Ashutosh Pandey

Department of Biotechnology,
IMS Engineering College
NH-24, Adhyatmik Nagar, Near Dasna,
Ghaziabad, Uttar Pradesh-201015
Contact: +91-7525827939/8887839590
ashutosh.pandey@imsec.ac.in / *ashutoshkscem@gmail.com*
https://scholar.google.com/citations?user=9gbJMsMAAAAJ&hl=en
ORCID ID : 0000-0003-0261-5896

RESEARCH INTREST

My research focused primarily within the field of bioprocess development, specifically in the field of fermentation technology, technology transfer, product development, USP and DSP, water and wastewater treatment, solid waste management.

EDUCATIONAL CREDENTIALS

- **Ph.D.** (*Biotechnology*) - *"Integrated process development of algae cultivation using dairy industry wastewater for biofuel production and bioremediation".* Department of Biotechnology, Motilal Nehru National Institute of Technology-Allahabad, Prayagraj (U.P.) India. (2014-2020).
  Mentor/s: ***Dr. Sameer Srivastava***[1] and ***Dr. Sanjay Kumar***[2] ([1]Assistant Professor, Department of Biotechnology, MNNIT Allahabad, [2]School of Biochemical Engineering, IIT (BHU) Varanasi).
  Patent:"*A process for efficient bioremediation of cheese wastewater"* (Published)

- **M.Tech.** (*Chemical Technology with specialization in Biochemical Engineering*)-Harcourt Butler Technological Institute Kanpur (Now HBTU Kanpur) with honours (80.25%). (2010-2012).
- **B.Tech.** (*Biotechnology Engg.*) College of Biotechnology Meerut, S.V.P.U.A.&T. Meerut (UP) India (81.44%). (2006-2010).

EXPERIENCE/S

- **Assistant Professor (Sep 2021 to till now):** Department of Biotechnology, IMS Engineering College (Affiliated to Dr. APJ Abdul Kalam Technical University Lucknow) Ghaziabad-201015 (UP), India.
  - **Theory course/s:** Descriptive statistics and process control (KBT-056), Idea to Business Model (KOE 060), Biomass Conversion and Biorefinery (Edu plus), Bioprocess Engineering -I, Proteomics (Edu plus)
  - **Laboratory course/s:** Microbiology and Immunology (KBT-352), Techniques in Biotechnology (KBT-351), Genetics and molecular biology (KBT-452).
  - Mentoring and managing B.Tech. students, member proctorial board, discipline committee and Electoral club IMSEC.

- **Scientist-C (Feb 2021 to Aug 2021):** FARE Labs Pvt. Ltd. Gurugoan-122001 (HR), India **from**
  - Analytical method development and validation and preparation of instrument SOP, test procedure.
  - Deals with clients' queries, raising quotations, report drafting, and finalizing.
  - ISO/IEC 17025, ISO 17034 and ISO 17043, procurement and documentation.
  - Planning instrument maintenance and calibration, intermediate quality check of instruments.

- Instrument exposure and trained versed: AKTA, LCMS, Auto-titration unit (Mettler Toledo), Karl Fisher titration (Lab India), WVTR and OTR (Lab-think), Gross alpha and beta nuclear ZnS (Ag) scintillator and gamma spectrometry, BDV tester, Tan Delta (Elktel), Bomb calorimeter, Viscosity gauge, Hydrometer, Hygrometer, Distillation apparatus, Reid vapor pressure, Carbon residue apparatus, Abel flashpoint, Pensky martin flashpoint, Cleveland cup flashpoint, Density bath, Copper strip corrosion apparatus.

Assistant Professor (Sep, 2012 to July, 2014): Department of Biotechnology, K.S. VIRA College of Engineering & Management-Bijnor, Affiliated to U.P. Technical University-Lucknow.

- **Theory course:** Fermentation biotechnology, Environmental biotechnology, Biochemistry and Introductory biology modules at UG level;
- **Laboratory course:** Biochemistry, Environmental biotechnology and Fermentation biotechnology techniques.
- Additional responsibilities: Maintenance of student attendance and grades on the university portal.

