

Jyoti Singh

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RESEARCH AND EDUCATION

2019-present

Post Doctorate (Geomicrobiology)

Department of Earth Sciences

Pondicherry University, Puducherry

as DST INSPIRE FACULTY

Project: "Exploring endolithic cyanobacteria from diverse carbonate rich environments of India and implications to carbon cycle: A geobiological approach"

2016-2018

Post Doctorate (Environmental Microbiology & Biotechnology)

Division of Microbiology

Indian Agricultural Research Institute, New Delhi

as DST SERB N-PDF

Project: "Extremophilic Microalgae from Carbonate Niches for Carbon Capture and Biodiesel Production: A Proteomic Approach"

Mentor: Dr. Dolly W Dhar, Division of Microbiology, IARI, New Delhi

2009-2015

Ph.D. in Environmental Microbiology & Biotechnology

School of Environmental Sciences

Jawaharlal Nehru University, New Delhi

Ph.D. Thesis: "Characterization of Endolithic Cyanobacterium for Prospective Production of Biodiesel: A Biological CO₂ Recycling Approach"

Supervisor: Prof. I.S. Thakur, School of Environmental Sciences, JNU, New Delhi

2006-2008

M.Sc. in Plant Physiology (Minor in Molecular Biology and Biotechnology)

College of Basic Sciences and Humanities,

GB Pant University of Agriculture & Technology, Pantnagar

M.Sc. Thesis: "Elucidating the role of *Pseudomonas fluorescens* in growth of high yielding Rice (*Oryza sativa* L.) varieties"

Supervisor: Dr. Alok Shukla, Department of Plant Physiology, CBSH, GBPUA&T, Pantnagar

2003-2006

B.Sc. Botany (H) with Zoology & Chemistry

Gargi College, University of Delhi

RESEARCH PUBLICATIONS

- 2019 **Jyoti Singh**, Dhar DW (2019). Overview of carbon capture technology: microalgal biorefinery concept and state-of-the-art. **Frontiers in Marine Science** 6:29. doi: 10.3389/fmars.2019.00029 (ISSN 2296-7745, IMPACT FACTOR 3.06)
- 2015 **Jyoti Singh**, Thakur IS (2015). Evaluation of cyanobacterial endolith *Leptolyngbya* sp. ISTCY101, for integrated wastewater treatment and biodiesel production: a toxicological perspective. **Algal Research** 11: 294-303. doi:10.1016/j.algal.2015.07.010 (ISSN 2211-9264, IMPACT FACTOR 5.014)
- 2015 **Jyoti Singh**, Singh MK, Kumar M, Thakur IS (2015). Immobilized lipase from *Schizophyllum commune* ISTL04 for the production of fatty acids methyl esters from cyanobacterial oil. **Bioresource Technology** <http://dx.doi.org/10.1016/j.biortech.2015.01.086> (ISSN 0960-8524, IMPACT FACTOR 5.039)
- 2015 Kumar M, **Jyoti Singh**, Singh MK, Singhal A and Thakur IS (2015). Investigating the degradation process of kraft lignin by β -proteobacterium, *Pandoraea* sp. ISTKB. **Environmental Science and Pollution Research**. doi: 10.1007/s11356-015-4771-5 (ESPR 0944-1344, IMPACT FACTOR 2.7)
- 2014 **Jyoti Singh**, Tripathi R, Thakur IS (2014). Characterization of endolithic cyanobacterial strain, *Leptolyngbya* sp. ISTCY101, for prospective recycling of CO₂ and biodiesel production. **Bioresource Technology** 166: 345-52. (ISSN 0960-8524, IMPACT FACTOR 5.039)
- 2014 Tripathi R, **Jyoti Singh**, Bharti RK and Thakur IS (2014). Production, purification and characterization of lipase from *Microbacterium* and its application in biodiesel production. **Energy Procedia** 54: 518 – 529 (ISSN: 1876-6102)
- 2014 Tripathi R, **Jyoti Singh** and Thakur IS (2014). Characterization of microalga *Scenedesmus* sp. ISTGA1 for potential CO₂ sequestration and biodiesel production. **Renewable Energy DOI: 10.1016/j.renene.2014.09.005** (ISSN: 0960-1481, IMPACT FACTOR 3.361)
- 2014 Singh MK, **Jyoti Singh**, Kumar M, Thakur IS (2014). Novel Lipase from Basidiomycetes *Schizophyllum commune* ISTL04, produced by solid state fermentation of *Leucaena leucocephala* seeds. **Journal of Molecular Catalysis B: Enzymatic DOI: 10.1016/j.molcatb.2014.10.010**. (ISSN 1381-1177, IMPACT FACTOR 2.7)
- 2011 **Jyoti Singh**, Shukla A, Goel R (2011). Impact of phosphorus-solubilizing cold resistant mutant strain of *Pseudomonas fluorescens* on growth of high yielding rice (*Oryza sativa*) varieties in highly alkaline soil. **The Indian Journal of Agricultural Sciences** 81 (3): 271–3. (ISSN 0019-5022, IMPACT FACTOR 0.17)

