Abinandan Sudharsanam

Preferred name - Abi

Profile

Experienced researcher in microbiology, environmental, and sustainability. Goal-oriented professional focused on continuous improvement practice and enhanced delivery of project outcomes.

Employment History

Research associate at The University of Newcastle, Newcastle

October 2019 — Present

- Identification and testing of Total Petroleum Hydrocarbons (TPH) and its metabolites in groundwater
- Establishing TPH and its metabolites toxicity to a range of aquatic organisms (microalgae) following standard ecotoxicology protocols.
- Ecotoxicity of Total Petroleum Hydrocarbons components in groundwater, with a focus on the stygofauna in groundwater.
- Data compilation and analysis and manuscript preparation and communication to the journal.
- Assisting principal investigator in report preparation.
- Staff nominee for microbiology laboratory (PC2 facility) assisting lab manager in risk assessment and standard operating procedures, laboratory inspection (fortnightly) for maintenance of safe environment.

Environmental Engineer at Ecotech Labs Pvt. Ltd, Chennai, India

December 2014 — February 2016

- Completed numerous environmental impact audit reports and assessments for construction projects.
- Played a pivotal role in the National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation.
- Responsible for field sample collections (Water, air, and noise) for environmental quality monitoring to meet standard criteria set by statutory bodies.
- Preparation of wastewater treatment plant adequacy report for environmental clearance approvals.
- Meeting sustainability goals based on the Higgs index for the clothing industry
- Estimating the impacts of river water quality polluted by wastewater (Research project)
- Establishing client interactions for instigating strategies to improve environmental compliance.

Graduate Engineer Trainee at Ecocharm Pvt Ltd., Chennai, India

July 2014 — December 2014

Details

22 Naughton Avenue
Birmingham Gardens, 2287
Australia
+61 469792176
abinandan.abidin@gmail.com

Date / Place of birth

16 Sep 1990
India

Nationality

Indian

Links

Linkedin
Google scholar
Researchgate

Skills

Field Investigation Skills

Computer Skills

Ability to Work in a Team

Analytical Thinking Skills

Communication Skills

project planning

Report writing

Environmental monitoring

Microbiology

Life cycle analysis

Environmental DNA analysis

Biomass characterization

Fourier Transform Infrared Spectroscopy

Nuclear Magnetic Resonance Spectroscopy

Biofuels

Resource recovery

- Conducted environmental sample analysis (wastewater, ambient air) according to standard protocols.
- Analyzed and prepared an Environmental impact assessment report
- Energy auditing and assisting in sustainable approach design and implementation.

Project Assistant at CSIR Central Leather Research Institute, Chennai, India
July 2013 — July 2014

- Carrying out research experiments under the “Bioenergy from algae grown in industrial wastewater and CO2 sequestration” under national network program funded by Govt. of India.
- Regular maintenance of laboratory instruments, autoclave
- Worked well independently and on a team to solve problems.
- Served as a friendly, hardworking, and punctual employee.
- Organized and prioritized work to complete assignments in a timely, efficient manner.
- Cooperated with superiors and colleagues to achieve goals.

Education

Doctor of Philosophy, University of Newcastle, Callaghan, Australia
March 2016 — September 2019

- Carried out research in developing microalgae technology for remediation of acid mine drainage from mines.
- Published several research manuscripts in collaboration with various researchers.
- Participated in several conferences and awarded second poster prize at Mine rehabilitation conference

Master of Technology , VIT University, Vellore, India
June 2011 — May 2013

Specialized in Energy and Environmental Engineering.

Bachelor of Technology, Anna University, Chennai, India
June 2007 — April 2011

Specialized in Biotechnology

Awards and Recognition

International Postgraduate Research Scholarships, University of Newcastle
March 2016 — September 2019

Australian Postgraduate Award, University of Newcastle
March 2016 — September 2019

Publications

· Abinandan, S., Perera, I.A., Subashchandrabose, S.R., Venkateswarlu, K., Cole, N. and Megharaj, M., 2020a. Acid-adapted microalgae exhibit

Languages

English

Thamizh

phenotypic changes for their survival in acid mine drainage samples. FEMS Microbiology Ecology. https://doi.org/10.1093/femsec/fiaa113.

· Abinandan, S., Praveen, K., Subashchandrabose, S.R., Venkateswarlu, K. and Megharaj, M., 2020b. Life Cycle Assessment for Environmental Sustainability of Immobilized Acid-Adapted Microalgal Technology in Iron Removal from Acid Mine Drainage. ACS Sustainable Chemistry & Engineering. 2020, 8, 41, 15670–15677.

· Abinandan, S., Subashchandrabose, S.R., Venkateswarlu, K. and Megharaj, M., 2020c. Sustainable Iron Recovery and Biodiesel Yield by Acid-Adapted Microalgae, *Desmodesmus* sp. MAS1 and *Heterochlorella* sp. MAS3, Grown in Synthetic Acid Mine Drainage. ACS omega, 5(12), 6888-6894.

· Abinandan, S., Subashchandrabose, S.R., Cole, N., Dharmarajan, R., Venkateswarlu, K., Megharaj, M., 2019a. Sustainable production of biomass and biodiesel by acclimation of non-acidophilic microalgae to acidic conditions. Bioresource Technology 271, 316-324.

· Abinandan, S., Subashchandrabose, S.R., Panneerselvan, L., Venkateswarlu, K., Megharaj, M., 2019b. Potential of acid-tolerant microalgae, *Desmodesmus* sp. MAS1 and *Heterochlorella* sp. MAS3, in heavy metal removal and biodiesel production at acidic pH. Bioresource Technology 278, 9-16.

· Abinandan, S., Subashchandrabose, S.R., Venkateswarlu, K., Megharaj, M., 2019c. Soil microalgae and cyanobacteria: the biotechnological potential in the maintenance of soil fertility and health. Critical reviews in biotechnology, 1-18.

· Abinandan, S., Subashchandrabose, S.R., Venkateswarlu, K., Perera, I.A., Megharaj, M., 2019d. Acid-tolerant microalgae can withstand higher concentrations of invasive cadmium and produce sustainable biomass and biodiesel at pH 3.5. Bioresource Technology 281, 469-473.

· Abinandan, S., Subashchandrabose, S.R., Venkateswarlu, K., Megharaj, M., 2018a. Microalgae–bacteria biofilms: a sustainable synergistic approach in remediation of acid mine drainage. Applied Microbiology and Biotechnology 102(3), 1131-1144.

· Abinandan, S., Subashchandrabose, S.R., Venkateswarlu, K., Megharaj, M., 2018b. Nutrient removal and biomass production: advances in microalgal biotechnology for wastewater treatment. Critical reviews in biotechnology 38(8), 1244-1260.

References

Megharaj Mallavarapu from University of Newcastle
megh.mallavarapu@newcastle.edu.au · +61 2 4913 8734

Suresh Subashchandrabose from Soil Carbon Co
suresh@soilcarbon.co