Vinay Kumar

Nationality: Indian | **Gender:** Male | vinayiplrd@gmail.com |

Whatsapp Messenger: +91-9810975503 | New Delhi, India

TEACHING EXPERIENCE

2019 – CURRENT

Part time tutor

Biology Class: XI, Class XII. B. Sc. (Biotechnology, M. Sc. (Biotechnology), B. Tech (Biotechnology), M. Tech (Biotechnology), Medical entrance exam, NET entrance examination.

2009 – 2016

Teacher (Quality Education Centre, Patel Nagar, New Delhi, India)

Biology: Class: XI, Class XII, B. Sc. (Biotechnology), M. Sc. (Biotechnology), B. Tech (Biotechnology), M. Tech (Biotechnology), Medical entrance exam. NET entrance examination.

2005 – 2007

Teacher (A To Z Training Institute, Naraina, New Delhi)

Biology: Class: XI, Class XII, Chemistry: Class Xi, Class XII, Science: Class IX-XII, Mathematics: Classes IX-XII, Medical entrance exam.

WORK EXPERIENCE

01/04/2019 – 30/09/2021 – Uttarakhand, India

PROJECT SCIENTIST (PRINCIPAL INVESTIGATOR) – INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

"Production of poly-3-hydroxyalkanoate (PHA) from high cell density fermentation using saline industrial waste as a carbon feedstock and enhanced recovery with non-halogenated solvents" (Research grant from Science and Engineering Research Board (SERB), Government of India).

- Lignocellulosic feedstock pretreatment, characterization, and fermentation to produce value-added products (PHAs).
- Downstream processing to separate PHA from cell biomass.
- Upscale and process optimization to maximize biopolymer production using fermentation.
- Analysis, detection and quantification of biopolymers using GC-FID/GC-MS.
- Handling instruments include HPLC, GC, GC-MS, spectrophotometer, centrifuge, laminar airflow, etc.
- Biopolymer characterization using SEM, TEM, FTIR, XRD, NMR etc.
- Data collection, analysis, and statistical analysis.

01/01/2018 – 31/03/2019 – Ho Chi Minh City, Vietnam

RESEARCHER – TON DUC THANG UNIVERSITY

- · Detection and quantification of plasticizers in wastewater samples using HPLC.
- · Identification of metabolites such as protocatechuic acid, dibutyl phthalate and, aromatic compounds using GC-MS.
- · Preparation and characterization of nanocomposites.
- · Extraction of non-polar organic compounds from aqueous media.
- · Pesticide residue analysis in soil and water.

01/01/2017 – 31/12/2017 – Bangkok, Thailand
POSTDOCTORAL FELLOW – CHULALONGKORN UNIVERSITY

Phytotoxicity, POPs biodegradation, plant growth promotion and soil enzyme activities:

- Phytotoxicity assessment of profenofos on *Vigna radiata* and in-vitro profenofos removal by the growth-promoting rhizobacterial consortium.
- Determination of the plant growth-promoting activities such as IAA production, ammonia production, EPS production and phosphate solubilization from rhizobacteria.
- Analyzing the effects of organophosphate pesticides on the plant growth properties such as sprout length, shoot length, root length, chlorophyll a, chlorophyll b and carotenoids etc.
- Analyzing the soil enzyme activities (cellulase, dehydrogenase, ammonia release, protease, tyrosine release, alkaline phosphatase, acid phosphatase) in sterile and non-sterile soil.

09/2016 – 12/2016 – New Delhi, India
SENIOR SCIENTIST – INTERNATIONAL PANAACEA LIMITED

Biofertilizers, bio fungicides, bioinsecticides, formulation, field trial and commercialization:

· Worked in R&D for development of biofertilizer to remove organophosphorus pesticides.
· Detection and quantification of organophosphorus pesticides using GC-ECD.
· Research grant writing and conducting independent research.
· Mentoring junior scientists.

