

<b>NAME</b>	<b>DR. SUBHASHA NIGAM</b>		
<b>DESIGNATION</b>	ASSOCIATE PROFESSOR		
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<b>CONTACT NUMBER</b>	09868164254		
<b>RESEARCH INTERESTS</b>	ALGAL BIODIESEL PRODUCTION, BIOREMEDIATION, ANTIMICROBIAL ACTIVITY, BIOACTIVE COMPOUND PRODUCTION, WASTEWATER TREATMENT		
<b>EDUCATIONAL QUALIFICATIONS:</b>			
Name of College / University	Degree	Year	
BHU, Varanasi	M.Sc.	2001	
BHU, Dept of Botany, Varanasi	Ph.D.	2007	
<b>Title of Ph.D. thesis:</b> "Trehalose biosynthesis under salt stress in Anabaena 7120"			
<b>EXPERIENCE (in chronological order)</b>			
Designation	Type of post held (teaching/ research)	Name of the Institute	Year (From – To)
ASST PROF-I	teaching	Amity Institute of Biotechnology	2008-2010
ASST PROF-II	teaching	Amity Institute of Biotechnology	2011-2016
ASST PROF-III	teaching	Amity Institute of Biotechnology	2017-2019
Associate PROF	Teaching	Amity Institute of Biotechnology	2019-Till Date
<b>No. of Ph.D. students supervised</b>	Awarded: 4 Ongoing: 1		
<b>No. of M.Tech students supervised</b>	4		
<b>No. of B.Tech students supervised</b>	3		
<b>PUBLICATIONS</b> (40)	<p>1. Jyoti Sharma, Iqra Mariam, Mukul Suresh Kareya, Pannaga Pavan Jatur, Monika Joshi, Amit Bhatnagar, Akhilesh K Chaurasia, <b>Subhasha Nigam</b>, Metabolomic response of microalgae towards diclofenac sodium during its removal from water and concomitant recovery of pigments and lipids, Bioresource Technology, 128617 (2023) <b>IF 11.8</b></p> <p>2. Jyoti Sharma, Monika Joshi, Amit Bhatnagar, Akhilesh K. Chaurasia, <b>Subhasha Nigam</b> Pharmaceutical residues: One of the significant problems in achieving 'clean water for all' and its solution, Environmental Research, 215, 114219 (2022) <b>IF 8.4</b></p> <p>3. Mrinal Poddar, G.B.V.S. Lakshmi, Mahima Sharma, Navneet Chaudhary, <b>Subhasha Nigam</b>, Monika Joshi, Pratima R. Solanki, Environmental friendly Polyacrylonitrile nanofiber mats encapsulated and coated with green algae mediated Titanium oxide nanoparticles for efficient oil spill adsorption,</p>		

Marine Pollution Bulletin, Volume 182, 113971, (2022) **IF 7**

4. Rupal Sarup, Mahima Sharma, Kannikka Behl, Devesh Kumar Avasthi, Pankaj Kumar, Sunil Ojha, **Subhasha Nigam**, Monika Joshi .Highly Effective, oleophilic and reusable nanohybrid embedded on sponge for oily wastewater treatment. Environmental Nanotechnology, Monitoring & Management 2022

5. Mohammad Javad Zarrinmehr, Ehsan Daneshvar, **Subhasha Nigam**, Kannappan Panchamoorthy Gopinath , Jayanta Kumar Biswas , Eilhann E. Kwon , Hailong Wang , Omidvar Farhadian , Amit Bhatnagar. The effect of solvents polarity and extraction conditions on the microalgal lipids yield, fatty acids profile, and biodiesel properties. Bioresource Technology 344(2022) 126303, **IF 11.6**

6. M. Sharma , M. Poddar , Y. Gupta a , **S. Nigam** , D.K. Avasthi , R. Adelung , R. Abolhassani , Fiutowski , M. Joshi , Y.K. Mishra. Solar light assisted degradation of dyes and adsorption of heavy metal ions from water by CuOeZnO tetrapodal hybrid nanocomposite. Materials Today Chemistry 17 (2020) 100336, **IF 8.30**

