



RESUME

Jamal Uddin, Ph.D.

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EDUCATIONAL BACKGROUND:

Ph.D. in Chemistry, April 1996 - March 1999, Osaka University, Department of Chemistry, Osaka, Japan
Research Topic: A study on the quenching of photo-excited Ruthenium(II) by Cobalt(III) complexes using laser kinetic spectroscopy

Research Student, October 1994 – March 1996, Osaka University, Department of Chemistry, Osaka, Japan

Master of Science (M.Sc.) in Chemistry, April 1990 – October 1992, Dhaka University, Department of Chemistry, Dhaka, Bangladesh
Research Topic: Determination of macro and micronutrients in soils with Atomic Absorption Spectrophotometry

Bachelor of Science (B.Sc.) with honors in Chemistry, April 1985 – April 1990, Dhaka University, Department of Chemistry, Dhaka, Bangladesh

PROFESSIONAL EXPERIENCE

2017-To date Professor, Coppin State University, Department of Natural Sciences, Baltimore, Maryland
2007-To date Founding Director, Coppin State University, Department of Natural Sciences, Baltimore, Maryland
2005-2017 Associate Professor, Coppin State University, Department of Natural Sciences, Baltimore, Maryland
2012-2013 Wilson H. Elkins Professorship, University System of Maryland (USM), MD
2004-2005 Adjunct Faculty, Towson University, Department of Chemistry, Towson, Maryland

2002-2003 Research Associate, Univ. of Maryland, Department of Biochemistry and Molecular Biology, Baltimore, Maryland
1999-2002 Postdoctoral Fellow, Wayne State University, Department of Chemistry, Detroit, Michigan, US

ACADEMIC AWARDS:

Wilson H. Elkins Professorship, 2012- 2013, University System of Maryland (USM), MD, USA

Postdoctoral fellowship funded by US Department of Energy (D.O.E), 1999- 2002, Wayne State University, Department of Chemistry, Detroit, MI, USA

Japan Government MONBUSHO Scholarship program, 1994 - 1999, Osaka University, Department of Chemistry, Osaka, Japan

Teaching Assistantship (TA), 1996 - 1998 (Fall Semester), Osaka University, Department of Chemistry, Osaka, Japan

CURRENT RESEARCH INTEREST:

Nanotechnology, Nanoparticles like Au, Ag, Fe etc., Cardiac Biomarkers, Single molecule imaging spectroscopy, Fluorescence correlation spectroscopy, Metal enhance fluorescence, Surface Plasmon coupled emission, Plasmon-controlled fluorescence, Radiative decay engineering, Fluorescence spectroscopy

Multi-Junction Solar Cells Energy Research: Design and simulation, Growth, fabrication, and commercialization.

Dye-sensitized Solar cell: Harnessing Energy from natural and synthetic dyes

Nano structured solar cell research using Quantum Dots and Carbon nanotube.

FIELD OF EXPERTISE:

Glucose Sensing: The development of synthetic chemosensors and sensors for the recognition and analysis of sugar.

Synthesis and excited state properties of Polymetallic Complexes used in photoinduced charge separation and photoinduced chemical fuel production.

Photochemistry: synthesis organic and inorganic molecules, following photoinduced reaction over the electronic band by spectroscopic and flash photolysis methods.

Electrochemistry: preparing and analyzing the electrocatalysts, study the lifetime of the catalysts.

ENVIRONMENTAL EXPERIENCE:

Determination of macronutrients such as, Magnesium, Calcium, Sodium, and potassium in the soil samples by using Flame Atomic Absorption Spectrophotometer.

Analysis of metal pollutants such as, Lead, Chromium, Cadmium, and Copper by Flame Atomic Absorption Spectrophotometer.

EQUIPMENT SKILLS:

Laser Spectroscopy (Nano and Pico second system for the measurement of emission lifetime and transient absorption)

FT-IR (Perkin Elmer) and UV-visible Spectroscopy (Shimadzu- Cary 2200)

Cyclic Voltammetry and Differential Pulse Polarography

Flame Atomic Absorption Spectrophotometer

Fluorescence Spectroscopy (Spex Fluorolog Model 1902)

PROFESSIONAL SOCIETIES:

Organizing Secretary of American Association of University Professors (AAUP), Maryland Chapter

Member of American Chemical Society (ACS)

Member of Inter-American Photochemical Association (I-APS)

Member of American Solar Energy Society (ASES)

GRANTS:

Received Department of Energy (DOE) grant in the amount of \$2.1 million for one year (2025-2027).

