CURRICULUM VITAE

Dr. Shailesh Kumar Patidar

Personal information

Full Name	Shaliesh Kumar Patidar
Date of Birth	10th June 1984
Email	shaileshpatidar84@gmail.com shailesh.patidar@curaj.ac.in
Nationality	Indian
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Education Qualifications

- Ph.D. Microbiology, CSIR-CSMCRI, 2011-2015
- M.Sc. Environmental Science, Sardar Patel University, 2006-2008; First Class.
- B.Sc. Environmental Science, Sardar Patel University, 2003- 2006; First Class.

Current Position **Assistant Professor**
(August, 2019 onwards) School for Earth Science, Central University of Rajasthan, Ajmer (Rajasthan), India.

Last Position held Research Fellow (Postdoctoral Position),
University of Michigan, Ann Arbor, USA.

Past Services Postdoc- Hanyang University, South Korea (2016-2018)
University of Michigan, USA (2019).

Assistant Professor- NVPAS (Affiliated to Sardar Patel University) (2015-2016)

Publications

1. Parveen, S., & **Patidar, S.K.*** (2023).Bacterial quorum sensing precursors N-(3-Oxododecanoyl)-L-homoserine lactone & N-(3-Hydroxyoctanoyl)-DL-homoserine lactone ameliorate algal biomass, lipids and fatty acids. *Chemical Engineering Journal*. *471*, 144757. ***IF:13.4***
2. **Patidar, S. K. ***(2025). Metabolic interactions between microalgae and bacteria: Multifunctional ecological interplay and environmental applications. *Algal Research*, 103904. ***IF: 4.6***
3. Parveen, S.[1], & **Patidar, S.K.***[1] (2022). Revisiting algal lipids and cellular stress-causing strategies for ameliorating the productivity of suitable lipids of microalgae for biofuel applications. *Sustainable Energy & Fuels*.6, 3907-3925. [1]equally contributed. ***IF:*** **5.0**
4. **Patidar, S.K*.**, Kim S.H., Kim J.H., Park J.S., Park B.S., Han M.S* (2018). *Pelagibacabermudensis*promotes biofuel competence of *Tetraselmis striata* in a broad range of abiotic stressors: dynamics of quorum sensing precursors and strategic improvement in lipid productivity. *Biotechnology for Biofuels*.11, 102-117. ***IF: 6.1***