EDUCATION AND TRAINING

08/2010 – 05/2016 – New Delhi, India
PH.D. (BIOTECHNOLOGY) – Jawaharlal Nehru University

08/2010 – 06/2011 – New Delhi, India
PHD COURSEWORK (BIOTECHNOLOGY) – Jawaharlal Nehru University

07/2007 – 06/2009 – Meerut, India
MASTER OF SCIENCE (BIOTECHNOLOGY) – Chaudhary Charan Singh University, Meerut

07/2004 – 06/2007 – Alipur, New Delhi, India
B. SC. (ZOOLOGY) – Swami Shraddhanand College

HONOURS AND AWARDS

06/10/2019
Keynote Speaker – Hamzanwadi University, Lombok, Indonesia

Invited as a keynote speaker. Conference type - international academic conference; conference name - Hamzanwadi International Conference on Technology and Education (HICTE) 2019, "Advancing Education and Research Capacity with Technology and Computer Science through Local-Global Synergy in Industrial Era 4.0"; conference start date October 5th 2019; conference end date-October 6th 2019; conference location - Grand Legi, Mataram - Lombok, West Nusa Tenggara, Indonesia; conference organizer - Hamzanwadi University; Conference leader- Dr. Ir. Hj. Sitti Rohmi Djalilah, number of participants-350.

2014
National Eligibility Test (NET) – Indian Council of Agricultural Research (ICAR)

Agricultural Biotechnology

2011
National Eligibility Test – Council of Scientific & Industrial Research (CSIR), New Delhi, India

Life Science

2010
Council of Scientific & Industrial Research (CSIR)-Junior Reserach Fellowship (JRF) – Council of Scientific & Industrial Research (CSIR), New Delhi, India

Life Science

2010
Junior Reserach Fellowship (JRF) – Department of Biotechnology, MINISTRY OF SCIENCE & TECHNOLOGY , Government of India

Biotechnology

2010
Graduate Aptitude Test in Engineering (GATE) examination – Indian Institute of Technology, India

Life Science

05/2019
Associate Editorial Board Member – Current Nanotoxicity and Prevention: BENTHAM SCIENCE

CONFERENCES AND SEMINARS

2021 – New Delhi
Role of Synthetic Biology in BioEnergy Research and Value Added Biomolecule Production

Participated in webinar; type of conference – international; conference location – New Delhi, India; organizers – Department of Science and Technology and International Centre for Genetic Engineering and Biotechnology; conference leader – Dr. Syed Shams Yezdani; number of participants – 50.

2021 – India
Postdoctoral Fellow meeting organized by India Bioscience sponsored by Department of Biotechnology, Government of India.

2012 – Annamalai University, Tamilnadu, India
23rd international conference on Bioinformatics and Systems Biology (INCOBS)

2012 – School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India
Environmental Pollution and its Mitigation Strategies

2014 – Advanced Instrumentation Research Facility, Jawaharlal Nehru University, New Delhi, India
Workshop on “Application of Bioanalyzer and Off-gel Fractionator”

2012 – International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi, India
Workshop on "International workshop on Molecular techniques in Bioenergy "

2012 – Annamalai University, Tamilnadu, India
3rd international workshop on Bioinformatics and Systems Biology (INWOBS)

2012 – Advanced Instrumentation Research Facility, Jawaharlal Nehru University, New Delhi, India
Workshop on "Confocal / Live Imaging Microscopy and Its Applications"

2012 – Advanced Instrumentation Research Facility, Jawaharlal Nehru University, New Delhi, India
Workshop on "X-Ray Crystallography of Proteins"

PUBLICATIONS

Synthetic organic antibiotics residues as emerging contaminants waste-to-resources processing for a circular economy in China: Challenges and perspective

Environemental Research (Available online 7 March 2022, 113075) (IF: 6.49, Q1, Scopus)
https://doi.org/10.1016/j.envres.2022.113075 – 2022
Yuwen Zhou, Wen-bing Li, Vinay Kumar, Mohamed Chaker Necibi, Yin-Jun Mu, Chang-ze Shi, Deepshi Chaurasia, Shraddha Chauhan, Preeti Chaturvedi, MikaSillanpää, Zengqiang Zhang, Mukesh Kumar Awasthi, Ranjna Sirohi

Current state of the art biotechnological strategies for conversion of watermelon wastes residues to biopolymers production: A review

Chemosphere 290 (2022) 133310. (IF: 7.086, Q1 Scopus)
https://doi.org/10.1016/j.chemosphere.2021.133310 – 2022
Mukesh Kumar Awasthi, Vinay Kumar, Vivek Yadav, Surendra Sarsaiya, Sanjeev Kumar Awasthi, Raveendran Sindhu, Parameswaran Binod, Vinod Kumar, Ashok Pandey, Zengqiang Zhang

