

# Nature Environment and Pollution Technology

Vol. 21, No. (4), December 2022

## CONTENTS

1. **Xinjie Yu, Xiongfei Cai, Ji Wang, Shuai Zhang, Shuai Zhao and Die Xu**, Bioaccessibility and Health Risk Assessment of Heavy Metals in Dust of the Urban Areas of Guiyang, Guizhou, China 1471-1480
2. **Jing Zhang, Haihua Jing, Kebao Dong, Jiaqi Ma and Zexu Jin**, Effect of Drip Irrigation Under Mulch on Nitrogen Transport in Deep Soil Layers in an Agricultural Region of the Xiliao River Plain, China 1481-1490
3. **Manish Kumar Mandal and Bala Ramudu Paramkusam**, Analysis of Alkali-Induced Soil Heaving in Non Expansive Soil Using Electrokinetic Model 1491-1505
4. **M. Arthy and B. R. Phanikumar**, Statistical Analysis and Modeling of Trivalent Chromium Ion Adsorption by Green-Mediated Iron Nanoparticles 1507-1517
5. **R. Ramanathan, L. Abdullah, M. S. Syed Mohamed and M.H.F.M Fauadi**, A Review of User-Centred Design Methods for Designing a Portable Oil Spill Skimmer 1519-1529
6. **S. R. Hariprakash and T. Prakash**, A Review on Microalgae Biofuel Production and use in CI Engine Applications 1531-1541
7. **L. S. Cao, H. Xu and H. Li**, Effect of Greening Trees on Thermal Comfort of the Pedestrian Streets in Hot Summer and Cold Winter Regions in China 1543-1552
8. **Namrata and N. D. Wagh**, A Review on Atmospheric Dispersion System for Air Pollutants Integrated with GIS in Urban Environment 1553-1563
9. **W. M. W. Rozita, S. Zamtira, FI. Mohd, T. L. Mohd, I. A. Nurul, I. A. W. Muhammad and S. Mazrura**, Air Pollution, Cardiovascular and Respiratory Admissions in Klang Valley, Malaysia - Finding the Effects 1565-1573
10. **B. S. Rajyaguru, A. Varma, A. C. Kharkwal and J. Singh**, Enhancement of Xanthan Biosynthesis Using Medicinal Herbs - A Novel Approach 1575-1585
11. **Safaa K. Hashim Al-Khalaf, Ahmed Samir Naje, Zaid Abed Al-Ridah and Haider M. Zwain**, Environmental Modelling of Ionic Mass Transfer Coefficient in a Unique Electrocoagulation Reactor 1587-1597
12. **Chitrakara Hegde and Rahul Ribeiro**, Preparation and Characterization of Hydrophobic Membranes and Their Seawater Desalination Performance Study by Direct Contact Membrane Distillation 1599-1608
13. **Dashuang Liang, Wenping Liu and Yugang Zhao**, Optimal Models for Plant Disease and Pest Detection Using UAV Image 1609-1617
14. **Shefali Arora**, The Inherent Grave Consequences of Glacial Retreat 1619-1627
15. **Ramzi H. Amran, Mamdoh T. Jamal, Arulazhagan Pugazhendi, Mamdouh Al-Harbi and Saba Bowrji**, Petroleum Hydrocarbon Degradation and Treatment of Automobile Service Station Wastewater by Halophilic Consortia Under Saline Conditions 1629-1637
