CURRICULUM VITAE

Full Name: **Dr. Priyanshu Verma**

Experience: **Assistant Professor (Aug 2019 to May 2020),**
Department of Biotechnology
Bansal Institute of Engineering and Technology - [BIET], Lucknow, U.P., India.

Qualification:

Ph.D., Indian Institute of Technology Patna (IIT Patna)
(Awarded on 06 August 2019);
M.Tech., NIT Jalandhar;
B.Tech., AKTU (UPTU), Lucknow.

Research Interest: Advanced Oxidation Processes;
Wastewater Treatment and Management;
Homogeneous and Heterogeneous Photocatalysis.

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priyanshu.pcb14@iitp.ac.in

ACADEMIC RECORD

Degree	Name of the University/School	Duration	Division/ Percentage	Relevant Subjects
Ph.D. (Chemical and Biochemical Engineering)	Indian Institute of Technology Patna (IIT Patna)	2014 - 2019	1st Div. CGPA- 8.25 or **82.5%**	Advanced Oxidation Processes, Wastewater Treatment, and Nanotechnology
M.Tech. (Chemical Engineering)	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar (NIT Jalandhar)	2012 - 2014	1st Div. **81.98%** (CGPA- 8.63)	Chemical Reaction Engineering, and Process Control
B.Tech. (Biotechnology)	Dr. A.P.J. Abdul Kalam Technical University Uttar Pradesh, Lucknow (Formerly G.B.T.U. or U.P.T.U.)	2008 - 2012	1st Div. **78.56%**	Fluid flow and Solid Handling, and Bioprocess Engineering
Senior Secondary (10+2)	Rani Laxmi Bai Memorial Senior Secondary School, Lucknow (CBSE Board)	2007	1st Div. **73.00%**	Math's and Biology
Secondary (10)	Rani Laxmi Bai Memorial Senior Secondary School, Lucknow (CBSE Board)	2005	1st Div. **78.20%**	Math's and Science

ACADEMIC PROJECTS

Ph.D.: 2014 – 2019

Title: Potential of Advanced Oxidation Processes for Degradation of Organic Pollutants Present in Various Aqueous Matrices.

Supervisor: Dr. Sujoy Kumar Samanta, Assistant Professor (IIT Patna)

M.Tech.: 2012 – 2014

Title: Photocatalytic Degradation of Meropenem Antibiotic in Aqueous Solution and Urine Sample Using UV/TiO_2 and UV/TiO_2/H_2O_2 Processes.

Supervisor: Dr. Jatinder Kumar Ratan, Associate Professor (NIT Jalandhar)

B.Tech.: 2008 – 2012

Title: Study of Antibiotics Potency Loss with Time and Its Effect on Resistivity.

Supervisor: Dr. Vinod Bihari, Ex-Scientist G (CDRI, Lucknow) & Ex-Director (SITM Lucknow)

JOURNAL PUBLICATIONS

- **Verma, P.**; Samanta, S.K.; Mishra, S. "Photon-independent NaOH/H_2O_2–based degradation of rhodamine-B dye in aqueous medium: Kinetics, and impacts of various inorganic salts, antioxidants, and urea" *Journal of Environmental Chemical Engineering*, 8; 103851, **2020**. DOI:10.1016/j.jece.2020.103851 (Elsevier; **I.F. = 4.3**)

- **Verma, P.**; Samanta, S.K. "UV-C/NaOH based degradation of ciprofloxacin antibiotic in aqueous medium: A negative emission water treatment technology" *Journal of the Indian Chemical Society*, 97; 389-395, **2020**. (Elsevier; **I.F. = 0.233**)

- Ranjan, S.; Dasgupta, N.; **Verma, P.**; Ramalingama, C. "Acute and sub-chronic toxicity of titanium dioxide nanoparticles synthesized by microwave-irradiation-assisted hybrid chemical approach" *Journal of the Indian Chemical Society*, 97; 483-491, **2020**. (Elsevier, **I.F. = 0.233**)

- Mishra, S.; Sahu, T.M.; **Verma, P.**; Kumar, P.; Samanta, S.K. "Microwave-Assisted Catalytic Degradation of Brilliant Green by Spinel Zinc Ferrite Sheets". *ACS Omega*, 4; 10411-10418, **2019**. DOI: 10.1021/acsomega.9b00914(American Chemical Society, **I.F. = 2.87**)