Processing of municipal solid waste resources for a circular economy in China: An overview

Fuel Volume 317, 1 June 2022, 123478. (IF - 6.60 , Q1, Scopus).
https://doi.org/10.1016/j.fuel.2022.123478 – 2022
Sanjeev Kumar Awasthi, Surendra Sarsaiya, **Vinay Kumar**, Preeti Chaturvedi, Raveendran Sindhu, Parameswaran Binod, Zengqiang Zhang, Ashok Pandey, MukeshKumar Awasthi

Synthesis of AC@CuO-NWs and removal of basic dye from wastewater

Materials Today: Proceedings Available online 12 February 2022
https://doi.org/10.1016/j.matpr.2022.01.364 – 2022
Sivarama Krishna Lakkaboyana, K. Soontarapa, A. Nabel Kale, Sreenath Reddy A., Vinay Kumar, Karthik K., Marlia M. Hanafiah, Wan Zuhairi W.Y.

Black soldier fly larvae for organic manure recycling and its potential for a circular bioeconomy: A review

Science of the total environment.(Accepted on April 1, 2022)(Scopus, Q1, IF: 7.963).
2022
Tao Liu, Thomas Klammsteiner, Andrei Mikhailovich Dregulo, Vinay Kumar, Yuwen Zhou, Zengqiang Zhang, Mukesh Kumar Kumar Awasthi

Recent trends and developments on integrated biochemical conversion process for valorization of dairy waste to value added bioproducts: A review

Bioresource Technology Volume 344, Part A, January 2022, 126193. (IF: 9.64, Q1, Scopus)
https://doi.org/10.1016/j.biortech.2021.126193 – 2021
Mukesh Kumar Awasthi, Anindita Paul, Vinay Kumar, Taner Sar, Deepak Kumar, Surendra Sarsaiya, Hong Liu, Zengqiang Zhang, Parameswaran Binod, Raveendran Sindhu, Vinod Kumar, Mohammad J. Taherzadeh

Indonesian Kaolin supported nZVI (IK-nZVI) used for the an efficient removal of Pb(II) from aqueous solutions: Kinetics, thermodynamics and mechanism

Journal of Environmental Chemical Engineering, 106483. (2021)(IF: 5.90, Q1, Scopus)
https://doi.org/10.1016/j.jece.2021.106483 – 2021
Sivarama Krishna Lakkaboyana, S.Khantong, A. NabelKale, S.Obaidullah, Vinay Kumar, K. Karthik, Katta Venkateswarlu, Yuzir Ali, W. Y. Wan Zuhairi

Bioengineered Biochar As Smart Candidate For Resource Recovery Toward Circular Bio-Economy: A Review

Bioengineered. Accepted 28 Oct 2021.
https://www.tandfonline.com/doi/pdf/10.1080/21655979.2021.1993536?needAccess=true – 2021
Hong Liu, **Vinay Kumar**, Vivek Yadav, Shasha Guo, Surendra Sarsaiya, Pararameswaran Binod, Raveendran Sindhu, Ping Xu, Zengqiang Zhang, Ashok Pandey.

Recent progresses in magnetic nanoparticles and nano-composite for wastewater treatment

Journal of Environmental Chemical Engineering. (Accepted Oct 8, 2021). (IF: 5.90, Q1, Scopus).
2021
Sivarama Krishna Lakkaboyana, S. Khantong, A. Vinay Kumar, K. Karthik, Katta Venkateswarlu

Biopolymer poly-hydroxyalkanoates (PHA) production from apple industrial waste residues: A review

Chemosphere: 284,131427. (2021), (IF: 7.08, Q1, Scopus).
https://doi.org/10.1016/j.chemosphere.2021.131427 – 2021
Hong Liu, Vinay Kumar, Linjing Jia, Surendra Sarsaiya, Deepak Kumar, Ankita Juneja, Zengqiang, Zang, Raveendran Sindhu, Parameswaran Binod, Shashi Kant Bhatia, Mukesh Kumar Awasthi

Synthesis and characterization of Cu(OH)2-NWs-PVA-AC Nano-composite and its use as an efficient adsorbent for removal of methylene blue