RESEARCH/REVIEW ARTICLES/ BOOK CHAPTERS

After 2021

1. **Pandey A.,** Kant G., Shadma A., Singh M. P., Kumar S., Singh N.K., Srivastava S. (2021) *Genetic manipulation of microalgae for enhanced biotechnological applications* in: Mostafa El-Sheekh, Abd El-Fatah Abomohra (eds) Handbook of Algal Biofuels: Aspects of Cultivation, Conversion, and Biorefinery. Academic Press, Paperback ISBN: 9780128237649
2. Aparna Gautam; **Ashutosh Pandey**; Kamlesh R Balinge; Vijay B Khajone; Pundlik R Bhagat; Ahmad Z; Sushil Kumar; Dipesh Shikchand Patle (communicated) *Optimization, Kinetics and Thermodynamics of Ultrasound Assisted and Ionic Liquid Catalyzed In-situ Biodiesel Synthesis from Wet Microalgae* - Environmental Science and Pollution Research.
3. **Pandey Ashutosh**, Srivastava Sameer, Kumar Sanjay (2022). *Scenedesmus sp. ASK22 cultivation using simulated dairy wastewater for nutrients sequestration and biofuel production: Insight into fuel properties and their blends* - Environmental Science and Pollution Research. (BCAB-D-21-02090R1)- Revision submitted
4. **Pandey Ashutosh**, Srivastava Sameer, Kumar Sanjay (2022). *Carbon dioxide fixation and lipid storage of Scenedesmus sp. ASK22: a sustainable approach for biofuel production and waste remediation* - Journal of Environmental Management- Communicated (JEMA-D-22-01284)
5. *Alok Kumar Yadav, Sadma Afzal, Ajar Nath Yadav, Anuj Kumar Poonia* (under revision) *Antimicrobial therapeutics isolated from algal source: Retrospect and prospect* (minireview)- Journal of Biologia.
6. Anupama Singh, Dipesh Shikchand Patle, Sameer Srivastava, Ashutosh Pandey, (Book chapter-accepted) "*Waste plastic to fuel: Fuel properties, combustion characteristics, and emission profile"* in Book Renewable *Diesel: Value Chain, Sustainability, and Challenges Eds Bhasker Singh and Sanjay Gupta. Elsevier*
7. *Ashutosh Pandey et. al. (Book chapter- Accepted)* "*Genomics of microbial communities in African Lakes"* in book "Lakes of Africa: Microbial diversity and sustainability" Eds. Prof. Mostafa El-Sheekh for Elsevier with the cooperation with National Institute of Oceanography and fisheries, Cairo, Egypt.

Before 2021

8. **Pandey Ashutosh,** Gupta Aarti, Arrabachala Sunny, Kumar Sanjay, Srivastava Sameer (*2020*). *Multi-objective optimization of media components for improved algae biomass, fatty acid and starch biosynthesis from Scenedesmus spp. ASK22 using desirability function approach. Journal of Renewable Energy, **IF 8.001*** *https://doi.org/10.1016/j.renene.2019.12.095*.
9. **Pandey Ashutosh**, Srivastava Sameer, Kumar Sanjay (*2020*). *Development and cost-benefit analysis of a novel process for biofuel production from microalgae using pre-treated high-strength fresh cheese whey wastewater. Environ Sci Pollut Res (2020). https://doi.org/10.1007/s11356-020-08535-4.* ***IF-4.223.***
10. **Pandey Ashutosh**, Srivastava Sameer, Kumar Sanjay (2019). *Isolation, screening and comprehensive characterization of candidate microalgae for biofuel feedstock production and dairy effluent treatment: a sustainable approach*. *Bioresource Technology* 293, 121998. ***IF 9.642*** *https://doi.org/10.1016/j.biortech.2019.121998*
11. **Pandey Ashutosh**, Srivastava Sameer, Kumar Sanjay (2019). *Sequential optimization of essential nutrients addition in simulated dairy effluent for improved* Scenedesmus *sp ASK22 growth, lipid production and nutrients removal*. *Biomass and Bioenergy* 128, 105319. ***IF-5.061*** *https://doi.org/10.1016/j.biombioe.2019.105319*
12. **Pandey Ashutosh,** Srivastava Sameer, Kumar Sanjay (2019) *Phyco-Remediation of Dairy Effluents and Biomass Valorization: A Sustainable Approach*. In: Gupta S., Bux F. (eds) *Application of Microalgae in Wastewater Treatment*. Springer, Cham. Print ISBN: 978-3-030-13908-7 *https://doi.org/10.1007/978-3-030-13909-4_9*
13. **Pandey Ashutosh,** Singh Manish P., Srivastava Sameer, Kumar Sanjay (2019) *Phycoremediation of Persistent Organic Pollutants from Wastewater: Retrospect and Prospects*. In: Gupta S., Bux F. (eds) *Application of Microalgae in Wastewater Treatment. Springer*, Cham. Print ISBN: 978-3-030-13912-4 *https://doi.org/10.1007/978-3-030-13913-1_11*
14. **Pandey Ashutosh,** Shah Ruchi, Yadav Papita, Verma Reshu, Srivastava Sameer (2019). *Harvesting of fresh water microalgae Scenedesmus sp. by electro-coagulation-flocculation for biofuel production: effects on spent medium recycling and lipid extraction. Environmental Science and Pollution Research.* ***IF- 4.223*** *https://doi.org/10.1007/s11356-019-06897-y*
15. Kanaga Kamraj*, **Pandey Ashutosh***, Kumar Sanjay, Geetanjali (2016) *Multi-objective optimization of media nutrients for enhanced production of algae biomass and fatty acid biosynthesis from Chlorella pyrenoidosa NCIM 2738*. Bioresource Technology ***IF-9.642***, 200:940-950 (**equal contribution*).
16. Dipesh S Patle, **Ashutosh Pandey**, Sameer Srivastava, Ashish N Sawarkar, Sushil Kumar *(2020). Ultrasound-intensified biodiesel production from algal biomass: a review. Environ Chem Lett. https://doi.org/10.1007/s10311-020-01080-z* ***IF-9.027***
17. Singh, M.P., Rai, S., **Pandey, A.,** Singh, N.K. and Srivastava, S. (2021) ***Molecular subtypes of colorectal cancer: An emerging therapeutic opportunity for personalized medicine***. *Genes & Diseases, 8* (2), pp.133-145. ***IF-7.103***
18. **Pandey Ashutosh**, Kumar Sanjay, Srivastava Sameer (2020). ***Algal biomass harvesting for biofuel production***. In Kothari R., Pathak V V. (eds.) *Biofuel: A Sustainable Energy Approach*, TERI Press, New Delhi, India.