16. **Dharmendra Kumar Singh and Nawal Kishore**, Geoelectrical Sounding to Identify Sub-surface and Groundwater State at Village Banauli, Singrauli District, Madhya Pradesh, India 1639-1647
17. **C. K. Fu, Y. Fang, C. Y. Yang, C. G. Chen and L. X. Wang**, Investigation of Adsorption of Heavy Metal Ions on C<sub>3</sub>N<sub>4</sub> Nanosheets by Batch and Microscopic Methods 1649-1656
18. **N. Siddiqui, T. Faiyaz and V. S. Tari**, Ganga and Yamuna Rivers: Through the Lens of the National Green Tribunal 1657-1664
19. **I.W. Supartha, A. Roifiq, I.W. Susila, I.M. Damriyasa, M. Tulung, I.K.W. Yudha, I.W.E.K. Utama and P. A. Wiradana**, Population Structure of Thrips parvispinus Karny (Thysanoptera: Thripidae) and Population Abundance of Predatory Insect on Red Chili (*Capsicum annum* L.) Treated with Imidacloprid Insecticide 1665-1671
20. **N. Vasudha and P. Venkateswara Rao**, Identification of Dominant Air Pollutants Over Hyderabad Using Principal Component Analysis (PCA) 1673-1680
21. **K. A. Viraj Miyuranga, U. S. P. R. Arachchige, D. Thilakarathne, R. A. Jayasinghe and N. A. Weerasekara**, Impact of the Chemical Composition of Oil for Biodiesel Production to Reduce Environmental Pollution 1681-1687
22. **Yogyata Srivastava, Abhishek Chauhan, S. B. Singh and Tanu Jindal**, Impact of Environmental Pollutants on Alzheimer's Disease: A Review 1689-1695
23. **L. Quiñones-Huatangari, F. H. Fernandez-Zarate and A. E. Huaccha-Castillo**, Nitrous Oxide Emissions Generated in Coffee Cultivation: A Systematic Review 1697-1703
24. **Jonmenjoy Barman, Subhom Narjinary, Sankar Biswas, Brototi Biswas and Ratnaprabha Jadhav**, Elephant Habitat Suitability Analysis of Alipurduar District, West Bengal Using Geospatial Technology 1705-1712
25. **Nella Yulia Sari and Fida Rachmadiarti**, Potency of *Jatropha integerrima* Jacq., *Hibiscus rosa-sinensis* L. and *Ruellia tweediana* as Absorbants of Lead (Pb) in Air 1713-1720
26. **R. R. Lohar and C. P. Hase**, Sustainable Production of Soybean (*Glycine max* L.) Crop Through Chemical Fertilizers and Organic Manures Along with the Improvement in Soil Health 1721-1728
27. **Fauzan Ali Ikhsan, Bambang Setioko and Atiek Suprapti**, Water Sustainability Concept of Hindu Javanese Community Settlements Toward Global Climate Change Resilience in the Indonesia Mountainous Area 1729-1737
28. **P. Negi, R. Thakur, K. Manral, K. Tomar, B. S. Rawat, B. Ramola and Waseem Ahmad**, Coated Controlled-Release Fertilizers: Potential Solution for Sustainable Agriculture 1739-1745