5. **Patidar, S.K.,** Mitra, M., George, B., Soundarya, R., & Mishra, S. (2014). Potential of *Monoraphidiumminutum*for carbon sequestration and lipid production in response to varying growth mode. *Bioresource Technology, 172*, 32-40. ***IF: 9.7***
6. **Patidar, S.K.**, Mishra, S. K., Bhattacharya, S., Mitra, M., Goel, S., & Mishra, S. (2015). Naturally floating micro algal mat for insitu bioremediation and potential for biofuel production. *Algal Research, 9,* 275-282. ***IF:4.6***
7. **Patidar, S.K.**, Chokshi, K., George, B., Bhattacharya, S. & Mishra, S. (2015). Dominance of cyanobacterial and cryptophytic assemblage correlated to CDOM at heavy metal contamination sites of Gujarat, India. *Environmental Monitoring and Assessment, 187*, 4118. ***IF: 2.9***
8. **Patidar, S.K.,** Mitra, M., Goel, S., & Mishra, S. (2016). Effect of carbon supply mode on biomass and lipid in CSMCRI's *Chlorella variabilis* (ATCC 12198). *Biomass and Bioenergy*, *86*, 1-10. ***IF: 5.8***
9. Mitra, M., **Patidar, S.K.**, George B. & Mishra, S. (2015). A euryhaline *Nannochloropsis gaditana* with potential for nutraceuticals (EPA) and biodiesel. *Algal Research*, *8,* 161-167. ***IF: 4.6***
10. Mitra, M., **Patidar, S.K.**, & Mishra, S. (2015). Integrated process of two stage cultivation of *Nannochloropsis* sp. for nutraceutically valuable eicosapentaenoic acid and biodiesel. *Bioresource Technology, 193*, 363-369. ***IF: 9.7***
11. Mitra, M., Shah, F., Bharadwaj, S. V., **Patidar, S.K.**, & Mishra, S. (2016). Cultivation of *Nannochloropsisoceanica*biomass rich in eicosapentaenoic acid utilizing wastewater as nutrient resource. *Bioresource Technology*, *218*, 1178-1186. ***IF:9.7***
12. Pancha, I., Chokshi, K., Maurya, R., Trivedi, K., **Patidar, S.K.,** Ghosh, A., & Mishra, S. (2015). Salinity induced oxidative stress enhanced biofuel production potential of microalgae *Scenedesmus* sp. CCNM 1077. *Bioresource Technology*, *189*, 341-348. ***IF:9.7***
13. Sahu, A., Pancha, I., Jain, D., Paliwal, C., Ghosh, T., **Patidar, S.**, Bhattacharya S. & Mishra, S. (2013). Fatty acids as biomarkers of microalgae. *Phytochemistry, 89*, 53-58. ***IF: 3.2***
14. Mishra, S.K., Shrivastav, A., Maurya, R.R., **Patidar, S.K.**, Haldar, S., & Mishra, S. (2012).Effect of light quality on the C-phycoerythrin production in marine cyanobacteria *Pseudanabaena* sp. isolated from Gujarat coast, India. *Protein Expression and Purification,81*(1), 5-10. ***IF: 1.4***
15. Bhattacharya, S., Maurya, R., Mishra, S. K., Ghosh, T., **Patidar, S.K.**, Paliwal, C., Chokshi, K., Pancha I. & Mishra, S. (2016). Solar driven mass cultivation and the extraction of lipids from *Chlorella variabilis*: A case study. *Algal Research*, *14*, 137-142. ***IF:4.6***
16. Bhattacharya, S., Bachani, P., Jain, D., **Patidar, S.K.**, & Mishra, S. (2016). Extraction of potassium from K-feldspar through potassium solubilization in the halophilic *Acinetobacter soli* (MTCC 5918) isolated from the experimental salt farm. *International Journal of Mineral Processing*, *152*, 53-57. ***IF: 5.3***
17. Bachani, P., Bhattacharya, S., Jain, D., **Patidar, S.K.**, Soundarya, R., Tirkey, S. R., & Mishra, S. (2016). Bio prospecting of halo tolerant bacterial isolates for potassium recovery from K - Feldspar. *Chemical Engineering & Technology*, *39*(9), 1645-1652. ***IF: 1.8***

18. Karande, B.I., Pandey, V., Shekh, A.M., Guled, P.M., **Patidar, S.**D. (2012). Quantification pollution level (PM10) using Sun photometer AOT. *Journal of Agrometeorology* 14: special issue.372-377. ***IF: 1.8***

19. Narsude, J., Jadhav, J., Rena, V., Khan, A., Chauhan, R., Sonawane, R., **Patidar, S.K**. & Kamble, P. (2025). Decontamination of Sewage Wastewater by an Aeration Method Utilizing Water Hardness-Reducing Spirulina platensis. *Current Microbiology*, 82(5), 196. ***IF: 2.3***

20. Karande, B.I., Shekh, A.M., Pandey, V., **Patidar, S.**D., Guled, P.M., Kumar A. (2012). Trends of air pollutants in urban and rural agricultural area and their impact on crops growth. *Journal of Agrometeorology* 14: special issue. 80-86. ***IF:*** 1.8

21. Kim J.H., Park B.S., Wang P., **Patidar, S.K.**, Han, M. S. (2016). Development of a qPCR assay for tracking the ecological niches genetic sub-populations within *Pseudo-nitzschiapungens* (Bacillariophyceae). *Harmful algae*. 63, 68-78. ***IF:*** **5.5**

22. Park J., Park B.S., Wang P., **Patidar, S.K.**, Kim S.H., Kim J.H., Han, M.S. (2017). Phycospheric native bacteria *Pelagibaca bermudensis* and *Stappia* sp. ameliorate biomass productivity of *Tetraselmis striata* (KCTC1432BP) in co-cultivation system through mutualistic interaction ns. *Frontiers in Plant Science.* 8, 289. ***IF:*** **4.1**