Received Department of Education (SAFRA Title III) grant in the amount of \$810,000 for ten years (2015-2025).

Awarded Maryland Industrial partnerships (MIPs) grant in the amount of \$100,000 for three years (2021-2023).

Awarded an E² - Energy to Educate Grant from the Constellation, an Exelon company \$575,000 for 13 years (2011-2024).

Received NSF planning grant in the amount of \$100,000 for Solar Cell research (2023-2024).

AWARDS:

Dr. Jamal Uddin has been awarded as one of *The Daily Record's* Innovator of the Year Award, 2011 and 2016. A special magazine featuring each of the 2011 and 2016 winners were published in the Oct. 28 edition of *The Daily Record*.

Dr. Jamal Uddin received the 2013 University of System of Maryland Board of Regents Faculty Award for Research/Scholarship/Creative Activity.

Dr. Jamal Uddin has been awarded as “Best Scientist” from the Bangladeshi community of Pennsylvania, USA in year 2011.

COLLABORATION:

1. Collaboration research started in the year 2019 - to date (Iron Nanoparticles and Biofuels) with Morgan State University (MSU) and CSU. Principal Investigator: Dr. Jamal Uddin (CSU) and Dr. Viji Sittther (MSU).
2. Collaboration research (Metal Sensor and Nanoscience) Started with King Abdul University, Jeddah, Saudi Arabia and Coppin State University in the summer, 2018 - to date. Principal Investigator: Dr. Jamal Uddin (CSU) and Dr. Muzibur Rahman (KAU).
3. Collaboration research (Carbon dot in DSSC) Started with IIT, Indore, India and CSU in the summer, 2019 - to date. Principal Investigator: Dr. Jamal Uddin (CSU) and Dr. Mobin Sheikh (IIT).
4. Collaboration research (Drug Delivery in nanotechnology) Started with King Saud University, Riyadh, Saudi Arabia and Coppin State University in the summer, 2018 - to date. Principal Investigator: Dr. Jamal Uddin (CSU) and Dr. Muzibur Rahman (KSU).
5. Collaboration research will be start in this summer 2013 to 2019 (Solar Light Rail) with Shonan Research Center for Light Rail Transit (Japan), Tama Art University (Japan) and CSU. Principal Investigator: Dr. Jamal Uddin (CSU, USA) and Dr. Hidetoshi Katsuma and Dr. Takaki (TAU, Japan).

INVITED SEMINARS:

“CSU Nanotech Center and Collaboration relationship among Bangladeshi Institutions” keynote speaker at International Conference on Science and Technology for Smart Bangladesh of Tomorrow is the Science of Today, BCSIR, Bangladesh, March 10, 2024

“A New Era of Nanotechnology and Beyond” keynote speaker at International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST-2019), Dhaka, Bangladesh January 10, 2019

“Research at Center for Nanotechnology, CSU”
Invited speaker, Department of Chemistry, Dhaka University, Dhaka, Bangladesh January 10, 2013, and Indian Institute of Technology (IIT), Indore, India, January 17, 2013

“Multi-junction solar cell research” Invited Speaker at Sustainable Energy Fund – Energy Path Conference at Desales University in Pennsylvania, 2012

“Solar Energy Research at Coppin “Invited Speaker, Faculty Research and Development Conference at Coppin State University, 2012

“Solar Sail- Design and Modeling of a new generation Space aircraft “ keynote speaker, Juxtopia® Urban Innovation and Cooperative Entrepreneurship (JUICE™) Network Monthly Lecture Series in Baltimore, 2012.