29. **A. A. Elewee and M. Sh. Aswood**, Estimation of Indoor Radon Concentration in Some Houses in Al-Shatra District, Dhi-Qar Governorate, Iraq 1747-1752
30. **M. K. Yadav and A. K. Srivastava**, Effective Mixer Design an Important Factor In SSCR Systems for Reduction of NO<sub>x</sub> from Exhaust of Diesel Engines 1753-1760
31. **A. Ma'ruf and S. Hartati**, Production and Characterization of Nano-Chitosan from Blood Clamshell (*Anadara granosa*) by Ionic Gelation 1761-1766
32. **Sudhir Kumar Chaturvedi**, Health Impact Assessment of Air Pollution in India During COVID-19 Lockdown by Using Satellite Remote Sensing and Deep Learning 1767-1774
33. **Shikha Arya, Prabhawati Tiwari, Alok Sagar Gautam and Manish Sharma**, Aeropalynology of *Parthenium hysterophorus* L. in Relation to Meteorological Parameters from Srinagar Valley of Garhwal Himalaya, Uttarakhand 1775-1781
34. **N. N. Abdulqader, B. S. Isgör, A. N. Genç, Enver Güler and Vahide Cansu Seymenoglu**, Modeling Surface Water Quality and Nutrient Correlation with Sediment Oxygen Demand at Dam Water Reservoirs 1783-1806
35. **M. Kaur, A. Bhatnagar, O. Dhillon and A. S. Yadav**, Genotoxic Effects of Rice-Agrochemicals on *Channa punctatus* (Bloch) and *Cyprinus carpio* (Linnaeus) Using Micronucleus Assay and Alkaline Single Cell Gel Electrophoresis 1807-1815
36. **Irrinki Hemalatha, Dakamari Harika and Manoj Kumar Karnena**, Sustainable Nano-Bioremediation Approaches for the Treatment of Polluted Soils 1817-1826
37. **J. Zhang, L. Xia, R. Han and W. Wei**, Comparison of As(III) Adsorption by Nanomagnetic Fe<sub>3</sub>O<sub>4</sub>, Activated Carbon and Modified Activated Carbon 1827-1835
38. **Shilpa A. Veerabhadrannavar and B. Venkatesh**, An Assessment of Future Predictions of Rainfall Using GCM Projections in the Western Ghats Region of India 1837-1845
39. **Feifei Wang, Jinlu Guo, Yufei Quan, Sumin Wang and Qiguan Wang**, Recent Advances in Electrocatalytic Nitrogen Reduction to Produce Ammonia Under Ambient Conditions 1847-1855
40. **Yanwei Yang, Weiguo Sun and Chi Li**, Research on the Governance of Rural Environmental Pollution in Heilongjiang Province Based on the Environmental Kuznets Curve 1857-1864
41. **R. Kanimozhi, D. Arvind Prasath, R. Dhandapani and Santhosh Sigamani**, Response Surface Optimization of Culture Conditions of *Microcystis* sp. to Enhance its Biomass Production and Explore its Potential as Antimicrobials 1865-1873
42. **O.H. Aremu, C.O. Akintayo, S.M. Nelana, M.J. Klink and O.S. Ayanda**, Optimization of Influential Parameters for the Degradation of Metronidazole Contained in Aquaculture Effluent via Sonocatalytic Process: Kinetics and Mechanism 1875-1885
43. **S. Talwar, K. Bamel, Prabhavathi and A. Mal**, Effect of High Temperature on Reproductive Phase of Plants: A Review 1887-1892
44. **N.D. Permatasari, J.E. Witoyo, M. Masruri, S.S. Yuwono and S.B. Widjanarko**, Application of a Two-Level Full Factorial Design for the Synthesis of Composite Bioplastics from Durian Seed Flour and Yellow Konjac Flour Incorporating Ethanolic Extract of *Syzygium myrtifolium* Leaves and its Characterization 1893-1901
45. **P. Agrawal, A. Agrawal and A. K. Patel**, Community Level Physiological Profiling of Microbial Communities Influencing Mine Spoil Genesis in Chronosequence Coal Mine Overburden Spoil 1903-1912
46. **M.A.H. Bhuiyan and M.A. Darda**, The COVID-19 Pandemic and Sustainable Tourism Development 1913-1919
47. **S. Rajalakshmi, B. Mythili Gnanamangai, D. Vinoth Kumar, V. Sri Santhya, M. Priya, R. Mary Josephine, Ashutosh Kumar Srivastava, R. Sudhakaran and M. A. Deepa**, Green Campus Audit Procedures and Implementation to Educational Institutions and Industries 1921-1932
48. **O. J. Oyebode and J. A. Otoko**, Medical Waste Management and Design of a Low-Cost Incinerator for Reduction of Environmental Pollution in a Multi-System Hospital 1933-1942
49. **P. Chaitanya, Era Upadhyay, Desh Deepak Singh and Virendra Singh**, Effective Contribution of Air Pollutants to Physiological and Psychological Human Diseases: A Systematic Review 1943-1954
50. **J.A. Vásquez-Contreras, M.R. Castañeda-Chávez, O.P. Castellanos-Onorio, V. Alcántara-Méndez, P. Zuñiga-Ruíz, A. García-Saldaña and M. Díaz-González**, Radiological Study of Water for Human Use and Consumption in Rural Areas of the Central Zone of the State of Veracruz, Mexico 1955-1962
51. **S. K. Verma, A. D. Prasad and M. K. Verma**, An Assessment of Ongoing Developments in Water Resources Management Incorporating SWAT Model: Overview and Perspectives 1963-1070
52. **Ibrahim Abdelfattah, Wael Abdelwahab and Ashraf M. El-Shamy**, Environmental Remediation of Contaminated Wastewater with Ammonium Using Clay-Based Adsorbents 1971-1982
53. **Reema Mandal, Anirban Das, A. K. Sudheer, Rajnee Ranjan and Mahesh Gaddam**, Fluorid Contamination of Groundwater from Semi-Arid Regions of Western India 1983-1994
54. **N. Sunaedi, S. P. Hadi and A. N. Bambang**, Payment for Environmental Services in Indonesia: Mutually Beneficial Watershed Environmental Management Model 1995-2004
55. **A.M.A. Bahar, M. Muhammad, M. T. Anees and M. M. A. Khan**, Development of Flood Vulnerability and Risk Indices for Kelantan District, Peninsular Malaysia 2005-2014

