

FACULTY PROFILE



Name	VANDANA VINAYAK		Date of Birth:01-04-1976
Designation	ASSISTANT PROFESSOR	Date of holding Present Post	25.6.2013
Name of the Department and School	Deptt of Criminology and Forensic Science; School of Applied Science		
Contact Details	Email : kapilvinayak@gmail.com	Mobile:9179577953	
Educational Qualifications (UG onwards)	M.Sc Biochemistry 70.5% , PhD Biochemistry		
Research Area/Specialization	Bio Nanotechnology		
Awards/ Honors / Fellowship Conferred (With details thereof)	2018 - Invited to chair a session at Cambridge University, Cambridge, United Kingdom in a Professional training course on “Algal Biotechnology Techniques and sustainable Bioeconomy” held on 27-28th Sep 2018. 2017 - Fully funded and Travel Award by International Center for Theoretical Physics, Italy to attend and participate in Career Development Workshop for women in Physics to be held in Abdus Salem International centre for theoretical physics, a UNESCO category 1 institute Italy 2015 Best poster paper 2nd position Vandana Vinayak. Genetic engineering to increase lipid production in diatoms at National Seminar organized by the Deptt of Rural Development and Agricultural Production, North Eastern Hill University, Tura Campus, Meghalaya. On Oct 5 2015. 1st prize: Milking oil from dye sensitized diatom solar cell without cell lysis. Priyanshu Jain, Vandana Vinayak, Shristy Gautam, D. Bose and Richard Gordon27-29 Mar'2015, Ideaz, Cognizance, IIT, Rorkee, India, 1st Prize Best poster award ” Diatoms in biofoul monitoring in International Light year conference held on 18-19th Dec 2015, Ankesh, Vandana Vinayak, Shrissty Gautam and Prashant Shukla. 2014 - Poster Paper awarded 3rd Prize “Priyanshu Jain, Vandana Vinayak and J. D Sharma. 2014. Diatom as a crime scene detective.” in Competitive Events on Microbial Biotechnology – Sponsored by Madhya Pradesh Biotechnology Council, Bhopal and Organized by Dept. of App. Microbiology, March 22nd March'2014 - Awarded second prize for presenting paper on National Science day 28th Feb 2014 titled “Genetic Engineering of diatoms to increase the lipid percentage: An alternative source for biofuel. Vandana Vinayak, Shristy Gautam,Vichar Mishra, Anshuman Rai, Shyam Sundar Jangir and J.D. Sharma on 28th Feb 2014 National Science day. 2013 - Appreciation letter from Director Haryana Police Academy, Madhuban, Haryana. - Appreciation letter from Shri Naveen Jindal Member of Parliament (LOK SABHA). - Appreciation letter from Director General of Haryana Police, Police Headquarters, Panchkula. 2012 - Best paper awarded Shristy Gautam, Vandana Vinayak and Aditi Arya 2012. Forensic palynology: a review. Biological sciences, 22nd All India Forensic Science Conference, 26-28th June'pp-21 2011 - Meritorious student award Fellow of city Montessori School(FCMS)-2011 at City Montessori School, Lucknow, the only school with its name in Guinness book of world record. 2010 - Commendation Class -I certificate and award money of Rs 10,000 received from Director General of Police Haryana. 2009 “Noel Deerr Gold Medal Award” for best paper presentation by His Excellency former President of India Dr. A.P.J ABDUL KALAM on occasion of 70th Annual Convention of STAI on 26th August' 2009 held at Udaipur India. 2008 “Young Scientist Award” in Molecular Biology at a National seminar on Physiological and Biotechnological approaches to improve plant productivity on March 17' 2008. 1999		

	• State Merit Scholarship holder 1996 • Certificate of Merit for being 8th in the Guru Nanak Dev University, Amritsar during B.Sc								
Summary of Publications (Number only)	Research Papers		Books		Chapter in Books		Seminars/ Conferences Proceedings		Projects

Research Projects (Completed and Ongoing):

