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Summary

Assistant Professor at Department of Cell Biology, Microbiology and Molecular Biology, University of South Florida, USA with expertise in the field of Algal biotechnology. Research focuses on algal based biofuels, bioremediation, platform chemicals and value-added products. Current research theme embraces algal omics and engineering algae for enhanced bioproduct production. Associate Editor for Frontiers in Microbiology and MDPI Processes and Review Editor for Frontiers in Energy Research.

Employment history

- Assistant Professor of Instruction at University of South Florida, Tampa, FL, USA: January 2022- Present
- Post-doctoral Fellow at University of South Florida, Tampa, FL, USA October 2019 — December 2021
- Post-Doctoral Fellow at Indian Institute of Technology, Bombay, India October 2018 — May 2019
- Research Scholar at Indian Institute of Technology, Roorkee, India July 2014 — October 2018
- Lecturer at Dolphin (P.G.) of Biomedical and Natural Sciences, Dehradun, India August 2012 — July 2014

Education

Indian Institute of Technology, Roorkee	Biotechnology, Ph.D.	2018
Jaypee Institute of Technology, Noida	Biotechnology, M.Tech	2012
Jaypee Institute of Technology, Noida	Biotechnology, B.Tech	2011

International society membership and Editorial member

- Editorial Board member in Frontiers in Microbiology (Section: Microbiotechnology)
- Editorial Board member in Processes, MDPI Journal
- Review Editor in Frontiers in Energy Research (Section: Bioenergy and Biofuels)
- Guest editor in Frontiers in Guest Editor for Frontiers in Marine sciences, Fuel (MDPI) and International Journal of Environmental Research and Public Health, MDPI
- Member of Algal biomass organization, USA
- Reviewer of various scientific journals: Bioresource Technology, Bioresource Technology Reports, Science of the Total environment, Applied thermal energy, Current Microbiology, Energy Reports, South African Journal of Botany, Algal research, Journal of Environmental Chemical Engineering, Trends in Biotechnology etc.

Selected Publications

h-index is 22 (<https://scholar.google.co.in/citations?user=o0dRxOAAAAAJ&hl=en>)

1. **N. Arora**, E. Lo, and G.P. Philippidis. A two-prong mutagenesis and adaptive evolution strategy to enhance the temperature tolerance and productivity of *Nannochloropsis oculata*. *Bioresource Technology*. 364 (2022) 128101.
2. **N. Arora**, E. Lo, and G.P. Philippidis. Dissecting enhanced carbohydrate and pigment productivity in mutants of *Nannochloropsis oculata* using metabolomics and lipidomics. *ACS Journal of Agricultural and Food Chemistry*. 70 (2022) 8338-8350.
3. E. Lo, **N. Arora** and G.P. Philippidis. Physiological insights into enhanced lipid accumulation and temperature tolerance by *Tetraselmis suecica* ultraviolet mutants. *Science of The Total Environment*. 839 (2022) 156361
4. **N. Arora** and G.P. Philippidis. Unraveling metabolic alterations in *Chlorella vulgaris* cultivated on renewable sugars using time resolved multi-omics. *Science of The Total Environment*. 800 (2021) 149504
5. M. Tsarpali, **N. Arora**, J.N. Kuhn, G.P. Philippidis. Beneficial use of the aqueous phase generated during hydrothermal carbonization of algae as nutrient source for algae cultivation. *Algal research*. 60 (2021) 102485
6. E. Lo[#], **N. Arora**[#] and G.P. Philippidis. Deciphering metabolic alterations in algae cultivated in spent media as means for enhancing algal biorefinery sustainability. *Bioresource Technology*. 342 (2021) 125890
7. **N. Arora** and G.P. Philippidis. Insights into the physiology of *Chlorella vulgaris* cultivated in sweet sorghum bagasse hydrolysate for sustainable algal biomass and lipid production. *Scientific Reports*. 11(2021) 6779
8. **N. Arora** and G.P. Philippidis. Microalgae strain improvement strategies: random mutagenesis and adaptive laboratory evolution. *Trends in Plant Science*. S1360-1385 (2021) 00147-3
9. **N. Arora**, H.-W. Yen, G.P. Philippidis. Harnessing the power of mutagenesis and adaptive laboratory evolution for high lipid production by oleaginous microalgae and yeasts. *Sustainability*. 12 (2020) 1-27.
10. E.M. Ammar[#], **N. Arora**[#], G.P. Philippidis. The Prospects of Agricultural and Food Residue Hydrolysates for Sustainable Production of Algal Products. *Energies*. 13(2020) 6427. (# equal contribution)
11. **N. Arora**, P.T. Pienkos, K.M. Poluri, V. Pruthi, M.T. Guarnieri. Leveraging algal omics to reveal potential targets for TAG accumulation. *Biotech. Advances* 36 (2018) 1274- 1292.
12. **N. Arora**, G.P. Philippidis. 2021. Life cycle assessment of photosynthetic microalgae for sustainable biodiesel production. *Bioenergy Resources and Technologies*, Elsevier, Amsterdam, 369-387. <https://doi.org/10.1016/B978-0-12-822525-7.00004-4>
13. **N. Arora**, G.P. Philippidis, 2020. Fucoxanthin Production from Diatoms: Current Advances and Challenges, *Algae*, In: Mandotra S.K., Upadhyay A.K., Ahluwalia A.S. (eds) *Algae*. Springer, Singapore. https://doi.org/10.1007/978-981-15-7518-1_10