GENE BANK SUBMISSION

- MF945631 (*Scenedesmus* sp. ASK22), MF939404 (*Desmodesmus* sp. ASK01), MF927577 (*Chlorella* sp. ASK27), MF801361 (*Chlorella* sp. ASK25), MF801314 (*Chlorella* sp. ASK14), MF801313 (*Chlorella* sp. ASK14).

HONORS/AWARDS

1. Recipient of Senior Research Fellowship (JRF/SRF) MHRD-New Delhi.
2. *Academic Excellence Award-2011* by Department of Biochemical Engineering and Food Technology Harcourt Butler Technological Institute (H.B.T.I.) Kanpur (now HBTU Kanpur).
3. Qualified Graduate Aptitude Test in Engineering-2011, 2012 **(GATE-2011, -12)** with decent percentile (98+).

FDP/LECTURE DELIVERED

1. *Keynote Address on "Prospects of sustainable biofuel production with an emphasis on algal biofuel utilization "on June 05, 2020 (World Environmental Day-2020) Organized by The Institution of Engineers (India) Varanasi Local Centre.*
2. *One-week online faculty development program (FDP) on "Frontiers in Bioprocess Technology" organized by Department of Biochemical Engineering, School of Chemical Technology, Harcourt Butler Technical University, Kanpur during September 20-24, 2021.*
3. *One-week online Entrepreneurship Development Program (EDP) on FOOD PROCESSING organized by Ministry of Micro, Small & Medium Enterprises (MSME), Government of India Organization-Foundry Nagar, Agra-282 006 (U.P.) during 04.10.2021 to 08.10.2021.*
4. *One-week online faculty development program (FDP)* on "Biowaste to Bioenergy: A future sustainable energy source" from 14/12/2021 to 18/12/2021, at Motilal Nehru National institute of Technology Allahabad, Prayagraj.
5. *One-week online faculty development program (FDP)* on *"Recycling of Plastics for Sustainable Growth" from 10/01/2022 to 14/01/2022 at Central Institute of Petrochemicals Engineering & Technology (CIPET): Institute of Plastics Technology (IPT).*

ADDITIONALRESPONSIBILITY:

Associate editor: *Frontiers in Bioprocess Engineering and Biotechnology (Bioprocess Engineering-Section)*
Review editor: *Frontiers in Fungal Biology*

ACADEMIC REFERENCES

Dr. Sameer Srivastava
(Astt. Professor)
Department of Biotechnology
MNNIT Allahabad, India
sameers@mnnit.ac.in
+919889864633

Dr. Sanjay Kumar
(Astt. Professor)
School of Biochemical Engineering
IIT (BHU) Varanasi, India
sanjaykr.bce@iitbhu.ac.in
+918416804166

Dr. Shivesh Sharma
(Professor)
Department of Biotechnology
MNNIT Allahabad, India
shiveshs@mnnit.ac.in/
+91-532-2271258

(Ashutosh Pandey)