23. Joo, J., Kaung, Z., Wang, P., Park B.S., **Patidar, S.K.**, Han, M.S. (2017). Ecological assessment within a mesocosm of an algaecidal naphthoquinone derivate for the mitigation of *Stephanodiscus*. *Environmental Pollution*. 229, 735-745. ***IF:*** **7.6**

24. Kim J.H., Park B.S., Wang P., **Patidar, S.K.**, Han, M.S. (2018). Revealing the distinct habitat ranges and hybrid zone of genetic sub-populations within *Pseudo-nitzschiapungens* (Bacillariophyceae) in the West Pacific area. *Harmful algae.* 73, 72-83. ***IF: 5.5***

25. Heon-woo Lee, Joo, J., Park B.S., Choi H. J, **Patidar, S.K.**, Han, M.S. (2018). Cyanobacteria- specific algicidal mechanism of bio inspired naphthoquinone derivative, NQ 2-0. *Scientific Reports.* 8:11595. ***IF:*** **3.8**

26. Dar, M. A., Palsania, P., Satya, S., Dashora, M., Bhat, O. A., Parveen, S., **Patidar S.K.** & Kaushik, G. (2025). Microplastic pollution: A global perspective in surface waters, microbial degradation, and corresponding mechanisms. *Marine Pollution Bulletin*, 210, 117344. ***IF:*** **5.3**

Book Chapter

1. **Patidar, S.K.**, Mishra S., (2017). Carbon Sequestration by Microalgae: A green approach for climate change mitigation. Reference Module in Earth systems and Environmental Science. Encyclopaedia of sustainable energy, pp 477–483.
2. Choudhary, R., Parveen, S., & **Patidar, S. K.*** (2023). Ecotoxicology of REEs in Aquatic Macrophytes and Prospect for Bioremediation of REEs. In Aquatic Macrophytes: Ecology, Functions and Services (pp. 139-158). Singapore: Springer Nature Singapore.
3. Tarannum, N., **Patidar, S. K.**,* & Chaudhary, N. (2024). Promising Microalgae for Nutraceutical and Food Applications: Solution for Global Food Problems. In Value Added Products From Bio-algae Based Biorefineries: Opportunities and Challenges (pp. 383-420). Singapore: Springer Nature Singapore.

4. Shah, F., Ranawat, B., Patel, V., **Patidar, S. K.**, Thomas, R. M., & Mishra, S. (2024). Novel Approaches for Greener Synthesis of Extremozymes Using Agro/Food Waste. In Environmental Engineering and Waste Management: Recent Trends and Perspectives (pp. 297-318). Cham: Springer Nature Switzerland.

5. Agarwal, R., Parveen, S., Maratha, S., & Patidar, S. K. (2025). Future Prospects and Emerging Technologies. Algal Bioengineering and Microbial Synergy to Green Remediation, 339-370. Springer Nature.

Patents

1. Mishra, S.C.P. et al. (Including **Patidar, S.K**.) 2014. Engine worthy fatty acid methyl ester (biodiesel) from naturally occurring marine micro algal mats and marine microalgae cultured in open salt pans together with value addition of co-products.
   - European Patent EP2718453 B1 (Patent Granted), PCT/IN2012/000372.
   - Spain Patent ES2530947T3 (Patent Granted.
   - Russia Patent RU2603748C2 (Patent Granted).
   - Chinese Patent CN103842514B (Patent Granted).
   - Japanese Patent JP6002756B2 (Patent Granted).
   - U.S. Patent Application 14/119,065. (Published).
   - South Africa Patent ZA201308696B (Published).
   - Japan Patent JP6002756B2 (Expired).
   - South Korea Patent KR20140046424A (Published).
   - Mexico Patent MX342908B (Published).
   - Israel Patent IL229556AO (Published).
   - India Patent IN2012DN06564A (Published).
   - International Patent WO 2012/160577A2 (Published).
   - Canada Patent CA 2836866 (Published).
   - Brazil Patent BR 112013030280A2 (Published).
   - Australian Patent AU 2012260475 B8 (Published).
2. Mishra, S., Bhattacharya, S., Jain, D., Bachani, P., **Patidar, S.K.**, Chattejee S., 2016. A process for the preparation of a potassic ores using halophilic bacteria. **Indian Patent Application number 1445/DEL/2015, Published.**

Award/ Fellowship/Assistantship/ Qualification

- University of Michigan–DoE funded Postdoc
- BrainKorea21-Postdoctoral fellowship (2016-2018)
- UGC-National Eligibility Test, 2009
- SRF(DST, India), 2009-2010
- Research fellow(CSIR-NMITLI-MoES,India), 2010-2013
- Project Assistant-III (CSIR), 2013-2015.