Scientific Reports volume 11, Article number: 5686. (2021)(IF: 5.13, Q1, Scopus).
https://doi.org/10.1038/s41598-021-84797-3 – 2021
Sivarama Krishna Lakkaboyana, Khantong Soontarapa, Nabel Kalel Asmel, Vinay Kumar, Ravi Kumar Marella, Ali Yuzir & Wan Zuhairi Wan Yaacob

Preparation of novel chitosan polymeric nanocomposite as an efficient material for the removal of Acid Blue 25 from aqueous environment

International Journal of Biological Macromolecules,168, 760-768. (2021) (IF: 6.95, Q1, Scopus)
https://doi.org/10.1016/j.ijbiomac.2020.11.133 – 2021
Sivarama Krishna Lakkaboyana, Soontarapa Khantong, Nabel Kalel Asmel, Vinay Kumar, Ravi Kumar Marella, Yuzir Ali, Wan Zuhairi W.Y.

Current trends in the application of nanomaterials for the removal of pollutants from industrial wastewater treatment—a review

Molecules, 26(9), 2799. (2021)(IF: 4.41, Q1, Scopus)
https://doi.org/10.3390/molecules26092799 – 2021
Sivarama Krishna Lakkaboyana, Marlia M. Hanafiah, Vinay Kumar, Ravi Kumar Marella

Modeling degradation kinetics of profenofos using Acinetobacter sp. 33F

Environmental Technology & Innovation: 21, 101367. (2021)(IF: 5.26, Q1, Scopus)
https://doi.org/10.1016/j.eti.2021.101367 – 2021
Vinay Kumar*, Neha Sharma, Alisa Vangnai

DBP biodegradation kinetics by Acinetobacter sp. 33F in pristine agricultural soil

Environmental Technology & Innovation: 5, 101240. (2021)(IF: 5.26, Q1, Scopus)
https://doi.org/10.1016/j.eti.2020.101240 – 2021
Neha Sharma, Vinay Kumar*, S.S.Maitra, Sivarama Krishna Lakkaboyana, Soontarapa Khantong

In vivo removal of profenofos in agricultural soil and plant growth promoting activity on Vigna radiata by efficient bacterial formulation

International Journal of Phytoremediation: 22 (6), 585-593. (2021)(IF: 2.94, Q1, Scopus).
https://doi.org/10.1080/15226514.2019.1696743 – 2021
Vinay Kumar*, Neha Sharma,S. S. Maitra, Sivarama Krishna Lakkaboyana

Microorganisms as nano-factories for metal nanoparticles synthesis

Current Nanotoxicity and Prevention: 1(1). (2021)
https://doi.org/10.2174/2665980801999200507090343 – 2021
Vinay Kumar*, Vijay Kumar, Neha Sharma, Sivarama Krishna Lakkaboyana, Subhrangsu Sunder Maitra

Bisphenols as a Legacy Pollutant, and Their Effects on Organ Vulnerability

Int J Environ Res Public Health: 22;17(1):112. (2021)(IF: 3.39, Q2, SJR)
https://doi.org/10.3390/ijerph17010112 – 2021
Jong-Joo Kim, Surendra Kumar, Vinay Kumar, Yun-Mi Lee,You-Sam Kim, Vijay Kumar

Silver nanoparticles in poultry health: Applications and toxicokinetic effects

Nanobiotechnology for Plant Protection, Pages 685-704. (2021)
https://doi.org/10.1016/B978-0-12-823528-7.00005-6 – 2021
Vinay Kumar, Neha Sharma, Sivarama Krishna, Lakkaboyana, S. S. Subhrangsu.
Sundar Maitra

Acclimatization of a newly isolated bacteria in monomer tere-phthalic acid (TPA) may enable it to attack the polymer poly-ethylene tere-phthalate (PET)

Journal of Environmental Chemical Engineering Volume 8, Issue 4 (2020)(IF: 5.90, Q1, Scopus)
https://doi.org/10.1016/j.jece.2020.103977 – 2020
Vinay Kumar, S.S.Maitra, Rekha Singh, Dilip Kumar Burnwal

Synthesis of Indonesian kaolin-nZVI (IK-nZVI), evaluation for the removal of Pb (II) from waste streams

AIP Conference Proceedings 2280, 040028 (2020)
https://doi.org/10.1063/5.0018355 – 2020
LS Krishna, K Soontarapa, V Kumar, O Salehie, WYW Zuhairi, NB Reddy