“Quenching mechanism of photoexcited Ru(II) by Co(III) complexes using laser kinetic spectroscopy” Invited speaker, Department of Chemistry, University of Hong Kong, Hong Kong, September, 1999

“Electron transfer in solution and crystal by using Laser Spectroscopy” Invited speaker, Atomic Energy Center, Chemistry Division, Dhaka, January 1998

“A weak temperature dependence of quenching rate of excited metal-to-ligand-transfer in ionic crystal consisting Ru(II) and Co(III) compounds with an opposite charge” Invited speaker, Department of Chemistry, Dhaka University, Dhaka, March 1997

PUBLICATIONS:

2025

Alam, M.S.; Hossain, M.I.; Malek, M.A.; Singha, N.R.; Khan, M.; Rahaman, M.; Uddin, J.; Hasnat, M.A. Electrochemical Generation of Reactive Chlorine Species via Chloride Oxidation on –COOH-Modified Graphite Electrode to Attain Dye Degradation. Catalysts 2025, 15, 1046. <https://doi.org/10.3390/catal15111046>

Laila, R.; Hossain, M.I.; Singha, N.R.; Khan, M.; Rahaman, M.; Uddin, J.; Hasnat, M.A. Electrocatalytic Reduction of Oxygen on CuO-Immobilized Ag Surface Prepared by SILAR Method in Alkaline Medium. Catalysts 2025, 15, 1012. <https://doi.org/10.3390/catal15111012>

Gul, F., Ullah, Z., Iqbal, J. et al. Ecofriendly synthesis characterization and biological activities of Eruca sativa mediated silver oxide nanoparticles. Sci Rep 15, 13466 (2025). <https://doi.org/10.1038/s41598-025-87670-9>

Naimuzzaman M, Hasan MM, Kumer A, Hossin AY, Harun-Ur-Rashid M, Roy SK, et al. (2025) Computational and In silico study of novel fungicides against combating root rot, gray mold, fusarium wilt, and cereal rust. PLoS ONE 20(1): e0316606. <https://doi.org/10.1371/journal.pone.031660>

2024

Iwuji, C.; Saha, H.; Ghann, W.; Dotson, D.; Bhuiya, M. A. K.; Parvez, M. S.; Jahangir, Z. S.; Rahman, M. M.; Chowdhury, F. I.; Uddin, J. Synthesis and Characterization of Silver Nanoparticles and Their Promising Antimicrobial Effects. Chem. Phys. Impact 2024, 9, 100758. <https://doi.org/10.1016/j.chphi.2024.100758>.

Aamir, M.; Hossain, M. I.; Akhtaruzzaman, M.; Rafij, J. H.; Uddin, J.; Akhtar, J. Navigating Challenges and Promises for Next-Generation CsPbI₂Br₂ Perovskite Solar Cells: A Review. Journal Name, 2024, Volume, Page Numbers. DOI: [10.1002/slct.202401586](https://doi.org/10.1002/slct.202401586).

Islam, M. F.; Shahriar, M. H.; Rahaman, M.; Aoki, K.; Nagao, Y.; Aldalbahi, A.; Uddin, J.; Hasnat, M. A. Electrokinetics of Nitrite to Ammonia Conversion in the Neutral Medium Over A Platinum Surface. Chemistry – An Asian Journal 2024, DOI: 10.1002/asia.202400362.

Rahman, M.A., Taher, A., Mia, R. et al. Deciphering the mechanisms and contributions of ceramic-based materials in hydrogen storage applications: a contemporary outlook. Chem. Pap. (2024). <https://doi.org/10.1007/s11696-024-03533-z>

M. Atikur Rahman, Sayed Syful Islam, Md Ali Rayhan, Alamgir Kabir, Mohammad A. Alim, Jamal Uddin, Munirah D. Albagami, Saikh Mohammad, Rajesh Haldhar, M. Khalid Hossain, Comparative analysis of KXH₃(X= Mg, be) hydride cubic perovskites for hydrogen storage properties: A computational approach, International Journal of Hydrogen Energy, 80, 2024, 725-732, ISSN 0360-3199, <https://www.sciencedirect.com/science/article/abs/pii/S0360319924027307>

Fatema, K., Sharna, J. F., Haque, Md. A., Uzzaman, M., Khatun, R., Jannat, N., Uddin, J., Uddin, Md. N., Kazi, M., Patwary, Md A. M., In-vitro antioxidant and antidiabetic effects of Rorippa indica (L.) extract and fractions with molecular docking, dynamics simulation, ADMET, and PASS studies, Journal of Molecular Structure, 1316, 2024, 138868, <https://doi.org/10.1016/j.molstruc.2024.138868>.