- Ranjan, P.; **Verma, P.**; Agrawal, S.; Rajagopala Rao, T.; Samanta, S.K.; Thakur, A.D. "Inducing Dye-Selectivity in Graphene Oxide for Cationic Dye Separation Applications". *Materials Chemistry and Physics,* 226; 350–355, **2019**. DOI:10.1016/j.matchemphys.2019.01.047 (Elsevier, **I.F. = 3.408**)

- **Verma, P.**; Samanta, S.K. "A direct method to determine the adsorbed dyes on adsorbent via processing of diffuse reflectance spectroscopy data", *Materials Research Express,* 6(1); 015505, **2019**. DOI:10.1088/2053-1591/aae3f2 (IOP Publishing, **I.F. = 1.929**)

- Ratan, J.K.; Saini, A.; **Verma, P.** "Microsized-titanium dioxide based self-cleaning cement: Incorporation of calcined dolomite for enhancement of photocatalytic activity", *Materials Research Express*, 5(11); 115509, **2018**. DOI:10.1088/2053-1591/aadd87 (IOP Publishing, **I.F. = 1.929**)

- **Verma, P.**; Samanta, S.K. "Continuous ultrasonic stimulation based direct green synthesis of pure anatase-TiO_2 nanoparticles with better separability and reusability for photocatalytic water decontamination", *Materials Research Express*, 5(6); 065049, **2018**. DOI:10.1088/2053-1591/aacc88 (IOP Publishing, **I.F. = 1.929**)

- **Verma, P.**; Samanta, S.K. "Microwave-enhanced advanced oxidation processes for the degradation of dyes in water", *Environmental Chemistry Letters,* 16; 969–1007, **2018**. DOI:10.1007/s10311-018-0739-2 (Springer Nature, **I.F. = 5.922**)

- **Verma, P.**; Samanta, S.K. "Facile synthesis of TiO_2-PC composites for enhanced photocatalytic abatement of multiple pollutant dye mixtures: A comprehensive study on the kinetics, mechanism and effects of environmental factors", *Research on Chemical Intermediates,* 44; 1963–1988, **2018**. DOI:10.1007/s11164-017-3209-8 (Springer Nature, **I.F. = 2.262**)

- **Verma, P.**; Samanta, S.K. "Degradation kinetics of pollutants present in a simulated wastewater matrix using UV/TiO_2 photocatalysis and its microbiological toxicity assessment", *Research on Chemical Intermediates*, 43; 6317–6341, **2017**. DOI:10.1007/s11164-017-2992-6 (Springer Nature, **I.F. = 2.262**)

- **Verma, P.**; Samanta, S.K. "Comparative assessment of antibiotic potency loss with time and its impact on antibiotic resistance", *Comparative Clinical Pathology*, 25(6); 1163–1169, **2016**. DOI:10.1007/s00580-016-2321-2 (Springer Nature)

- Samanta, S.K.; **Verma, P.** "Advanced Hydrogen Production through Methane Cracking: A Review", *Science & Technology*, 1(3); 109–123, **2015**.

- Mittal, N.; **Verma, P.**; Kumar, J. "Synthesis, Characterization and Photocatalytic Activity of Bismuth Doped Titanium Dioxide under Different Light Sources", *Journal of NanoScience, NanoEngineering & Applications,* 4(3); 23–31, **2014**.

- **Verma, P.**; Kumar, J. "Degradation and Microbiological Validation of Meropenem Antibiotic in Aqueous Solution Using UV, UV/H_2O_2, UV/TiO_2 and UV/TiO_2/H_2O_2 Processes", *International Journal of Engineering Research and Applications*, 4(7); 58–65, **2014**.

- **Verma, P.**; Srivastava, A.; Mittal, N.; Kumar, J. "Photocatalytic Disinfection using Titanium Dioxide; Use of CFL as Environmental Disinfectant", *Nano Trends*, 16(2); 39–42, **2014**.

