

Dr. SK Safdar Hossain

Associate Professor



Personal Data:

Nationality | Indian
Date of Hire | October 2012
Date Rank Obtained | October 2012
Department | Chemical Engineering
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Education:

Academic Degree	Major	specialty	Place of Issue	Address	Date
Doctorate (PhD)	Chemical Engineering	Catalysis & Reaction Engineering	King Fahd University of Petroleum & Minerals (KFUPM)	Dhahran, Kingdom of Saudi Arabia	2012
Masters (M.Sc.)	Chemical Engineering	Catalysis & Reaction Engineering	Indian Institute of Technology	Kharagpur 721302, West Bengal, India.	2005
Bachelor (B.Sc.)	Chemical Engineering	Chemical Engineering	Vidyasagar University	Midnapore(E), West Bengal, India	2003

PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions):

PhD	Electrochemical reduction of carbon dioxide to hydrocarbons
Master	Alkylation of Toluene with Ethanol and Methanol over SAPO-11 Molecular Sieves

Experiences:

Title of Job	Address of Work	Country	Date	
Visiting Researcher	Universiti Putra Malaysia	Malaysia	From	July 2017
			To	August 2017
Lecturer-B	King Fahd University of Petroleum & Minerals	Kingdom of Saudi Arabia	From	August 2006
			To	January 2012

Research Interests:

1. Reactor Design & Kinetics
2. Process Dynamics & Control
3. Catalyst Synthesis and Characterization
4. Fuel Cells, and Batteries
5. Photocatalysis
6. Carbon Dioxide Utilization

Publications:

#	Name of author(s)	Title of Publication	Publisher and Date of Publication	Link of Publication
1	Amir Al-Ahmed, SK Safdar Hossain , S. U. Rahman, S. M. J. Zaidi	Application of Titanium Dioxide (TiO ₂) Based Photocatalytic Nanomaterials in Solar and Hydrogen Energy: A Short Review	Material Science Forum	https://doi.org/10.4028/www.scientific.net/MSF.712.25
2	Safdar Hossain SK , S.U. Rahman, Shakeel Ahmed,	Electrochemical Reduction of Carbon Dioxide over CNT-Supported Nanoscale Copper Electrocatalysts	Journal of Nanomaterials, Volume 2014, Article ID 374318, 10 pages.	https://doi.org/10.1155/2014/374318
3	Rehman A., SK Safdar Hossain , Rahman S., Ahmed S., Hossain M.M,	WO ₃ modification effects on Pt-Pd/WO ₃ -OMC electrocatalysts for formic acid oxidation	Applied Catalysis A:General, Volume 482, 2014, Pages 309-317 .	https://doi.org/10.1016/j.apcata.2014.06.008
4	Shahid M. Basheer, SK Safdar Hossain , Rahman S., Ahmed S., Hossain M M	NiO/MWCNT catalysts for electrochemical reduction of CO ₂	November 2015, Volume 6, Issue 6, pp 544-553, Electrocatalysis, Springer US.	https://doi.org/10.1007/s12678-015-0270-1
5	Rehman A., SK Safdar Hossain , Rahman S. Ahmed S., Hossain M.M,	Influence of CeO ₂ modification on Pt-Pd/CeO ₂ -OMC catalysts for formic acid oxidation	Electrocatalysis, July 2015, Volume 6, Issue 4, pp 348-356.	https://doi.org/10.1007/s12678-015-0250-5
6	Shahid M. Basheer, SK Safdar Hossain , Rahman S., Ahmed S., Hossain M M	SnO ₂ /MWCNT catalysts for electrochemical reduction of CO ₂ , Journal of CO ₂ utilization,	Journal of CO ₂ utilization, Volume 16, December 2016, Pages 346–353.	https://doi.org/10.1016/j.jcou.2016.09.002
7	SK Safdar Hossain , Junaid Saleem, A. Al. Ahmed, M.M. Hossain, M. N. Shaikh, S.U.Rahman, Gordon Mc Kay,	Preparation and Evaluation of Nickel Oxide-Carbon Nanotube Supported Palladium as Anode Electrocatalyst for Formic Acid Fuel Cells,	International Journal of Electrochemical Sciences, Volume 11, Issue 3, March 2016, Pages 2686 – 2708	http://www.electrochemsci.org/papers/vo111/110402686.pdf