The Journal  
is  
Currently  
Abstracted  
and  
Indexed  
in:

CAB Abstracts, U.K.

Ulrich's (Refereed) database

Zetoc

J-Gate

Centre for Research Libraries

Connect Journals (India)

Research Bible (Japan)

Elektronische  
Zeitschriftenbibliothek (EZB)

CNKI Scholar (China National  
Knowledge Infrastructure)

AGRIS (UN-FAO)

CNKI Scholar (China National Knowledge Infrastructure)

Scopus CiteScore (2021) 0.70

Scopus®, SJR (0.169) 2021

Index Copernicus (2021) = 111.68

Chemical Abstracts, U.S.A.

Indian Science Abstracts,  
New Delhi, India

Pollution Abstracts, U.S.A.

Elsevier Bibliographic  
Databases

Paryavaran Abstract,  
New Delhi, India

Zoological Records

Electronic Social and Science  
Citation Index (ESSCI)

Indian Citation Index (ICI)

CrossRef (DOI)

EBSCO: Environment Index™

Google Scholar

DOAJ

Environment Abstract, U.S.A.

ProQuest, U.K.

WorldCat (OCLC)

British Library

Indian Science

JournalSeek

SHERPA/RoMEO

Directory of Science

CSA: Environmental Sciences and Pollution Management

Access to Global Online Research in Agriculture (AGORA)

Present in UGC-CARE List (Group II)

UDL-EDGE (Malaysia) Products like *i*-Journals, *i*-Focus and *i*-Future

[www.neptjournal.com](http://www.neptjournal.com)

# Nature Environment and Pollution Technology

## EDITORS

### Dr. P. K. Goel (Chief Editor)

Former Head, Deptt. of Pollution Studies  
Yashwantrao Chavan College of Science  
Vidyanagar, Karad-415 124  
Maharashtra, India

### Dr. K. P. Sharma

Former Professor, Ecology Lab, Deptt. of Botany  
University of Rajasthan  
Jaipur-302 004, India  
Rajasthan, India

**Managing Editor:** Mrs. Apurva Goel Garg, C-102, Building No. 12, Swarna CGHS, Beverly Park, Kanakia, Mira Road (E) (Thane) Mumbai-401107, Maharashtra, India (**E-mail: [operations@neptjournal.com](mailto:operations@neptjournal.com)**)

**Business Manager:** Mrs. Tara P. Goel, Technoscience Publications, A-504, Bliss Avenue, Balewadi, Pune-411 045, Maharashtra, India (**E-mail: [contact@neptjournal.com](mailto:contact@neptjournal.com)**)