BOOK CHAPTERS

- **Verma, P.**; Samanta, S.K. "Overview of Biogas Reforming Technologies for Hydrogen Production: Advantages and Challenges" (Chapter 17), Proceedings of the First International Conference on Recent Advances in Bioenergy Research, Springer Proceedings in Energy: Springer India, **2016**, pp 227–243. DOI:10.1007/978-81-322-2773-1_17 (Springer)

- **Verma, P.**; Ratan, J.K. "Assessment of the Negative Effects of Various Inorganic Water Pollutants on the Biosphere – An Overview" Chapter – 5, Inorganic Water

Pollutants, Elsevier (**2020**) – ISBN: 9780128189658. (https://doi.org/10.1016/B978-0-12-818965-8.00005-6)

- **Verma, P.**; Ratan, J.K. "Environmental and Toxicological Implications of Nanopharmaceuticals – An Overview", Nanopharmaceuticals: Principles and Applications Vol. 2. Environmental Chemistry for a Sustainable World, Vol. 47. (Springer Nature Book Series), **2021**. DOI:10.1007/978-3-030-44921-6_1

CASE STUDY

- **Verma, P.**; Samanta, S.K. "A potential solution to reduce the pharmaceutical contamination of surface water with the ultimate objective of GHGs emission reduction", *WaCCliM*, **2018**. (http://climatesmartwater.org/library_page/#pid=1422)

PREPRINTS

- **Verma, P.**; Samanta, S.K. "A novel UV-C/XOH(X=Na or K) based highly alkaline advanced oxidation process (HA-AOP) for degradation of emerging micropollutants.", **ChemRxiv 2018** (DOI:10.26434/chemrxiv.5777379.v1).

- Datta, D.; **Verma, P.**; Banerjee, A.; Kar, S.; Sengupta, T.; Sengupta, N.; Samanta, S.K.; Khan, E.M. "Lysine as a potential low molecular weight angiogen: its clinical, experimental and in-silico validation- A brief study", **bioRxiv 2016** (DOI:10.1101/080176).

- **Verma, P.**; Bir, A.; Banerjee, A.; Basu, J.; Kar, S.; Samanta, S.K.; Datta, D. "In-silico studies of facilitated VEGF(s)–VEGFR(s) bindings for assessment of Lysine as an indirect Low-Mol-Wt angiogen: Experimental validation of a potential synthetic Low-Mol-Wt angiogen", **bioRxiv 2016** (DOI:10.1101/077677).

CONFERENCES

- **Verma, P.**; Samanta, S. K. "*Comparative Study on Different UV-based Homogeneous Advanced Oxidation Processes for Wastewater Treatment*", in **Industrial Water 2018**, DECHEMA-Haus, Frankfurt am Main, Germany, 27th – 29th November 2018 (Poster Presentation).

- **Verma, P.**; Samanta, S.K. "*Insights on the Limitations of Heterogeneous Photocatalysis and Possible Solutions*", in the Waste Water Treatment, Reuse & Recycle session, **CHEMCON-2017 (Indian Chemical Engineering Congress)**, Haldia Regional Center, IIChE, 27th – 30th December 2017 (Oral Presentation)

- **Verma, P.**; Samanta, S.K. *"Photocatalytic Degradation Studies of Simulated Wastewater Containing Industrial Dye Mixture and Antibiotic"*, in the Environmental session, **APCAT-7 (7th Asia-Pacific Congress on Catalysis)**, ICT Mumbai, 17th – 21st January 2017 (Oral Presentation).

- **Verma, P.**; Samanta, S.K. "*Kinetic Study of Photocatalytic Degradation of Synthetic Dye Mixture Using AC-TiO_2 Nanocomposite*", in **ACSSI-2K16 (15th Asian Conference on Solid State Ionics)**, IIT Patna, 27th – 30th November 2016 (Oral Presentation).

- Samanta, S.K.; **Verma, P.**; Bhaduri, S.; Mandal, S.K. *"Advanced Hydrogen Production and Use of Solar Energy for Its Production Through Methane Cracking: A Review",* in International Conference on Electrical, Electronics, Engineering Trends, Communication, Optimization and Sciences (**E^{3}COS**), Vijayawada–2014.

- **Verma, P.**; Kumar, J. *"Photocatalytic Degradation of beta-Lactam Antibiotics"*, in International Conference on Emerging Trends in Traditional & Technical Textiles (**ICETT**), NIT Jalandhar, 11th – 12th April 2014 (Poster Presentation).

JOURNALS REVIEWED

- Chemical Engineering Journal (Elsevier) – **23**.
- Materials Science and Engineering: B (Elsevier) - **1**.
- Materials Research Express (IOP Publishing) - **12**.
- Modelling and Simulation in Engineering (Hindawi) - **1**.
- Journal of Materials Science and Research (Gavin Publishers) - **2**.