8	B.V.Ayodele, S. S. Hossain , S.S.Lam, O.U.Osazuwa, M.R.Khan, C.K.Cheng	Syngas production from CO ₂ reforming of methane over neodymium sesquioxide supported cobalt catalyst,	Journal of Natural Gas Science and Engineering, Volume 34, August 2016, Pages 873–885	https://doi.org/10.1016/j.jngse.2016.07.059
9	B.V.Ayodele, S. S. Hossain , S.S.Lam, M.R.Khan, C.K.Cheng,	Modelling and optimization of syngas production by methane dry reforming over samarium oxide supported cobalt catalyst: Response Surface Methodology and Artificial Neural Networks Approach,	Clean Technologies and Environmental Policy, 2017, Volume 19, Issue 4, pp1181-1193.	https://doi.org/10.1007/s10098-016-1318-5
10	Jiah Chee Sho, Soo Ling Chong, SK Safdar Hossain , Chin Kui Cheng	Catalytic Ethylene Production from Ethanol Dehydration Over Non-modified and phosphoric acid modified Zeolite H-Y(80) Catalysts	Fuel Processing Technology, Volume 158, 2017, Pages 85-95.	https://doi.org/10.1016/j.fuproc.2016.12.012
11	Kim Hoong Nga, Maksudur R. Khan, Yun Hau Ng, Sk Safdar Hossain , Chin Kui Cheng	Restoration of liquid effluent from oil palm agroindustry in Malaysia using UV/TiO ₂ and UV/ZnO photocatalytic systems: A comparative study	Journal of Environmental Management, Vol 196, 2017, Pages 674-680	DOI: 10.1016/j.jenvman.2017.03.078
12	Syed Sadiq Ali, Safdar Hossain , Mohammad Asif,	Dynamic Modeling of Iso-amyl acetate Reactive Distillation Column,	Polish Journal of Chemical Technology, Vol. 19, Issue 1, 2017, Pages 59-66.	DOI:10.1515/pjct-2017-0009
13	SK Safdar Hossain , Junaid Saleem, A. Al. Ahmed, Ateequr Rehman, M.M. Hossain, Gordon Mc Kay, John Barford	Evaluation of Pd nanoparticles decorated CeO ₂ -MWCNT nanocomposite as electrocatalyst for formic acid fuel cells	Journal of Electronic Materials, April 2018, Volume 47, Issue 4, PP:2277–2289.	https://doi.org/10.1007/s11664-017-6051-2
14	Yoke Wang Cheng, Zhan Sheng Lee, Chi Cheng Chong, Maksudur R. Khan, Chin Kui Cheng, Kim Hoong Ng, Safdar Hossain SK	Hydrogen-rich syngas production via steam reforming of palm oil mill effluent (POME) – A thermodynamics analysis	International Journal of Hydrogen Energy 2019, 44 (37), 20711-20724	https://doi.org/10.1016/j.ijhydene.2018.05.119
15	SK Safdar Hossain , S. U. Rahman, S. M. Javaid. Zaidi,	Synthesis and evaluation of copper supported titanium oxide nanotubes as electrocatalyst for the electrochemical reduction of carbon dioxide to organics	Catalysts 2019, 9(3), 298	DOI:10.3390/catal9030298
16	Sk Safdar Hossain , Mostafa Tarek , Thurga Devi Munusamy , Kaykobad Md. Rezaul Karim , Selvaraj Mohana Roopan ,	Facile synthesis of CuO/CdS heterostructure photocatalyst for the effective degradation of dye under visible light,	Environmental Research, Volume 188, 109803, 2020.	https://doi.org/10.1016/j.envres.2020.109803

	Shaheen M. Sarkar , Chin Kui Cheng , Md. Maksudur Rahman Khan,			
17	Euqb Ali, Enamul Hoque, Safdar Hossain SK , Manik Chandra Biswas	Review on Nanoabsorbents for Wastewater Treatment – Next Generation Biotechnological Solution	International Journal of Environmental Science and Technology 2020	https://doi.org/10.1007/s13762-020-02755-4
18	Safdar Hossain SK	Synthesis and characterization of nitrogen doped reduced graphene oxide supported PdFe electrocatalysts and their performance towards the electrooxidation of formic	Issue 7, Volume 46, Page number 6543- 6556, 2021, Arabian Journal of Science and Engineering.	https://doi.org/10.3390/catal11080910
19	Safdar Hossain SK	Heteroatom Doped Carbon Materials as Support for Anode Electrocatalysts for Direct Formic Acid Fuel Cells	article number 150926, Vol 16, 2021, International Journal of Electrochemical Sciences.	http://www.electrochemsci.org/papers/vol16/16010150926.pdf
20	Safdar Hossain SK , Mudassir M. Alwi , Junaid Saleem, Taj H. Al-Hashem, Gordon Mc Kay	Synthesis and characterization of Nitrogen doped reduced graphene oxide supported PdCo electrocatalysts and their performance towards the electrooxidation of formic acid	Catalysts,, 2021	https://doi.org/10.3390/catal11080910
21	Syed Sadiq Ali, SK Safdar Hossain , Mohammad Asif	Dynamics of partially collapsing pulsed fluidized bed,	The Canadian Journal of Chemical Engineering, Accepted for Publication. 2021	https://doi.org/10.1002/cjce.24235
22	Syed Sadiq Ali, Agus B Arsad, SK. Safdar Hossain , Avijit Basu, Mohammad Asif	Optimization and effective control of reactive distillation process for the production of high purity biodiesel	Processes, 2021.	https://doi.org/10.3390/pr9081340
23	Sayeed Rushd, Ezz Ahmed, Shahriar Mehmud, SK Safdar Hossain ,	A Two-Parameter Model for Water- Lubricated Pipeline Transportation of Unconventional Crudes,	Energies 2021, 14(18), 5665	https://doi.org/10.3390/en14185665
24	SK. Safdar Hossain , Syed Sadiq Ali, Sayeed Rushd, B.V.Ayodele	Interaction Effect of Process Parameters and Pd- Electrocatalyst in Formic Acid Electro- Oxidation for Fuel Cell Applications: Implementing Supervised Machine Learning Algorithms	International Journal of Energy Research 2022	https://doi.org/10.1002/er.7602