S.No.	Title	Funding Agency	Duration	Sanction order No. & Date	Amount in Rs. Lakh	Completed/ongoing
1.	ONGOING RESEARCH PROJECT AS PRINCIPAL INVESTIGATOR: • DST- NANOMISSION "Construction of Diatoms solar panels for biofuel production" . Number SR/NM/NT-1090/2014(G) 75lakhs, 2016. COMPLETED RESEARCH PROJECT AS PRINCIPAL INVESTIGATOR: 06 • National center for photovoltaic research and education NCPRE , PHOTOVOLTAIC USERS MENTORSHIP PROGRAMME (PUMP), IIT Bombay: "Fabrication and characterization of metabolically engineered diatoms (MED) into Dye Sensitized Solar Cell for oil production without cell lysis" at INUP IIT Bombay, Pid:P131581281_1 • Indian Nanotechnology User Programme IIT Bombay "Fabrication of resonating microfluidic chamber for biofuel production" at INUP IIT Bombay, Pid: P989423752/2016 • ERASMUS+ Programme with University Le Mans, France(in collaboration with Prof Benoit Schoefs).2015-2017.Cost: 1800EUROS • Department of Biotechnology (DBT), Government of India research project costing Rs. 42lacs titled "PCR markers for diatoms to link death due to drowning." BT/PR14134/BRB/10/816/2010. • UGC-BSR-START UP "Molecular identification of some forensically important insects: a pilot study. No.F.30-12/2014(BSR) date 22.07.2014 Costing Rs 6.00 lakhs • Department of Science and Technology Sponsored Project(DST), Haryana Council of Science and Technology, India "Morphological study of diatoms in different periods of the year in water bodies of Haryana in relation to the cause of death in drowning cases." Costing Rs4.68 lakhs. DST, • HSCST 799/10/07/08.					

PUBLICATIONS :

National Publications (Details of Research Papers- 2013 onwards):

	Journals/ • VandanaVinayak*, R. Mehta, V.Mishra, M.K Goyal ,A.Rai, and A.Kumar. 2011. Drowning and aquatic dismemberment. Journal of forensic medicine and toxicology.Vol 28(2):76-78. • VandanaVinayak*, M.K Goyal, V. Mishra and AnshumanRai. 2010 Diatoms as a great tool in investigation of death due to drowning: a case study. Journal of Forensic Medicine and Toxicology. Vol 27. No.1: 51-54. • VandanaVinayak, Ashok K. Dhawan* and V.K Gupta. April 2009. Efficacy of non purinecytokinins on shoot regeneration in vitro in sugarcane. Indian Journal of Biotechnology. NISCAIR Vol8, pp 227-231.
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International Publications (Details of Research Papers- 2013 onwards):