AWARDS, HONORS, AND OTHER ACHIEVEMENTS

- **Served as Guest Editor of CHEMBIOEN-2020 Special Issue published in Journal of Indian Chemical Society, an SCI Journal with I.F. = 0.233.**

- Recipient of **Ambuja's Young Researcher's Award – 2014 (IIChE).**

- **Executive Member** of **Indian Chemical Society North Branch**, Jalandhar.

- Member of an expert review group of **Water and Wastewater Companies for Climate Mitigation (WaCCliM)** project on "Low Carbon, Low Energy Solutions for Climate Smart Water", which is a joint initiative between the **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)** and the **International Water Association (IWA).**

- Received an honorarium of **2000 Euros** for the contribution to the **WaCCliM Knowledge Platform**.

- **Adviser** (Honorary) in 'Panel of Advisers' of **RAIAN LIMITED, Dhaka, Bangladesh** (http://www.raianbd.com/about-us/panel-of-advisers/). (Since 7th Jan 2019)

- Honorary Member, **Quarterly Franklin Membership** (**Membership ID#KI84630**), London Journals Press, UK.

- Become **Judge** of **Venture Cup 2019, Denmark** (National Startup Competition).

- **Chaired a Technical Session** at CHEMBIOEN-2020 International Conference.

- Become **Publication and Review Committee Member** of the International Conference **ChemBioEn-2020** to be held in **NIT Jalandhar**.

- Successfully completed the **Web of Science Advanced Series Certification Course with 100% Score**.

- **Life Associate Member of Indian Institute of Chemical Engineers (LAM-55188).**
- **Member of International Water Association (IWA), Membership ID: 1611229.**
- **Member of Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBEES), Member No.: 202000.**
- **Member of International Association of Engineers (IAENG), Membership No.: 172030.**
- Became **Regular Member** of **International Chemical Biology Society**.
- **Member of Water Supply and Sanitation Collaborative Council (*WSSCC*).**
- Became Member of the **International Scientific Committee** of **ESEPM 2017 Conference, China.**
- Become Member of the **Technology Program Committee** of **ESEPM 2019 Conference, China.**
- Selected & Participated in the **IC-IMPACTS 2017 Summer Institute** on **Sustainable Communities in Low Resource Settings**, held at the **University of British Columbia, Vancouver** and in the **First Nation community of ?aq'am,** located near Cranbrook in the southeastern region of **British Columbia, Canada** from 3rd June to 8th June, 2017 followed by the **IC-IMPACTS 2017 Research Conference** and **Graduate Student Seminar**.
- Selected & Participated in the **IC-IMPACTS 2016 Summer Institute** on **Nanotechnologies** for Safe & Sustainable Infrastructure, Integrated Water Management and Public Health, hosted at the **University of Alberta, Edmonton, Alberta, Canada** from 29th May to 3rd June, 2016.
- A project on '**Economical and ecofriendly regeneration of spent activated carbon filters used in water purifiers**' had been shortlisted for pre-final round in top 90s out of more than a thousand entries under the **Gandhian Young Technological Innovation (GYTI) Awards-2018**.
- Won **2nd Prize** in a Paper Presentation Event jointly organized by **PCRA** (Petroleum Conservation Research Association) and **BPCL** (Bharat Petroleum Corporation Limited) at IIT Patna on 5th Feb 2015.
- **Institute Research Fellowship** (For Pursuing PhD)**:** IIT Patna, 2014-2019, sponsored by **MHRD, India**.
- **Postgraduate Fellowship Through GATE-2012** (For Pursuing M.Tech.): NIT Jalandhar, 2012-2014, sponsored by **MHRD, India.**
- **THREE** times **GATE** qualified (2012, 2013 & 2014) with good percentile/rank**.**
- Got **3rd** Prize in "**SRIJAN-2k12 Working Model Competition**" during B.Tech.

- Received **Academic Honor Certificate** for **100% attendance** in Class-X.

GIAN COURSES

- **"Heterogeneous Catalysis and Applications"** from 1st – 5th August 2016 by **Prof. Alex Ibhadon, The University of Hull, UK** at Panjab University, Chandigarh.

- **"Modeling Approaches of Nanoscale Filtration Processes of Solutions and Suspensions"** from 13th – 20th July 2016 by **Prof. Anatoly N. Filippov, Gubkin Russian State University of Oil & Gas, Russia** at IIT Patna, Bihta, Patna.