7. Mahima Sharma, Harpreet Sondhi, Richa Krishna, S. K. Srivastava, Parasmani Rajput, **Subhasha Nigam**, and Monika Joshi, Assessment of GO/ZnO nanocomposite for solar assisted photocatalytic degradation of industrial dye and textile effluent, Environmental Science and Pollution Research (2020), **IF 5.5**

8. Kannikka Behl, Pasupuleti Sessa Charan, Monika Joshi, Mahima Sharma, Ashish Mathur, Mukul Suresh Kareya, Pannaga Pavan Jutur, Amit Bhatnagar **Subhasha Nigam**, Multifaceted applications of isolated microalgae Chlamydomonas sp. TRC-1 in wastewater remediation, lipid production and bioelectricity generation, Bioresource Technology, Volume 304, May 2020, 122993 (2020), **IF 11.89**

9. Mahima Sharma, Monika Joshi, **Subhasha Nigam**, Devesh Kumar Avasthi, Rainer Adelung, Sanjeev Kumar Srivastava, Yogendra Kumar Mishra (2019), Efficient oil removal from wastewater based on polymer coated superhydrophobic tetrapodal magnetic nanocomposite adsorbent, Applied Materials Today, 17 (2019) 130-141, **IF 10.04**

10. Kannikka Behl, Monika Joshi, Mahima Sharma, Simran Tandon, Akhilesh Chaurasia, Amit Bhatnagar, **Subhasha Nigam** (2019) Performance evaluation of isolated electrogenic microalga coupled with graphene oxide for decolorization of textile dye wastewater and subsequent lipid production, *Chemical Engineering Journal*, 375 (2019), 121950, I F **16.67**

11. Kannikka Behl, Surbhi Sinha, Mahima Sharma, Rachana Singh, Monika Joshi, Amit Bhatnagar, **Subhasha Nigam** (2019) One-time cultivation of *Chlorella pyrenoidosa* in aqueous dye solution supplemented with biochar for microalgal growth, dye decolorization and lipid production, *Chemical Engineering Journal*, 364 (2019) 552–561. I F **16.67**

12. Mahima Sharma, Monika Joshi, Subhasha Nigam, Sindu Shree, Devesh Kumar Avasthi, Rainer Adelung, Sanjeev Kumar Srivastava, Yogendra Kumar Mishra (2019), ZnO tetrapods and activated carbon based hybrid composite: Adsorbents for enhanced decontamination of hexavalent chromium from aqueous solution, *Chemical Engineering Journal* 358 (2019) 540–551 I F **16.6**

13. Mahima Sharma, Monika Joshi, **Subhasha Nigam**, Devesh Kumar Avasthi, Rainer Adelung, Sanjeev Kumar Srivastava, Yogendra Kumar Mishra (2019), Efficient oil removal from wastewater based on polymer coated superhydrophobic tetrapodal magnetic nanocomposite adsorbent, *Applied Materials today* 17 I F **10.04**

14. Mahima Sharma, Kannikka Behl, **Subhasha Nigam**, Monika Joshi, (2018), TiO<sub>2</sub>-GO Nanocomposite for Energy and Environmental Applications: A Green Synthesis Approach, *Vacuum*, Vol. 156, 434-439. I F **4.5**

15. Surbhi Sinha, **Subhasha Nigam**, Rachna Singh, Biosorption capacity of Cr(VI) on live and dead *S. rebescens*: Kinetic, equilibrium and phytotoxicity studies, *Indian Journal of Agricultural Biochemistry*, 31(2):137, 2018 I F **3**

16. Jaya Verma, **Subhasha Nigam**, Surbhi Sinha, & Arpita Bhattacharya (2018) Comparative Studies on Polyacrylic Based Anti-Algal Coating Formulation with SiO<sub>2</sub>@TiO<sub>2</sub> Core-Shell Nanoparticles, *Asian Journal of Chemistry*