BOOK CHAPTER

- 2010 **Jyoti Singh** and Shukla A (2010). Potential of *Pseudomonas fluorescens* in sustainable agriculture and its advancement using biotechnology. In book: **Stable food production and sustainable agriculture: a challenge ahead in 21st century**, RS SENGAR AND AK SHARMA (eds). Studium Press (India) Pvt. Ltd., New Delhi, India. pp. 260-273. (ISBN 9789380012148)

RESEARCH PUBLICATIONS (IN PROCEEDINGS)

- 2013 **Jyoti Singh** and Thakur IS. Endolithic Cyanobacterium, *Leptolyngbya* ISTCY101, for Synergistic Biofuel Production and Wastewater Treatment. In proceedings of The 4th International Conference on Advances in Energy Research, 2013. **(best paper presentation award)**
- 2013 Tripathi R, **Jyoti Singh**, Bharti RK and Thakur IS. Production, purification and characterization of lipase from *Microbacterium* and its application in biodiesel production. In proceedings of The 4th International Conference on Advances in Energy Research, 2013.

WORKSHOPS/TRAININGS

- 2018 GIAN Short Term Course on “**Microbial Carbonates in Time and Space**” at Indian Institute of science (IISc), Bangalore from 19th - 25th November 2018.
- 2017 Hands-on proteomics training “**3rd Plant Proteomics Workshop**” at Department of Botany, University of Delhi, New Delhi from 19th -23rd Dec, 2017.

ACADEMIC AWARDS/HONOURS/FELLOWSHIPS

- 2019 Awarded with **DST INSPIRE FACULTY** Award in Earth and Atmospheric Sciences
- 2016 Awarded with **DST National Post-Doctoral Fellowship**
- 2015 Awarded with **DS Kothari PDF** in Life Sciences
- 2013 Won the **Best Paper Presentation (Oral) award** at “**International Conference on Advances in Energy Research (ICAER) - 2013**” held at IIT, Bombay in Dec 2013
- 2009 Qualified **CSIR-JRF** in Life Sciences
- 2009 Qualified **ICAR-SRF** in Plant Physiology
- 2006 Qualified **ICAR-JRF** in Plant Physiology

ORAL/ POSTER PRESENTATIONS

- 2014 **Jyoti Singh**, Singh MK and Thakur IS. Immobilized lipase from *Schizophyllum commune* ISTL04, for enzymatic biodiesel production from cyanobacterium *Leptolyngbya* sp. ISTCY101. International Conferences on Emerging Trends in Biotechnology, 2014 (ICETB) organized by The Biotech Research Society, India and Jawaharlal Nehru University, New Delhi.
- 2014 **Jyoti Singh** and Thakur IS. Can the much “understated and underutilized” lithic microalgal species be a boon to the biodiesel Industry? Pre Conference Workshop on Biogeochemistry held during the International Conferences on Emerging Trends in Biotechnology, 2014 (ICETB) organized by ENVIS, Ministry of Environment & Forests, Govt. of India and Jawaharlal Nehru University, New Delhi.
- 2014 Tripathi R, **Jyoti Singh** and Thakur IS. Optimization of process parameters for biomass and lipid production by algal strain *Scenedesmus* sp. ISTGA1 using response surface methodology.

	International Conferences on Emerging Trends in Biotechnology, 2014 (ICETB) organized by The Biotech Research Society, India and Jawaharlal Nehru University, New Delhi.
2013	Jyoti Singh , Singh MK and Thakur IS. Immobilized lipase from <i>Trichoderma harzianum</i> produced by solid state fermentation as potential biocatalyst for biodiesel production. International Conferences on Advances in Biotechnology and Bioinformatics, 2013 (ICABB) organized by The Biotech Research Society, India and Dr. D.Y. Patil Vidyapeeth, Pune.
2014	Tripathi R, Jyoti Singh , Thakur IS. Enhanced carbon dioxide sequestration and simultaneous biodiesel production by microalgae <i>Scenedesmus</i> sp. isolated from marble mining site. Urban Environmental Pollution 2014.
2013	Jyoti Singh and Thakur IS. Endolithic Cyanobacterium, <i>Leptolyngbya</i> ISTCY101, for Synergistic Biofuel Production and Wastewater Treatment. In proceedings of The 4th International Conference on Advances in Energy Research, 2013. (best paper presentation award)
2013	Tripathi R, Jyoti Singh , Bharti RK and Thakur IS. Production, purification and characterization of lipase from <i>Microbacterium</i> and its application in biodiesel production. In proceedings of The 4th International Conference on Advances in Energy Research, 2013.
2013	Tripathi R, Jyoti Singh , Gupta A and Thakur IS. Utilization of wastewater resources for sustainable algal biofuel production and phycoremediation. International Conferences on Advances in Biotechnology and Bioinformatics, 2013 (ICABB) organized by The Biotech Research Society, India and Dr. D.Y. Patil Vidyapeeth, Pune.
2012	TERI-International Bioenergy Summit –2012 (Attended)

MEMBER OF ACADEMIC BODIES

The Biotech Research Society, India (BRSI)