Hossain, M. I., Shahiduzzaman, Md., Rafij, J. H., Tamang, A., Akhtaruzzaman, Md., Hamad, A., Uddin, J., Amin, N., Nunzi, J-M, Taima, T. Revealing the full potential of CsPbI₂Br₂ perovskite solar cells: advancements towards enhanced performance. Mater. Horiz., 2024, Advance Article. <https://doi.org/10.1039/D4MH00323C>

Uddin, J., Roy, A. Ghann, W., Hydrogen Peroxide Assisted Synthesis of Fluorescent Carbon Nanoparticles from Teak Leaves for Dye-Sensitized Solar Cells, RSC Sustain., 2024, Advance Article. <https://doi.org/10.1039/D3SU00452J>

Abu Nayem SM, Islam S, Shah SS, Awal A, Ghann W, Anand D, Ahmad I, Uddin J, Aziz MA, Ahammad AJS. Biocompatible Gold Nanoparticles-Modified Fluorine Doped Tin Oxide Electrode for the Fabrication of Enzyme-Free Glucose Sensor. Chem Asian J. 2024 Mar 28:e202400074. doi: 10.1002/asia.202400074.

2023

Sikder, A.; Ghann, W.; Jani, M.R.; Islam, M.T.; Ahmed, S.; Rahman, M.M.; Patwary, M.A.M.; Kazi, M.; Islam, J.; Chowdhury, F.I.; et al. Characterization and Comparison of DSSCs Fabricated with Black Natural Dyes Extracted from Jamun, Black Plum, and Blackberry. Energies 2023, 16, 7187. <https://doi.org/10.3390/en16207187>

Chon B, Ghann W, Uddin J, Anvari B, Kundra V. Indocyanine Green (ICG) Fluorescence Is Dependent on Monomer with Planar and Twisted Structures and Inhibited by H-Aggregation. Int J Mol Sci. 2023 Aug 22;24(17):13030. doi: 10.3390/ijms241713030. PMID: 37685837; PMCID: PMC10488082.

Rupa, S. A.; Patwary, Md A. M.; Ghann, W. E.; Abdullahi, A.; Uddin, A. K. M. R.; Mahmud, Md. M.; Haque, Md. A.; Uddin, J.; Kazie, M. Synthesis of a novel Thiophene compound applied as a Fluorescence turn-on Chemosensor for Iron (III) and Colorimetric sensor for Copper (II) with Antimicrobial, DFT and Molecular docking studies. RSC Advances, 2023, 13, 23819 – 23828

Uddin, J., Roy, A. Ghann, W. Hydrogen Peroxide Assisted Fluorescent Carbon Nanoparticles from Teak Leaves, ECS Meeting Abstracts MA2023-01(17):2834-2834 DOI:10.1149/MA 2023-01172834mtgabs

Sharmin Akther Rupa, Md Abdul Majed Patwary, Mohammed Mahbubul Matin, William Emmanuel Ghann, Jamal Uddin, Mohsin Kazi, Interaction of mercury species with proteins: towards possible mechanism of mercurial toxicology, Toxicology Research, Volume 12, Issue 3, June 2023, Pages 355–368, <https://doi.org/10.1093/toxres/tfad039>

Rupa SA, Patwary MAM, Ghann WE, Abdullahi A, Uddin AKMR, Mahmud MM, Haque MA, Uddin J, Kazi M. Synthesis of a novel hydrazone-based compound applied as a fluorescence turn-on chemosensor for iron(iii) and a colorimetric sensor for copper(ii) with antimicrobial, DFT and molecular docking studies. RSC Adv. 2023 Aug 9;13(34):23819-23828. doi: 10.1039/d3ra04364a. PMID: 37564256; PMCID: PMC10411390.

Sueraya, A.Z., Rahman, M.R., Kanakaraju, D., Uddin, J. et al. A comprehensive review on nanocellulose-based membranes: methods, mechanism, and applications in wastewater treatment. Polym. Bull. (2023). <https://doi.org/10.1007/s00289-023-05084-x>

Rahman, Md, James, Anthonette, Marwani, Hadi, Hamdan, Sinin, Said, Khairul, Bakri, Muhammad, Khusairy, Uddin, Jamal, Matin, Mohammed, Madkhali, O., Aljabri, Mahmood, Rahman, Mohammed Synthesis and Characterization of Ground Biochar(GB) Reinforced Composites for Removal of Heavy Metal from Palm Oil Mill Effluent (POME), 18, DO - 10.15376/biores.18.3.5548-5573.