17. Jaya Verma, **Subhasha Nigam**, Surbhi Sinha, & Arpita Bhattacharya (2018) Development of polyurethane based anti-scratch and anti-algal coating formulation with silica-titania core-shell nanoparticles, *Vacuum*, Vol 153,24-34. **IF 4.5**

18. Jaya Verma, **Subhasha Nigam**, Surbhi Sinha, B. S. Sikarwar & Arpita Bhattacharya (2017) Irradiation effect of low-energy ion on polyurethane nanocoating containing metal oxide nanoparticles, *Radiation Effects and Defects in Solids*, 172:11-12, 964- 974, DOI:10.1080/10420150.2017.1421190

19. Kannikka Behl,**Subhasha Nigam** Chlamydomonas sp. TRC-1 internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence :  
GenBank: MF162271.1

20. Manoj Tripathi, Ravi kumar Asthana, Maheep,Deepali Verma and **Subhasha Nigam** “Proteomic analysis of sensitive and resistant isolates of Escherichia coli in understanding target(s) of a cyanobacterial biomolecule hapalindole-T” *Journal of Aquaculture Research and Development* ( ISSN: 2155-9546) (vol 8, issue 1.1000467) 2017

21. **Subhasha Nigam**, Surbhi Sinha , Mayur Manglik and Rachana Singh “Treatment of textile dye effluent by algae: an eco-friendly and sustainable approach to the environmental pollution” *International journal of Pharma and Biosciences*,7(3): B,366-375,July (2016).

22. Surbhi Sinha, Rachana Singh, Akhilesh Chaurasia, **Subhasha Nigam**,”Self-sustainable Chlorella pyrenoidosa strain NCIM 2738 based photobioreactor for removal of Direct Red-31 dye along with other industrial pollutants to improve the water-quality” *Journal of Hazardous Materials* (ISSN: 0304-3894) 306, 386-394,(2016) **IF 14.2**

23. Surbhi Sinha, **Subhasha Nigam**,Rachana Singh,Potential of Nostoc Muscorum for the decolorization of textile dye RGB Red, *International journal of Pharma and Biosciences*,6(3):

B,1092-1100, (2015)

24. **Subhasha Nigam**, A.P. Singh, R. K. Asthana. A comparison of photopigments and characterization of phyconanin in cyanobacterium originating from different habitat, International journal of Pharma and Biosciences (ISSN6 6299-0975) (3): B,1020-1028 (2015)

25. Monika P Rai, **Subhasha Nigam** and Rupali Sharma, Response of growth and fatty acid compositions of *Chlorella pyrenoidosa* under mixotrophic cultivation with acetate and glycerol for bioenergy application, Biomass and Bioenergy (58 , 251-257 (2013). IF 3.5

26. Monika P Rai, **Subhasha Nigam**, Cost effective method of protease production in solid state fermentation by using combined substrate corn cob and lentil husk. Research and Reviews: A Journal of Life Sciences: STM Journal Volume 3, Issue 1,1-11 (2013).

27. **Subhasha Nigam**, Monika prakash Rai and Rupali Sharma (2011) lipid Comparison of growth and content of *Chlorella pyrenoidosa* in two different growth mediums: BG-11 and Fogg's. International Journal of Biotechnology and Biochemistry. Vol 1, No2, pp 75-84

28. **Subhasha Nigam**, Monika Prakash Rai and Rupali Sharma, Effect of nitrogen on growth and lipid of *Chlorella pyrenoidosa*. American Journal of Biochemistry and Biotechnology 7(3), 126-131(2011).