- Peking University Postdoctoral fellowship*
- FCT-Portugal-CCMAR- Postdoc fellowship*

  * Selected, could not join.

Conference paper/ Invited talks/ Oral Presentation

1. **Patidar, S.**, Pandey V, Shekh A.M., Karande B.I., and Guled P.M., 2010. Aerosol optical thickness, water vapour and particulate matter interrelationships in polluted and no polluted sites. International conference on "Global warming: Agriculture, sustainable development and public leadership", Ahmadabad, India.
2. **Patidar, S.K**., Mishra S, Han M.S., 2016. Isolation and screening of microalgae for carbon sequestration and its lipid content from polluted West coast of India. International conference on "Life science and Bioengineering (LSBE)", Kyoto, Japan.
3. **Patidar, S.K.**, Kim S.H., Kim J.H., Park J.S., Park B.S., Han, M.S., 2017. *Pelagibacabermudensis*promotes biofuel potential of *Tetraselmis striata* in broad range of abiotic stressors in addition to the release of the HHQ and PQS. "International phycological congress", Szczecin, Poland.
4. **Patidar, S.K.**, Kim J.H., Kim S.H., Joo J.H., Kim J.H., Han M.S., 2018. Implications of quorum sensing precursors in the co-cultivation biofuel production systems. International conference on "Ecology and Resilience Infrastructure", Kyung Hee University, South Korea.
5. **Patidar, S.K.**, Kim S.H., Kim J.H., Park B.S., Han, M.S. , 2017. Development of robust co-cultivation model for *Tetraselmis striata* biomass feedstock's: Possible involvement of quinolones instead of lactones during interactions. International Seminar on "H-HABs", KIOST, South Korea.
6. **Patidar, S.K**., 2020. Algae for food, energy, and sustainable environmental solutions. Invited lecture at Poornima University, Jaipur, India.
7. **Patidar, S.K.,** 2022. "Potential of HHQ and PQS on algal Lipids and Physcopheric ecology. Annual Congress on Biofuels and Bioenergy". Paris, France.
8. **Patidar, S.K.**, 2023. "Potential of HHQ and PQS on algal Lipids". National Seminar on "emerging trends in biological sciences: a north east India perspective"
   NEHU, Shillong India.
9. **Patidar, S.K.,** 2023. Ultrasonication for stress mediation of *Chlorella* sp. and amelioration of biofuel suitable feedstocks. International Conference on Recent Advances in Bio-Energy Research (ICRABR-2023) at SSS-NIBE, Kapurthala, Punjab - 144603, India.
10. **Patidar, S.K.,** 2024**.** Synthetic Ecology and quorum sensing for biofuel production. International conference on Microbial Technologies for sustainable Bioeconomy (IC-MTSB-2024) at CURAJ Kishangarh, Ajmer.
11. **Patidar, S.K., 2024.** Implications of quorum sensing mechanisms in synthetic ecology inspired models of algae-bacteria and prospective lipid amelioration. 2nd International Symposium on Advances in Algal Research (AAR-2024). jointly organized by IIT Guwahati and JNTU Hyderabad during December 17-18, 2024 at JNTU Hyderabad, India.
12.

Grants:

DBT, DST, SERB-SRG, SERB-SCP, UGC etc.