Kowser, M.A.; Hossain, S.M.K.; Amin, M.R.; Chowdhury, M.A.; Hossain, N.; Madkhali, O.; Rahman, M.R.; Chani, M.T.S.; Asiri, A.M.; Uddin, J.; et al. Development and Characterization of Bioplastic Synthesized from Ginger and Green Tea for Packaging Applications. J. Compos. Sci. 2023, 7, 107. <https://doi.org/10.3390/jcs7030107>

James, A., Rahman, Md, Huda, D., Rahman, M., Uddin, J. Bakri, M. K., Chanda, A., Optimization of novel nanocomposite powder for simultaneous removal of heavy metals from palm oil mill effluent (POME) by response surface methodology (RSM), 10.1007/s10668-022-02849-8, Environ Dev Sustain (2023). <https://doi.org/10.1007/s10668-022-02849-8>

Rakib, M.R.J., Sarker, A., Ram, K., Uddin, J. et al. Microplastic Toxicity in Aquatic Organisms and Aquatic Ecosystems: a Review. Water Air Soil Pollut 234, 52 (2023). <https://doi.org/10.1007/s11270-023-06062-9>

Sultana, N., Nayem, S. M. A. Shah, S. S., Kang, H., Mazumder, M. A. J., Awal, A., Roy, S.C., Uddin, J., Aziz, M. A., Ahammad, A. J. S., Synthesis and synergistic effect of positively charged jute carbon supported AuNPs coated polymer nanocomposite for selective determination of nitrite, Materials Science and Engineering: B, 295, 2023, 116572. <https://doi.org/10.1016/j.mseb.2023.116572>.

Sanaullah, A.F.M.; Devi, P.; Hossain, T.; Sultan, S.B.; Badhon, M.M.U.; Hossain, M.E.; Uddin, J.; Patwary, M.A.M.; Kazi, M.; Matin, M.M. Rhamnopyranoside-Based Fatty Acid Esters as Antimicrobials: Synthesis, Spectral Characterization, PASS, Antimicrobial, and Molecular Docking Studies. Molecules 2023, 28, 986. <https://doi.org/10.3390/molecules28030986>

2022

Ahamed, P., Ghann, W., Uddin, J. et al. Role of gelatin and chitosan cross-linked aqueous template in controlling the size of lithium titanium oxide. SN Appl. Sci. 4, 111 (2022). <https://doi.org/10.1007/s42452-022-05008-w>

Md Humayun Kabir, Erik Marquez, Grace Djokoto, Maurice Parker, Talia Weinstein, William Ghann, Jamal Uddin, Meser M. Ali, Maksudul M. Alam, Max Thompson, Altug S. Poyraz, Huggins Z. Msimanga, Mohammed M. Rahman, Michael Rulison, and John Cramer. Energy Harvesting by Mesoporous Reduced Graphene Oxide Enhanced the Mediator-Free Glucose-Powered Enzymatic Biofuel Cell for Biomedical Applications, ACS Applied Materials & Interfaces 2022 14 (21), 24229-24244, DOI: 10.1021/acsami.1c25211

M. Musarraff Hussain, A. M. Asiri, J. Uddin, H. M. Marwani, M. M. Rahman, Development of a L-cysteine Sensor Based on Thallium Oxide Coupled Multi-walled Carbon Nanotube Nanocomposites with Electrochemical Approach Chem. Asian J. 2022, 17, e202101117.

Alam, M.M., Asiri, A.M., Uddin, J. et al. Selective 1,4-dioxane chemical sensor development with doped ZnO/GO nanocomposites by electrochemical approach. J Mater Sci: Mater Electron 33, 4360–4374 (2022). <https://doi.org/10.1007/s10854-021-07629-0>

Matin, P., Rahman, M. R., Huda, D., Bin Bakri, M. K., Uddin, J., Yurkin, Y., Burko, A., Kuok, K. K., and Matin, M. M. (2022). "Application of synthetic acyl glucopyranosides for white-rot and brown-rot fungal decay resistance in aspen and pine wood," BioResources 17(2), 3025-3041.