29. Ravi K. Asthana, **Subhasha Nigam**, Akhilesh P. Singh, Arvind M. Kayastha, Sureshwar P. Singh. Identification of maltooligosyl trehalose synthase and maltooligosyltrehalose hydrolase enzymes causing trehalose biosynthesis in *Anabaena 7120* exposed to NaCl stress. Journal of Plant Physiology 162 1030- 1037(2005). IF 2.8

30. Ravi K. Asthana, Subhasha Nigam, Archana Maurya, A M Kayastha and Sureshwar P. Singh . "Trehalose producing enzymes MTSase and MTHase in a *Anabaena 7120* under NaCl stress . Current microbiology Volume 56 number 429-435, 2008. IF 1.5

31. Jyoti Sharma, Mahima Sharma, **Subhasha Nigam**, Monika Joshi, Environmental-friendly algal-mediated magnetic activated carbon for adsorptive removal of contaminants from water, Chemical Physics Impact ,(2023)

## **BOOK CHAPTERS**

1. Behl K., Jaiswal P., **Nigam S.**, Prasanna R., Abraham G., and Singh PK (2022)  
Treatment of Textile Waste Effluents Using Microalgae: A Suitable Approach for Wastewater Remediation and Lipid Production, Ed (Verma, P.), Springer Nature Singapore Pte Ltd. pp 103-138.. DOI : 10.1007/978-981-19-0793-7
2. Mahima Sharma, **Subhasha Nigam**, and Monika Joshi (2022) Design and Synthesis of Nanostructured Photocatalysts for Water Remediation In Seema Garg, Amrisha Chandra (eds) Green Photocatalytic Semiconductors Recent Advances and Applications Springer PP 49-74  
[ink.springer.com/book/10.1007%2F978-3-030-77371-7](https://ink.springer.com/book/10.1007%2F978-3-030-77371-7)
3. Jyoti Sharma, Monika Joshi, **Subhasha Nigam** (2022) "Role of microalgae in degradation of pharmaceutical compounds" In Maulin P. Shah, Susana Rodriguez-Couto, Celia Vargas-De-La-Cruz, Jayanta Kumar Biswas(eds). An Integration of Phycoremediation Processes in Wastewater Treatment, Elsevier ,pp 75-97 ISBN: 978-0-12-823499-0
4. Rupal Sarup, Kannikka Behl., Monika Joshi and **Subhasha Nigam**(2021) Heavy metal removal by cyanobacteria..In Maulin P Shah Susana Rodriguez Couto Vineet Kumar (eds) New Trends in Removal of Heavy Metals from Industrial Wastewater, Elsevier PP 441-459 ISBN: 978-0-12-822965-1
5. Monika Joshi, Rupal Sarup, Kannikka Behl, Mahima Sharma, **Subhasha Nigam** "Applications of algal nanoparticles in agriculture", in Nanoscience for sustainable Agriculture, eds Ramesh Namdeo Pudake, Nidhi Chauhan, Chittaranjan Kole 2019 , ISBN 978-3-319-97851-2, pp 265-280 , Springer
6. Kannikka Behl, Charan Pesupaleti, **Subhasha Nigam** (2018) "Bioremediation by Algae" In: K Tripathi, N Kumar and G Abraham (eds). The Role of Photosynthetic Microbes in

	<p>Agriculture and Industry,NOVA Science Publications, PP 151-172 .</p> <p>7. Mahima Sharma, Kannikka Behl, <b>Subhasha Nigam</b>, Monika Joshi, (2018), GO Nanosheets for Solar Assisted Dye Degradation in Aqueous Solution, In:Sharma R.,Rawal D (eds).The Physics of semiconductor devices, IWPSD 2017,Springer Proceedings in Physics, Vol 215, 81-87,Springer</p> <p>8. <b>Subhasha Nigam</b> 1 , Surbhi Sinha 1 , Arti Srivastava 1 , Ashutosh Srivastava “Cultivation and Production Techniques of Marine Algae” in the book “Encyclopedia of Marine Biotechnology”. (Wiley-Blackwell) ISBN: 978-1-119-14377-2 (In press)</p> <p>9. Monika P Pai and <b>Subhasha Nigam</b>, Oil extraction from Chlorella Biomass for production of biodiesel, In Energy Environment &amp; Health, eds. G. Paramasivan; S. Alphonsa; J. Edison, 2012, ISBN: 978-81-924744-1-0 ,pp 125-127</p>
<p><b>PATENTS (11)</b></p>	<p><b><u>Granted:</u></b></p> <ol style="list-style-type: none"> <li>1. Subhasha Nigam, Praveen Dahiya and Nitin Agarwal (2015), “A method for producing methanolic and ethyl acetate extracts of Microalgae Chlorella pyrenoidosa. Application number 3260/DEL/2015</li> <li>2. Subhasha Nigam, Rachana Singh, Savera Aggarwal, Surbhi Sinha, Shifu Aggarwal, “Dye decolourization method using algal species Chlorella pyrenoidosa” Patent number 411628 Nigam S, Das R (2012)</li> </ol> <p><b><u>Filed:</u></b></p> <ol style="list-style-type: none"> <li>3. Antimicrobial activity of a cyanobacterium Anabaena 7120 against Helicobacter pylori, 3361/DEL/2012 (final)</li> </ol>