	Journals • Singh, R., Khan, M.J., Rane, J., Gajbhiye, A., Vinayak, V* and Joshi, K.B.* , 2020. Biofabrication of Diatom Surface by Tyrosine-Metal Complexes: Smart Microcontainers to Inhibit Bacterial Growth. <i>ChemistrySelect</i>, 5(10), pp.3091-3097. • MohdJahir Khan, Ramesh Singh, KhashtiBallabh Joshi* and VandanaVinayak*. 2019. TiO2 doped polydimethylsiloxane (PDMS) and Luffacylindrica based photocatalyticnanosponge to absorb and desorb oil in diatom solar panels . RSC ADVANCES. 9, 22410 – 22416 DOI: 10.1039/c9ra03821c . • Ramesh Singh, Vishal kumar, VandanaVinayak*and KhashtiBallabh Joshi*. 2019 . Gold ions mediated diproline peptide nanocarpet inhibits bacterial growth. Chemistry select. Publisher Wiley. Chemistry Select 4, no.19 5810-5816. • Ankesh Ahirwar, Shradhey Gupta, MrinalKashyap, PrashantShukla and VandanaVinayak*.2019. Differential cell viability in <i>Nitzschia palea</i> on exposure to different organic and inorganic environment effluents. International Journal of Environmental Science and Technology. Springer nature1-12. • Ramesh Singh,Narendra Kumar Mishra, Vikas Kumar, VandanaVinayak*, and KhashtiBallabh Joshi*. 2018. Transition Metal Ion-Mediated Tyrosine-Based Short Peptide Amphiphile Nanostructures Inhibit Bacterial Growth. ChemBioChem, 19, 1 – 9. Very Important paper. • Gautam, M. Kashyap, PrashantShukla, VikasNamdeo, KhastiBallabh Joshi* and VandanaVinayak*. 2018. Fast Fourier infrared spectroscopy to characterize the biochemical composition in diatoms. Journal of Biosciences (Springer) (Accepted, Sept 2018, Vol 3 no-4).717-729 • Kumar, Vikas, Ramesh Singh, Shipra Thakur, KhashtiBallabh Joshi* and VandanaVinayak*. "Doping of magnetite nanoparticles facilitates clean harvesting of diatom oil as biofuel for sustainable energy." Materials Research Express 5, no. 4 (2018): 045503. • Gupta, Shradhey, MrinalKashyap, Vikas Kumar, Priyanshu Jain, VandanaVinayak*, and KhashtiBallabh Joshi*. "Peptide mediated facile fabrication of silver nanoparticles over living diatom surface and its application." Journal of Molecular Liquids 249 (2018): 600-608.
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	- Gautam, S., Pandey, L. K., Vinayak, V.*, & Arya, A. (2017). Morphological and physiological alterations in the diatom <i>Gomphonemapseudoaugur</i> due to heavy metal stress. <i>Ecological Indicators</i>, Publisher Elsevier. 72, 67-76. - Gautam, Shristy, Mrinal Kashyap, Shradhey Gupta, Vikas Kumar, Benoit Schoefs, Richard Gordon, Clayton Jeffries, Khashti Ballabh Joshi, and Vandana Vinayak*. "Metabolic engineering of TiO₂ nanoparticles in <i>Nitzschia palea</i> to form diatom nanotubes: an ingredient for solar cells to produce electricity and biofuel." <i>RSC Advances</i> 6, no. 99 (2016): 97276-97284. - Kumar, V., Gupta, S., Rathod, A., Vinayak, V.*, & Joshi, K. B*. (2016). Biomimetic fabrication of biotinylated peptide nanostructures upon diatom scaffold; a plausible model for sustainable energy. <i>RSC Advances</i>, 6(77), 73692-7369 Vinayak, Vandana, Kalina M. Manoylov, Hélène Gateau, Vincent Blanckaert, Josiane Hérault, Gaëlle Pencreac'h, Justine Marchand, Richard Gordon, and Benoit Schoefs* "Diatom milking: a review and new approaches." <i>Marine drugs</i> 13, no. 5 (2015): 2629-2665. V.*, Gordon, R, Gautam, S. and Rai, A, 2014. Discovery of Diatom which oozes oil . <i>Journal of Computational and Theoretical Nanoscience</i>, <i>American Science letters</i>, 20(7), pp. 1256-1267(12). Vandana Vinayak and A.K Dhawan*. 2010. PCR Primers for identification of high sucrose <i>Saccharum</i> genotypes. Springer: <i>Physiol. Mol. Biol. Plants</i> 2010; 16(1): 107-111.
Books Published - 2013 onwards	
	2014 - Neha Chaurasia and Vandana Vinayak Microscopic Examination of Hair "A Tool in Criminal Investigations": Forensic Hair Examination (Lambert Academic Publishing Company, Germany, Cost: 61\$, pp 1-112.. ISBN-10: 3659630268 ISBN-13: 978-3659630262 2013 - Vandana Vinayak and Dhairyakant Sharma. 2013 Monograph on timber woods of Haryana. Lambert Academic Publishing Company, Germany, Cost: 41€, pp 1-43. ISBN: 9783659359903. - Vandana Vinayak, Forensic trichology in Psycho Social Analysis of Indian police by Dalwir Singh Gahlawat. Ch-6 , pp.74-84. Authors Press. ISBN: 9788172737306.) 2012 - Vandana Vinayak. 2012. Diatom Atlas of fresh water bodies from Haryana. Lambert Academic Publishing Company, Germany, Cost: 49euros or \$61, pp 1-104. ISBN: 97836539216992. Vandana Vinayak, A.K Dhawan, V.K Gupta. 2012. Sucrose synthesis, transport and accumulation in <i>Saccharum</i> genotypes: Physiological and Molecular mechanisms". Lambert Academic Publishing Company, Germany, Cost: 79euros or \$99, pp 1-244. ISBN: 9783659115820
Chapters in Books - 2013 onwards	
	1. Ghobara*, Nirmal Mazumder, Vandana Vinayak, Louisa Reissig, Ille C. Gebeshuber, Mary Ann Tiffany, Richard Gordon. 2019. On Light and Diatoms: A Photonics and Photobiology Review Diatoms: Biology and Applications. Publisher: WILEY-SCRIVENER USA. PP127-188, VOL-1 (Bookchapter) 2. Vandana Vinayak*, Khashti Ballabh Joshi and Priyansu Manab Sarma. 2019. "Diafuel© (diatom biofuel) vs Electric vehicles a basic comparison: A high potential renewable energy source to make India energy independent ." In: Diatoms: Fundamentals & Applications [Volume 1 in the series: Diatoms: Biology & Applications, series editors: Richard Gordon & Joseph Seckbach]. Ed.: J. Seckbach & R. Gordon. Beverly, MA, USA, Wiley-Scrivener. PP537-582, VOL-1. (Bookchapter) 3. Vandana Vinayak* and S. Gautam . 2019. A molecular approach of diatom test in Forensic Science [Volume 1 in the series: Diatoms: Biology & Applications, series editors: Richard Gordon & Joseph Seckbach]. Ed.: J. Seckbach & R. Gordon. Beverly, MA, USA, Wiley-Scrivener. Vol1. Ch-18, pp435-470. (Bookchapter) 4. Vinayak, V.*, K.B. Joshi, R. Gordon & B. Schoefs (2017). Nanoengineering the diatom surface for plausible applications. In: Diatom Nanotechnology. D. Losic, (Ed.) London, Royal Society of Chemistry: pp55-78. (Bookchapter)
National Seminar/Conference/Workshops (Attended)	