Faraezi, S.; Khan, M.S.; Monira, F.Z.; Mamun, A.A.; Akter, T.; Mamun, M.A.; Rabbani, M.M.; Uddin, J.; Ahammad, A.J.S. Sensitivity Control of Hydroquinone and Catechol at Poly(Brilliant Cresyl Blue)-Modified GCE by Varying Activation Conditions of the GCE: An Experimental and Computational Study. ChemEngineering 2022, 6, 27. <https://doi.org/10.3390/chemengineering6020027>

El Nahrawy, A.M., Abou Hammad, A.B., Elzwawy, A. et al. Development of 4-aminophenol sensor probe based on Co(0.8-x)ZrxNa0.2Fe2O4 nanocomposites for monitoring environmental toxins. emergent mater. (2022). <https://doi.org/10.1007/s42247-021-00342-y>

Matin, P., Rahman, M. R., Huda, D., Bin Bakri, M. K., Uddin, J., Yurkin, Y., Burko, A., Kuok, K. K., and Matin, M. M. (2022). "Application of synthetic acyl glucopyranosides for white-rot and brown-rot fungal decay resistance in aspen and pine wood," BioResources 17(2), 3025-3041.

M. Musarraff Hussain, A. M. Asiri, J. Uddin, H. M. Marwani, M. M. Rahman, Development of a L-cysteine Sensor Based on Thallium Oxide Coupled Multi-walled Carbon Nanotube Nanocomposites with Electrochemical Approach. Chem. Asian J. 2022, 17, e202101117

2021

Dali Rani Sarker, Md Nizam Uddin, Md Elias, Zidnia Rahman, Ratan Kumar Paul, Iqbal Ahmed Siddiquey, Md Abul Hasnat, Mohammad Razaul Karim, Md Azharul Arafath , Jamal Uddin, P-doped TiO2-MWCNTs nanocomposite thin films with enhanced photocatalytic activity under visible light exposure. Cleaner Engineering and Technology Volume 6, February 2022, 100364

M. Musarraff Hussain, A. M. Asiri, J. Uddin, H. M. Marwani, M. M. Rahman, Development of a L-cysteine Sensor Based on Thallium Oxide Coupled Multi-walled Carbon Nanotube

Nanocomposites with Electrochemical Approach. Chem. Asian J. 2022, 17, e202101117.

Onyena, A.P.; Aniche, D.C.; Ogbolu, B.O.; Rakib, M.R.J.; Uddin, J.; Walker, T.R. Governance Strategies for Mitigating Microplastic Pollution in the Marine Environment: A Review. *Microplastics* 2021, 1, 15–46. <https://doi.org/10.3390/microplastics1010003>
M.M. Rahman, M.M. Alam, A.M. Asiri, M.T.S. Chani, J. Uddin, M.H. Kabir, M.A. Hasnat. Assessment of Toxic Phenolic Chemical with Nanocomposite Materials. Book: Advances in Nanotechnology. Volume: 25. Chapter: 3th. Page: 123-151(28 pages). Editor: Zacharie Bartul and Jerome Trenor. Publisher: Nova Science Publishers. ISBN: 978-1-68507-288-9

Samson M. Gichuki, Yavuz S. Yalcin, LaDonna Wyatt, William Ghann, Jamal Uddin, Hyeonggon Kang, and Viji Sittther, Zero-Valent Iron Nanoparticles Induce Reactive Oxygen Species in the Cyanobacterium, *Fremyella diplosiphon*, ACS Omega Article ASAP, DOI: 10.1021/acsomega.1c04482

Md Abdus Subhan, Pallab Chandra Saha, M.M. Alam, Abdullah M. Asiri, Topu Raihan, Jamal Uddin, Willam Ghaan, A.K. Azad, Mohammad Al-Mamun, H. Nakata, Mohammed M. Rahman, NIR red luminescent doped $\text{Ag} \cdot (\text{Y}_{0.95}\text{Eu}_{0.05})_2\text{O}_3$ nanocomposite for 3-Chlorophenol sensor probe and anti-MDR bacterial application, *Journal of Environmental Chemical Engineering*, 2021, 9 (6) 106881, <https://doi.org/10.1016/j.jece.2021.106881>

Daniel, I. C., Ghann, W., Ndubuisi, I. N., Okpala, K., Ozturk, B., Rahman, M. M., Chowdhury, F. I., Khan, M. N., Rahman, M. R., Patwary, M. A. M., Ahmed, N., & Uddin, J. Chemical and Mineralogical Composition Analysis of Different Nigerian Metakaolins. *Journal of Applied Science & Process Engineering*, 2021, 8(2), 953-964. <https://doi.org/10.33736/jaspe.3884.2021>