TRAININGS, WORKSHOPS, AND OTHER EXPERIENCES

- One month summer project at **Biotech Park, Lucknow (UP)** on **"In-silico Drug Discovery"** (July 2010).
- One month industrial training at **Mohan Gold Water Breweries, Lucknow (UP)** on **"Process and Quality control of Beer Production"** (May 2011).
- One month industrial training in **GMH Organic, Baddi (HP)** based on **"Production and Quality Control of Injectable Cephalosporin"** from 20th June to 20th July, 2011.
- One month industrial training at **Parag, Lucknow (UP)** based on **"Production and Quality Control of Dairy Products"** (August 2011).
- Undergone for one day Industrial visit of **Indo-Gulf Fertilizers Ltd., Jagdishpur (UP)**.
- Undergone for a single day visit of **Sewage Treatment Plant, Jalandhar (PB**).
- Attended a Workshop based on **"Basics & Applications of Aspen Plus (BAAAP-2013)"** organized by **Thapar University, Patiala (PB)** from 13th – 14th September 2013 (sponsored by **TEQIP)**.
- Have done a Short term course on **"Energy & Environment Management"** organized by **NIT Jalandhar (PB)** from 19th – 23rd October 2013 (sponsored by **TEQIP).**
- Attended a National Seminar on **"Management of Technical Institutions"** under **TEQIP-II**, organized by the **ISTE NIT Jalandhar Chapter** from 30th – 31st October 2013.
- Attended a Short term training program on **"Recent Advances in Energy Technology"** organized by **NIT Jalandhar (PB)** from 2nd – 6th June 2014 (sponsored by **TEQIP-II).**
- Participated in a Workshop based on **"Issues in Solid Waste Management"** organized by **IIT Patna (Bihar)** on 11th October 2014.
- Participated in the **INUP Familiarization Workshop (Step 1)** on "**Nanofabrication Technologies"** organized by **CeNSE** at **IIT Patna** during 8th and 9th Oct 2015.
- Also participated in a **National Workshop** on **"Small molecule analysis by API Mass Spectrometry & NMR Spectroscopy"** organized by **SAIF CSIR-CDRI, Lucknow** during 2nd and 3rd Nov 2015.

- Attended a QIP Short term course on **"Fundamentals and Application of Biomaterials Science and Bio-Engineering"** organized by **IIT Kanpur** during 7th – 11th Dec 2015.
- Attended **FICCI India Innovation Growth Programme** at The Hotel Patliputra Ashok, Patna on 25th Jan. 2016.
- Selected & Participated in the **INUP Hands-on Training (Step-2)** on **"Photovoltaics and Micro and Nano Characterization Techniques"** in **IISc Bangalore** organized by **CeNSE** during 4th – 12th Feb 2016.
- Participated in a **Workshop** on **"Fluid Mechanics: Modeling, Analysis and Computation"** organized by **IIT Patna** during 14th – 17th July 2016.
- Participated in the **National Workshop** on **"Protein Structure Prediction and Drug Design"** organized by the **Central University of South Bihar** during 18th – 19th Nov 2016.
- Participated in the **Research Training Workshop** on **"Concepts & Practice of Materials Characterization"** organized by **IIT Patna** during 24th – 26th Nov 2016.
- Undergone for a comprehensive **LC-MS/MS** familiarization workshop cum training at **Agilent Technologies India Pvt Ltd**, IMT Manesar during 20th – 22nd September 2017.
- Participated in the **Cross-cutting-issue Workshop of the EU projects WaterWatt and INSPIREWATER** (Increasing water and energy efficiency in process industry – tools, technologies and concepts) on 30th Nov 2018 at **DECHEMA e. V., Frankfurt, Germany**.
- Participated in **National Workshop on Building National STI Policy System and Governance for Effective R&D Ecosystem** organized by **DST-Center for Policy Research, BBAU, Lucknow** on 5th March 2019.

LEADERSHIP AND MANAGEMENT STINTS

- Have been actively involved in the development of Chemical and Biochemical Engineering Department of IIT Patna as First Student of the Department (Under direct supervision of Dr. S. K. Samanta).
- Assisted in the establishment of 2 Labs: (1) Biochemical Research Lab; (2) Unit Operation UG Lab, in Chemical and Biochemical Engineering Department of IIT Patna (Under direct supervision of Dr. S. K. Samanta).
- Volunteered several organizing departments of Conferences, Seminars, Workshops and Short Term Courses during my Master's and PhD.
- Led the Accommodation Team as a part of the Organizing Committee, effectively and was highly lauded for effective management and Leadership qualities, in **CHEMCON- 2012, NIT Jalandhar** (Dec 26th – Dec 31st, 2012).
- Also organizes and manages Fresher and Farewell parties during my Bachelor's.