	<ol style="list-style-type: none"> <li>4. Subhasha Nigam, Rajashree Das, Valentina Gehlot and Surbhi Sinha (2013) Antibacterial property of green sea weed <i>Chaetomorpha</i> sp. Against <i>Helicobacter pylori</i>, 3711/DEL/2013 (final)</li> <li>5. Subhasha Nigam, Bhawana Rana and Surbhi Sinha (2014) Enhancement of algal (<i>Chlorella pyrenoidosa</i>) biomass using crude extract of yellow mustard seeds 3973/DEL/2014</li> <li>6. Subhasha Nigam, Bhawana Rana (2015) design of photobioreactor CRN 1274</li> <li>7. Subhasha Nigam, Surbhi Sinha and Bhawana Rana (2015), Composition of <i>Chlorella pyrenoidosa</i> extract and antibiotics against the gram positive and gram negative bacteria. (CRN 1549)</li> <li>8. Subhasha Nigam, Monika Joshi, Surbhi Sinha Dhritiman chakraborty, Aviraj Aviral, Kannikka Behl and Bhawana Rana (2015) , “Reduction of textile dye DR-31 (Direct Red 31) using Algae-GO (Graphene oxide) nanocomposite”.(3994/DEL/2015)</li> <li>9. Monika Joshi, Dass Mihir, Surbhi Sinha, Kannikka Behl and Subhasha Nigam "Green synthesis of graphene oxide (GO) nanosheets using <i>Chlorella pyrenoidosa</i> (Algae)" E-101/44765/2016.DEL</li> <li>10. A method for rapid removal of diclofenac sodium from aqueous solution by nitrogen doped graphene nanosheets (Ref no. 202111030431, Application no. TEMP/E1/33874/2021- Del</li> <li>11. Monika Dubey, Jyoti Sharma, Subhasha Nigam, Monika Joshi &amp;#39;A novel composition and synthesis of ceo2 nanoparticles using microalgae for photocatalytic degradation of doxycycline in water thereof&amp;#39; Application no. 202211008856 Feb 2022</li> </ol>
<p><b>RESEARCH PROJECTS</b> Completed: (02.)</p>	<ul style="list-style-type: none"> <li>• PI in Project sanctioned by DST “Production of Biodiesel from Microalgae as a Renewable Energy Source’ (2010-2013)</li> <li>• PI in project sanctioned by DST “Reclamation of produced water generated from oil refineries using</li> </ul>

	Nano-composites” (2017-2019)
<b>AWARDS &amp; HONOURS/ DISTINCTIONS</b>	<ol style="list-style-type: none"> <li>1. Council of Scientific &amp; Industrial Research NET: Qualified in 2002 (June)</li> <li>2. BHU Fellowship: From 2002 to 2004</li> <li>3. JRF from Centre of Advance Study Botany (BHU) : From 2004 to 2006</li> <li>4. CSIR Senior Research Fellowship (SRF): From 2006 to 2008</li> <li>5. Outstanding contribution in reviewing Algal research (Elsevier) awarded Nov 2015</li> </ol>
<b>MEMBERSHIP</b> with Professional/ Academic bodies	<ol style="list-style-type: none"> <li>1. Member of Indian journal of Agriculture</li> <li>2. Biochemistry Reviewer of Algal Research (Elsevier Journal)</li> </ol>