25	Avijit Basu, Syed Sadiq Ali, SK Safdar Hossain, Mohammad Asif	A Review of Dynamic Mathematical Modeling of Heavy Metal Removal by Biosorption Process	Processes, 2022	https://doi.org/10.3390/pr10061154
26	Safdar Hossain SK, Bamidele Victor Ayodele, Syed Sadiq Ali, Chin Kui Cheng, Siti Indati Mustapa,	Comparative analysis of Support Vector Machine Regression and Gaussian Process Regression in modeling hydrogen production from waste effluent		https://doi.org/10.3390/su14127245
27	Safdar Hossain SK, Junaid Saleem, M. Mudassir Ahmad Alwi, Faisal A. Al-Odail, Mohammad Mozahar Hossain	Recent Advances in Anode Catalysts for Direct Formic Acid Fuel Cells Part I- Fundamentals and Pd based Catalysts	Chemical Record 2022	https://doi.org/10.1002/tcr.202200045
28	Safdar Hossain SK, Abdulrahman Al-Mithn, Bamidele Victor Ayodele	Predictive Modeling of Bioenergy Production from Fountain Grass Using Gaussian Process Regression: Effect of Kernel Functions	Energies 2022	https://doi.org/10.3390/en15155570
29	Safdar Hossain SK, Junaid Saleem, M. Mudassir Ahmad Alwi, Faisal A. Al-Odail, Mohammad Mozahar Hossain	, Recent Advances in Anode Catalysts for Direct Formic Acid Fuel Cells Part II- Pt based Catalysts	Chemical Record 2022	10.1002/tcr.202200156
30	Safdar Hossain SK, Bamidele Victor Ayodele	Performance Analysis and Modeling of Bio-Energy Recovery from Agro-industrial Wastewater	Frontiers in Energy Research, section Advanced Clean Fuel Technologies	https://doi.org/10.3389/fenrg.2022.980360
31	Safdar Hossain SK, Bamidele Victor Ayodele,	Data-Driven Approach to Modeling Biohydrogen Production from Biodiesel Production Waste: Effect of Activation Functions on Model Configurations		https://doi.org/10.3390/app122412914

32	Abdulrahman Almithn, Salem N Alghanim, Abdullah A Mohammed, Abdullah K Alghawinim, Mazen A Alomaireen, Zaid Alhulaybi	Methane Activation and Coupling Pathways on Ni ₂ P Catalyst	<i>Catalysts</i> , 2023	https://doi.org/10.3390/catal13030531
33	SK. Safdar Hossain , Anis Farhana Abdul Rahman Syed Sadiq Ali, Agus B Arsad, Avijit Basu, Ai Ling Pan, Zakiah Harun, Muhammad Mudassir Ahmad Alwi	Effect of ultra-sonication parameters on structural, morphological and electrical properties of polypyrrole nanoparticles and optimization by response surface methodology	<i>Polymers</i> , 2023	https://doi.org/10.3390/poly15061528
34	SK Safdar Hossain, Baban Dey, Syed Sadiq Ali, Arup Choudhury	Fabrication of flexible poly(m-aminophenol)/vanadium pentoxide/graphene ternary nanocomposite film as a positive electrode for solid-state asymmetric supercapacitors	Nanomaterials 2023, 13(4), 642 (Impact Factor : 5.719)	https://doi.org/10.3390/nano13040642
35	Md. Wasi Ahmad; SK Safdar Hossain, Baban Dey; Bo Hye Kim; Gautam Sarkhel; Duck-Joo Yang, Tahseen Kamal	Manganese Cobalt-MOF@Carbon Nanofibers-Based Non-Enzymatic Histamine Sensor for determination of Food Freshness	Analytical and Bioanalytical Chemistry 2023	https://doi.org/10.1007/s00216-023-04737-0
36	Md. Wasi Ahmad; Baban Dey; Bo Hye Kim; Gautam Sarkhel; Duck-Joo Yang; SK Safdar Hossain; Tahseen Kamal	Bimetallic Copper-Cobalt MOFs Anchored Carbon Nanofibers Hybrid Mat based Electrode for Simultaneous Determination of Dopamine and Tyramine,	Microchemical Journal , Volume 193, October 2023, 109074 (Impact Factor : 5.304)	https://doi.org/10.1016/j.microc.2023.109074
37	SK Safdar Hossain, Arup Choudhury	A Review on Metal Organic Framework Hybrid based Flexible Binder-free Electrodes for Solid-State Supercapacitors	<i>Ionics Journal</i> 2023	https://doi.org/10.1007/s11581-023-05177-7

Language Proficiency:

1. English
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