Protein and peptide nanoparticles: Preparation and surface modification

CRC Press, Taylor & Francis Group, Florida, USA. (2020)
2020
Vinay Kumar, Neha Sharma and S. S. Maitra

Nanotoxicology and its Remediation. Intelligent Nanomaterials for Drug Delivery Applications

Intelligent Nanomaterials for Drug Delivery Applications, Pages 163-178. (2020)
https://doi.org/10.1016/B978-0-12-817830-0.00009-6 – 2020
Vinay Kumar, Sivarama Krishna Lakkaboyana, Neha Sharma, Subhrangsu Sunder Maitra, Marlia Mohd Hanafiah

Engineered nanomaterials uptake, bioaccumulation and toxicity mechanisms in plants

Comprehensive Analytical Chemistry Volume 87, Pages 111-13. (2019)
https://doi.org/10.1016/bs.coac.2019.09.005 – 2019
Vinay Kumar, Sivarama Krishna Lakkaboyana, Neha Sharma, Ali Samy Abdelaal, Subhrangsu Sundar Maitra, Deepak Pant

Comparative study on the degradation of dibutyl phthalate by two newly isolated Pseudomonas sp. V21b and Comamonas sp. 51F

Biotechnology Reports: 15: 1–10. (2017)(IF: 0.96, Q1, Scopus)
https://dx.doi.org/10.1016/j.btre.2017.04.002 – 2017
Vinay Kumar*, Neha Sharma, S.S. Maitra

In vitro and in vivo toxicity assessment of nanoparticles

International Nano Letters: volume 7, pages 243–256 (2017). (Scopus)
https://doi.org/10.1007/s40089-017-0221-3 – 2017
Vinay Kumar*, Neha Sharma, S. S. Maitra

Biodegradation of endocrine disruptor dibutyl phthalate (DBP) by a newly isolated Methylobacillus sp. V29b and the DBP degradation pathway

3 Biotech: 6(2):200. (2016)(IF: 3.20, Q2, Scopus)
https://doi.org/10.1007/s13205-016-0524-5 – 2016
Vinay Kumar*, S. S. Maitra

Efficient degradation of dibutyl phthalate and utilization of Phthalic Acid Esters (PAEs) by Acinetobacter species isolated from MSW (Municipal Solid Waste) leachate

Global NEST journal: 18, 817-830 (2016)(Q2, Scopus)
https://doi.org/10.30955/gnj.002028 – 2016
Vinay Kumar, S. S. Maitra

Environmental metagenomics: the data assembly and data analysis perspectives

Journal of The Institution of Engineers (India): Series A: 96(1), pp. 71–83. (2016)(Q2, Scopus).
https://doi.org/10.1007/s40030-014-0102-y – 2016
Vinay Kumar, S. S. Maitra, Rohit Nandan Shukla

BOOK PUBLICATIONS

12/2022
Green Chemistry in Agriculture and Food Production

Editors: **Vinay Kumar**, Kleopatra Tsatsaragkou & NilofarAsim. Taylor and Francis.

12/2022
Waste Valorization for Value-added Products

Editors: **Vinay Kumar**, Sivarama Krishna Lakkaboyana, Neha Sharma. Bentham Science
https://benthambooks.com/future-series-by-subject/energy-science-technology/sub-category/chemical-engineering/

Nanotechnology for Environmental Remediation

Editors: Sivarama Krishna Lakkaboyana, **Vinay Kumar**, Neha Sharma. Bentham Science.
https://benthambooks.com/future-series-by-subject/earth-space-and-environmental-sciences-and-geography/sub-category/environmental-science/

2012
Thermal shock effects on bacterial survival using GFP

Vinay Kumar, Anand Prakash Singh and Lalit Kumar. Lambert Academic Publishing, Germany. (2012) ISBN: 978-3-
659-19685-8.

2012
Isolation, cloning, purification, and physical properties of GFP

Lalit Kumar, **Vinay Kumar** and Arvind Kumar. Lambert Academic Publishing, Germany. (2012) ISBN: 978-3-659-
21974-0

DIGITAL SKILLS

Microsoft Office / Microsoft Office 365 | Python (Basics) | Matlab (Basics) | Python and R (Basic) | BLAST | Phylogenetic tree construction from 16S rRNA | MUSCLE | Windows Linux OS | Command Prompt Windows