Subhan, Md A., Saha, P. C., Hossain A., Abdullah, M. A., Alam, M.M., Al-Mamun, M. Ghann, W., Uddin, J., Raihan, T., Azad, A.K., Rahman, M.M. Photocatalytic performance, anti-bacterial activities and 3-chlorophenol sensor fabrication using $\text{MnAl}_2\text{O}_4 \cdot \text{ZnAl}_2\text{O}_4$ nanomaterials. *Nanoscale Adv.*, 2021, Advance Article. DOI:<https://doi.org/10.1039/D1NA00627D>

Kabir, D., Forhad, T., Ghann, W., Richards, B., Rahman, M.M., Uddin, Md. N., Rakib, Md R. J., Shariare, M. S., Chowdhury, F. I., Rabbani, M. M., Bahadur, N. M., Uddin, J. Dye-sensitized solar cell with plasmonic gold nanoparticles modified photoanode, *Nano-Structures & Nano-Objects*, 2021, 26, 100698

Md. Mahedi Hasan, Tamanna Islam, Zubair Ahmed Ratan, M. Nasiruzzaman Shaikh, Mohammad Rezaul Karim, Mohammad Mominur Rahman, Hamad F. Alharbi, Jamal Uddin, Md. Abdul Aziz, A. J. Saleh Ahammad, Ni and Co oxide water oxidation electrocatalysts: Effect of thermal treatment on catalytic activity and surface morphology, *Renewable and Sustainable Energy Reviews*, 2021, 145, 111097, <https://doi.org/10.1016/j.rser.2021.111097>.

Md Abdus Subhana, Tanjila Parvin Rifata, Pallab Chandra Sahaa, M.M. Alamb, Abdullah M. Asiric, Topu Raihana, Abul Kalam Azada, William Ghann, Jamal Uddin and Mohammed M. Rahmanc, Photocatalytic, anti-bacterial performance and development of 2,4-diaminophenylhydrazine chemical sensor probe based on ternary doped $\text{Ag} \cdot \text{SrSnO}_3$ nanorods. *New Journal of Chemistry*, 2021, 45, 1634 – 1650

Islam, J., Chowdhury, F. I., Uddin, J., Rifat Amin, R. & Uddin, J. Review on carbonaceous materials and metal composites in deformable electrodes for flexible lithium-ion batteries. RSC Adv., 2021, 11, 5958-5992. <https://doi.org/10.1039/D0RA10229F>

Shariare, M.H.; Masum, A.-A.; Alshehri, S.; Alanazi, F.K.; Uddin, J.; Kazi, M. Preparation and Optimization of PEGylated Nano Graphene oxide-based Delivery System for Drugs with Different Molecular Structures using Design of Experiment (DoE). Molecules 2021, 26, 1457. <https://doi.org/10.3390/molecules26051457>

Elias, M.; Uddin, M.N.; Saha, J.K.; Hossain, M.A.; Sarker, D.R.; Akter, S.; Siddiquey, I.A.; Uddin, J. A Highly Efficient and Stable Photocatalyst; N-doped ZnO/CNT Composite Thin Film Synthesized via Simple Sol-Gel Drop Coating Method. Molecules 2021, 26, 1470. <https://doi.org/10.3390/molecules26051470>

Rahman MM, Alam MM, Asiri AM, Uddin J. Assessment of Melamine in Different Water Samples with ZnO-doped Co₃O₄ Nanoparticles on a Glassy Carbon Electrode by Differential Pulse Voltammetry. Chem Asian J. 2021, DOI: 10.1002/asia.202100370. PMID: 34014032.

Hussain, M.M., Asiri, A. M., Uddin J., Rahman, M.M. An enzyme free simultaneous detection of γ -amino-butyric acid and testosterone based on copper oxide nanoparticles. RSC Adv., 2021,11, 20794-20805

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Rahman, M. M., Asiri, A. M., Alam, & Uddin, J. Electrochemical assessment of Formaldehyde with Doped Nanorod Materials. In Chemistry Research and Applications: A comprehensive guide to formaldehyde, Bach, N. A., Eds.; Nova Science Publishers, Inc: New York, 2021; pp 87-108.

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