## EDITORIAL ADVISORY BOARD

1. **Dr. Prof. Malay Chaudhury**, Department of Civil Engineering, Universiti Teknologi PETRONAS, Malaysia
2. **Dr. Saikat Kumar Basu**, University of Lethbridge, Lethbridge AB, Canada
3. **Dr. Sudip Datta Banik**, Department of Human Ecology Cinvestav-IPN Merida, Yucatan, Mexico
4. **Dr. Elsayed Elsayed Hafez**, Deptt. of of Molecular Plant Pathology, Arid Land Institute, Egypt
5. **Dr. Dilip Nandwani**, College of Agriculture, Human & Natural Sciences, Tennessee State Univ., Nashville, TN, USA
6. **Dr. Ibrahim Umaru**, Department of Economics, Nasarawa State University, Keffi, Nigeria
7. **Dr. Tri Nguyen-Quang**, Department of Engineering Agricultural Campus, Dalhousie University, Canada
8. **Dr. Hoang Anh Tuan**, Deptt. of Science and Technology Ho Chi Minh City University of Transport, Vietnam
9. **Mr. Shun-Chung Lee**, Deptt. of Resources Engineering, National Cheng Kung University, Tainan City, Taiwan
10. **Samir Kumar Khanal**, Deptt. of Molecular Biosciences & Bioengineering, University of Hawaii, Honolulu, Hawaii
11. **Dr. Sang-Bing Tsai**, Zhongshan Institute, University of Electronic Science and Technology, China
12. **Dr. Zawawi Bin Daud**, Faculty of Civil and Environmental Engg., Universiti Tun Hussein Onn Malaysia, Johor, Malaysia
13. **Dr. Srijan Aggarwal**, Civil and Environmental Engg. University of Alaska, Fairbanks, USA
14. **Dr. M. I. Zuberi**, Department of Environmental Science, Ambo University, Ambo, Ethiopia
15. **Dr. Prof. A.B. Gupta**, Dept. of Civil Engineering, MREC, Jaipur, India
16. **Dr. B. Akbar John**, Kulliyyah of Science, International Islamic University, Kuantan, Pahang, Malaysia
17. **Dr. Bing Jie Ni**, Advanced Water Management Centre, The University of Queensland, Australia
18. **Dr. Prof. S. Krishnamoorthy**, National Institute of Technology, Tiruchirapally, India
19. **Dr. Prof. (Mrs.) Madhoolika Agarwal**, Dept. of Botany, B.H.U., Varanasi, India
20. **Dr. Anthony Horton**, Envirocarb Pty Ltd., Australia
21. **Dr. C. Stella**, School of Marine Sciences, Alagappa University, Thondi -623409, Tamil Nadu, India
22. **Dr. Ahmed Jalal Khan Chowdhury**, International Islamic University, Kuantan, Pahang Darul Makmur, Malaysia
23. **Dr. Prof. M.P. Sinha**, Dumka University, Dumka, India
24. **Dr. G.R. Pathade**, H.V. Desai College, Pune, India
25. **Dr. Hossam Adel Zaqoot**, Ministry of Environmental Affairs, Ramallah, Palestine
26. **Prof. Riccardo Buccolieri**, Deptt. of Atmospheric Physics, University of Salento-Dipartimento di Scienze e Tecnologie Biologiche ed Ambientali Complesso Ecotekne-Palazzina M S.P. 6 Lecce-Monteroni, Lecce, Italy
27. **Dr. James J. Newton**, Environmental Program Manager 701 S. Walnut St. Milford, DE 19963, USA
28. **Prof. Subhashini Sharma**, Dept. of Zoology, University of Rajasthan, Jaipur, India
29. **Dr. Murat Eyvaz**, Department of Environmental Engg. Gebze Inst. of Technology, Gebze-Kocaeli, Turkey
30. **Dr. Zhihui Liu**, School of Resources and Environment Science, Xinjiang University, Urumqi, China
31. **Claudio M. Amescua García**, Department of Publications Centro de Ciencias de la Atmósfera, Universidad Nacional Autónoma de México
32. **Dr. D. R. Khanna**, Gurukul Kangri Vishwavidyalaya, Haridwar, India
33. **Dr. S. Dawood Sharief**, Dept. of Zoology, The New College, Chennai, T. N., India
34. **Dr. Amit Arora**, Department of Chemical Engineering Shaheed Bhagat Singh State Technical Campus Ferozepur -152004, Punjab, India
35. **Dr. Xianyong Meng**, Xinjiang Inst. of Ecology and Geography, Chinese Academy of Sciences, Urumqi, China
36. **Dr. Sandra Gómez-Arroyo**, Centre of Atmospheric Sciences National Autonomous University, Mexico
37. **Dr. Manish Sharma**, Research and Development Cell, Bahra University, Shimla Hills, Shimla, India
38. **Dr. Wen Zhang**, Deptt. of Civil and Environmental Engineering, New Jersey Institute of Technology, USA