COMPUTER SKILLS

Platform: Windows 98/XP/7/8/10.
Application: MS Office, OriginLab, Mendeley, CorelDraw, Android, etc.

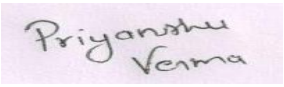
FOREIGN UNIVERSITIES VISITED

- **Canada** (2): University of British Columbia, Vancouver (in 2017);
  University of Alberta, Edmonton (in 2016).
- **Germany** (1): DECHEMA Society for Chemical Engineering and Biotechnology e.V., Frankfurt (in 2018).

PERSONAL DETAILS

Father's Name	Mr. Umesh Kumar Verma
Mother's Name	Mrs. Manju Verma
Date of Birth	2nd November 1991
Sex	Male
Nationality	Indian
Passport Number	N2323491
Permanent Address	Dr. PRIYANSHU VERMA 178, SADARPUR KARORA, GOSAINGANJ, LUCKNOW, U.P. – 226501 (INDIA)
Hobbies	Net surfing, Pharmaceutics.
Languages Known	English & Hindi
Marital Status	Single

I hereby declare that the particulars mentioned above are true to the best of my knowledge and belief.



(PRIYANSHU VERMA)

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Google Scholar Profile: https://scholar.google.co.in/citations?user=J4NxN1oAAAAJ&hl=en

Researcher ID: http://www.researcherid.com/rid/E-5071-2019

Scopus ID: https://www.scopus.com/authid/detail.uri?authorId=57113052900

ResearchGate Profile: https://www.researchgate.net/profile/Priyanshu_Verma

LinkedIn Profile: https://www.linkedin.com/in/priyanshu-verma-97510b17b

REFERENCES

1. **Dr. Sujoy Kumar Samanta** (Relation: Ph.D. Supervisor)
   Assistant Professor, Department of Chemical and Biochemical Engineering,
   Indian Institute of Technology Patna, Bihta, Patna- 801106 (Bihar) India.
   Email ID: sksamanta@iitp.ac.in Phone: +91 6123028173

2. **Dr. Jatinder Kumar Ratan** (Relation: M.Tech. Supervisor)
   Associate Professor, Department of Chemical Engineering,
   Dr. B R Ambedkar National Institute of Technology, Jalandhar- 144011 (Punjab) India.
   Email ID: kumarj@nitj.ac.in Mobile: +91 9876850908
3. **Dr. Subrata Hait** (Relation: Doctoral Committee Member)
   Associate Professor, Department of Civil and Environmental Engineering,
   Indian Institute of Technology Patna, Bihta, Patna- 801106 (Bihar) India.
   Email ID: shait@iitp.ac.in Phone: +91 6123028195
4. **Dr. Debatosh Datta** (Relation: Research Collaborator)
   Visiting Professor, Centre for Healthcare Science and Technology, IIEST, Shibpur.
   Consultant, Apollo-Gleneagles Hospital, Kolkata, India.
   Email ID: debatoshdtt@gmail.com; debatoshd@yahoo.com Mobile: +91 9674047734

Additional Information

Familiar Experimental, Analytical and Characterization Techniques:

- SEM, TEM, SAED, EDX, XRD, TGA/DTG, CHNS, PL, FT-IR, DLS, UV-Vis Spectro., DRS, Multipoint BET/N_2 Adsorption-Desorption Isotherm, Photoelectrochemical Analysis, HPLC, LC-MS/MS, GC-MS, TOC/TIC, etc.;
- Photocatalysis, Photolysis, and other Advanced Oxidation Processes (AOPs);
- Antimicrobial Activity Tests;
- Study of Antibiotics' Potency Loss with Time and Its Effect on Resistivity;
- In-silico Drug Designing or Discovery;
- Molecular Docking: Mainly Protein – Protein Interaction Study;
- Adsorption Isotherms;
- Batch and Continuous mode Photocatalytic Activity Tests;
- Hands-on Experience on Various AOPs and their Cost Analysis;
- Familiar with Various Industrial Scale Water Treatment Plants' Working and Management Processes.

Manuscript(s) Under Communication:

- **Priyanshu Verma**, Sujoy Kumar Samanta. "Effect of human urine constituents on the pollutant degradation efficiency of UV-C/TiO_2 process".

Research Citations Details: Google Scholar

Citations = 137
h-index = 8
i10-index = 4