Funding agency	Grant Number	Title of the Project	Grant Amount
DST-SERB-	DST-	Understanding the role of quorum sensing	Rs. 28,60,176/-

SRG (PI)	SERB/SRG/2020/001191	precursors in synthetic ecology inspired algae-bacteria co-cultivation model for amelioration in lipid metabolism	
UGC (PI)	UGC-BSR SRG F. 30-528/2020 (BSR)	Contamination assessment of Lanthanides in aquatic macrophytes and acid mine drainage affected plant environment of Rajasthan	Rs. 10,00,000/-
SERB-SCP (Co-PI)	SCP/2022/000339	Evaluation of ecologically significant grasses of arid environment of Rajasthan under independent and interactive heatwave and ozone exposure: Identifying conservation strategy under climate change scenario	Rs. 30,79,323/-
DBT (Co-PI)	BT/PR45985/BCE/8/1777/2023	Development of integrated remediation technology for degradation of microplastics using potential hydrocarbonoclastic microbial consortia	Rs. 37,79,280/-
DST (Co-PI)	DST NIDHI iTBI grant	Establishment of iTBI Centre	Rs.5,28,00,000/- Approx.
DST-BIRAC (Co-PI)	E-Yuva Centre	Establishment of BIRAC E-YUVA Centre	Rs. 2,66,00,000/- Approx.
DBT – (PI)	BT/PR54521/BSA/33/308/2024	Understanding algal microbiome compositions, functional genomic traits, and allelochemicals interactions in polyalgal and mono-algal cultures of suitable synthetic ecology models for biofuel production	Approved (estimated around 70,00,000 Rs.
ANRF-PAIR PI for CURAJ	ANRF/PAIR/2025/000006/PAIR-A	DREAMS (Approved)	~10.45 Crore Rs. Inclusively for Central University of Rajasthan

International Project Reviewer - NRF, South Africa

Membership of scientific societies

• Association of Agrometeorologists • **World Society of Sustainable Energy and Technology**

• **International Euglena Network • INPST, Austria • Association of Microbiologists**

Reviewer (Journals)

- Plant Physiology and Biochemistry (Elsevier)
- Biotechnology for Biofuels (Springer-Nature)
- Bioresource Technology Reports (Elsevier) • Life (MDPI) • Frontiers (many journals)
- Journal of Basic Microbiology (Wiley)

- Environmental Science and Pollution Research (Springer)
- Guest Editor: Frontiers in Marine Science for special issue "Algae for energy, food and environmental solution".
- Energy Conversion and Management: X.
- **Microbiome (springer-Nature)**
- European Journal of Phycology
- Environmental Microbiology (Wiley)

Thesis Evaluation / Review

University of Madras, Tamil Nadu, India

Mahatma Gandhi University, Kerala, India

Courses Taught (Integrated M.Sc., M.Sc. and Ph.D.) since 2015

- Fundamentals of Ecology, Aquatic and Chemical Ecology,
- Ecology and Evolution, Environmental Field Methods,
- Earth and Environment, Environmental Laboratory,
- Environmental Problems, Environmental Studies,
- Water and Wastewater Treatment, Global Environmental Issues and Climate Change,
- Research Methodology, Environmental Microbiology and Biotechnology.

Faculty development/ Technological/ Refresher Program as per the mandate of UGC

Faculty development/ Technological Program/ Refresher/ Orientation	**Institution**	**Duration**	**Sponsoring Agency**
Winter school (one month) on "Geospatial and GIS technologies "	*ISTAR*	*23rd November to 13th December 2015*	*NRDMS, DST, GOVT OF INDIA*
Four Weeks Online Induction Training Program For Faculty Members of HEIs	*Central University of Rajasthan*	*20th Jan to 16th Feb 2021*	*Pandit Madan Mohan Malviya Mission on Teachers and Teaching, TLC, CURAJ MINISTRY OF EDUCATION, GOVT OF INDIA*

Two - Week Interdisciplinary REFRESHER COURSE on" Advanced Research Methodology"	*Ramanujan College, University of Delhi*	*22 March - 05 April, 2022*	*Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of MINISTRY OF EDUCATION PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING, GOVT OF INDIA*
Online Interdisciplinary Refresher Course on Pedagogy in Higher Education,	MMTTC, Tezpur University.	14/11/2023 to 28/11/2023	*Pandit Madan Mohan Malviya Mission on Teachers and Teaching, TLC, CURAJ MINISTRY OF EDUCATION, GOVT OF INDIA*