofurfuryl polyethylene glycol-treated graphene nanoplatelet nanofluids. *RSC Advances* **2016**, *6* (70), 65654-65669.

- Arzani, H. K.; Amiri, A.; Kazi, S.; Chew, B.; Badarudin, A., Experimental and numerical investigation of thermophysical properties, heat transfer and pressure drop of covalent and noncovalent functionalized graphene nanoplatelet-based water nanofluids in an annular heat exchanger. *International Communications in Heat and Mass Transfer* **2015**, 68, 267-275.
- Arzani, H. K.; Amiri, A.; Kazi, S.; Chew, B.; Badarudin, A., Experimental investigation of thermophysical properties and heat transfer rate of covalently functionalized MWCNT in an annular heat exchanger. *International Communications in Heat and Mass Transfer* **2016**, 75, 67-77.

