

RESEARCH OUTPUT

NOTABLE PUBLICATIONS FROM THE DEPARTMENT (2018 – 2020) : I.F. > 3

(DEPARTMENTAL AVERAGE I.F.: 2.8)

2020

Mukherjee, A., Mullick, A., Teja, R., Vadthya, P., **Roy, A.**, Moulik, S., Performance and Energetic Analysis of Hydrodynamic Cavitation and Potential Integration with Existing Advanced Oxidation Processes: A Case Study for Real Life Greywater Treatment. *Ultrasonics Sonochemistry* (Accepted) (I.F. : 7.279, h-index: 109)

Varigala, S.K., **Krishnaswamy, S.**, Hegarty-Craver, M., Madhavan, P., Basil, M., Rosario, P., Raj, A., Barani, V., Cid, C.A., Grego, S. and Luettgen, M., 2020. Field testing of an onsite sanitation system on apartment building blackwater using biological treatment and electrochemical disinfection. *Environmental Science: Water Research & Technology*. (I.F. : 4.195, h-index: 20)

Zhou, Z., Lu, D., Li, X., Rehman, L.M., **Roy, A.** and Lai, Z., 2020. Fabrication of highly permeable polyamide membranes with large “leaf-like” surface nanostructures on inorganic supports for organic solvent nanofiltration. *Journal of Membrane Science*, 601, p.117932. (I.F. : 7.015, h-index: 214)

Maarisetty, D., Mahanta, S., Sahoo, A.K., Mohapatra, P. and **Baral, S.S.**, 2020. Steering the charge kinetics in dual-functional photocatalysis by surface dipole moments and band edge modulation: A defect study in TiO₂-rGO-ZnS composite. *ACS Applied Materials & Interfaces*. (I.F. : 8.456, h-index: 169)

Parsekar, S.U., Velankanni, P., Sridhar, S., Haldar, P., Mate, N.A., Banerjee, A., Antharjanam, P.S., Koley, A.P. and **Kumar, M.**, 2020. Protein binding studies with human serum albumin, molecular docking and in vitro cytotoxicity studies using HeLa cervical carcinoma cells of Cu (ii)/Zn (ii) complexes containing a carbohydrazone ligand. *Dalton Transactions*, 49(9), pp.2947-2965. (I.F. : 4.052, h-index: 168)

Baral, S.S., Dionisi, D., Maarisetty, D., Gandhi, A., Kothari, A., Gupta, G. and Jain, P., 2020. Biofuel production potential from wastewater in India by integrating anaerobic membrane reactor with algal photobioreactor. *Biomass and Bioenergy*, 133, p.105445. (I.F. : 3.537, h-index: 156)

2019

Maarisetty, D. and **Baral, S.S.**, 2019. Defect-induced enhanced dissociative adsorption, optoelectronic properties and interfacial contact in Ce doped TiO₂: Solar photocatalytic degradation of Rhodamine B. *Ceramics International*, 45(17), pp.22253-22263. **(I.F. : 3.450, h-index: 89)**

Maarisetty, D. and **Baral, S.S.**, 2019. Synergistic effect of dual electron-cocatalyst modified photocatalyst and methodical strategy for better charge separation. *Applied Surface Science*, 489, pp.930-942. **(I.F. : 5.155, h-index: 159)**

Kadu, K., Ghosh, G., Panicker, L., Kowshik, M. and **Ramanan, S.R.**, 2019. Role of surface charges on interaction of rod-shaped magnetic hydroxyapatite nanoparticles with protein. *Colloids and Surfaces B: Biointerfaces*, 177, pp.362-369. **(I.F. : 3.973, h-index: 131)**

Deshmukh, K., **Ramanan, S.R.** and Kowshik, M., 2019. Novel one step transformation method for Escherichia coli and Staphylococcus aureus using arginine-glucose functionalized hydroxyapatite nanoparticles. *Materials Science and Engineering: C*, 96, pp.58-65. **(I.F. : 5.08, h-index: 104)**

2018

Sahu, P., **Krishnaswamy, S.**, Ponnani, K. and Pande, N.K., 2018. A thermodynamic approach to selection of suitable hydrate formers for seawater desalination. *Desalination*, 436, pp.144-151. **(I.F. : 6.035, h-index: 155)**

Krishnaswamy, S., Deshpande, A. and Ponnani, K.N., 2018. Modeling of unmixed combustion based packed bed reactor system for heat transfer applications. *Chemical Engineering Science*, 178, pp.367-376. **(I.F. : 3.372, h-index: 165)**

PATENTS FILED

- **India – Patent Application No.: 201811014242**
Dated: April 13, 2018
Title: PROCESS AND SYSTEM FOR ROUTING LNG COLD ENERGY FOR DESALINATING SEA WATER AND POWER GENERATION
Status: Published
Assignees: BITS Pilani, GAIL (India) Ltd.
Inventors: Srinivas Krishnaswamy, Sahu Parul, Ponnani Krishnaswamy, Neelakantan, Parivesh Chugh, Nawal Kishore Pande
- **India – Patent Application No.: 201911011261**
Dated: March 22, 2018
Title: A CO-CHLORINATION PROCESS FOR PARAFFINS AND POLYOLEFINS
Assignees: BITS Pilani, ABSTC
Inventors: Srinivas Krishnaswamy, More Vinod Kadu, Singh, Madan Kumar, Ganvir Vivek, Ponnani Krishnaswamy
- **India – Patent Application No.: 201921016099**
Dated: April 23, 2019
Title: A PROCESS AND APPARATUS FOR CONTINUOUS FREEZE CRYSTALLIZATION
Assignees: BITS Pilani, GAIL (India) Ltd.
Inventors: Srinivas Krishnaswamy, Sahu Parul, Ponnani Krishnaswamy, Neelakantan, Parivesh Chugh, Nawal Kishore Pande
- **India – Patent Application No.: 202011006181**
Dated: 12th Feb 2020
Title: AN APPARATUS TO DETERMINE THE FOULING TENDENCY OF A LIQUID UNDER DYNAMIC CONDITIONS
Assignees: BITS Pilani, BPCL Corporate R&D.
Inventors: Pragya Singh, Srinivas Krishnaswamy, Ponnani Krishnaswamy, Jaya Rawat, Ankur Verma