- Vandana Vinayak, Khashti Ballabh Joshi and Priyanshu Jain. Biotynylated Diatoms a novel approach to form Nanosensors. National Seminar on Science and Technology for National Development, September 23-24, 2016, organized by Department of Biotechnology, Dr. Hari Singh Gour University (A Central University) Sagar-470003(Madhya Pradesh).pp62.
 - Vandana Vinayak and Reha Murthy. 2016. Extremophilic Diatoms.2016. National Seminar on Science and Technology for National Development, September 23-24, 2016, organized by Department of Biotechnology, Dr. Hari Singh Gour University (A Central University) Sagar-470003(Madhya Pradesh).pp62
 - Shyam , vv ISCA
 - Best poster paper 2nd position Vandana Vinayak. Genetic engineering to increase lipid production in diatoms at National Seminar Deptt of Rural Development and Agricultural Production, North Eastern Hill University, Tura Campus, Meghalaya. On Oct 5 2015.
 - **Vandana Vinayak**, Vichar Mishra, Shristy Gautam, Anshuman Rai , Shyam Jangir and Richard Gordon. 2014. Discovery of a diatom that oozes oil. [Algal biofuels and bioproducts poster] National conference Science Colloquium, Emerging trends in basic and applied sciences. 6th -7th March 2014. Jalandhar. India.Pp- 18
 - **Vandana Vinayak**, Shristy Gautam, Vichar Mishra, Anshuman Rai, Shyam Sundar Jangir and J.D. Sharma. 2014, Feb'28th . NATIONAL SCIENCE DAY 2nd Prize. Rs 800.Genetic Engineering of diatoms to increase the lipid percentage: An alternative source for biofuel.
 - Mrinal Kashyap, Vandana Vinayak and J.D Sharma. 2014. Pollen Fingerprinting and its importance in Forensic Science. The Indian Science Congress Association- Sagar Chapter in Proceedings of the National Symposium on Frontier in Modern Biology, March 24-25'2014.
 - Neha Chaurasia, Vandana Vinayak and J.D Sharma. 2014. Forensic Ornithology and Aviation Safety. The Indian Science Congress Association- Sagar Chapter in Proceedings of the National Symposium on Frontier in Modern Biology, March 24-25'2014.
 - Priyanshu Jain, Vandana Vinayak and J. D Sharma. 2014. Diatom as a crime scene detective. The Indian Science Congress Association- Sagar Chapter in Proceedings of the National Symposium on Frontier in Modern Biology, March 24-25'2014.
 - Ritu Bharti, Vandana Vinayak and J.D Sharma. 2014. Cell culture forensics. The Indian Science Congress Association- Sagar Chapter in Proceedings of the National Symposium on Frontier in Modern Biology, March 24-25'2014.
 - Vinayak, V., V. Mishra, S. Gautam, A. Rai & R. Gordon (2014). Oozing of oil from diatoms without cell lysis. In: *Advances in Nanotechnology and Renewable Energy, Conference Proceedings (NCNRE-14, National Conference on Nanotechnology and Renewable Energy) (April 28-29, 2014)*. Ed.: Z.H. Khan, M. Husain, W.A. Siddiqui & M. Alam. Delhi, Bharti Publications: 628-634.
 - Vichar Mishra, **Vandana Vinayak** and Shristy Gautam. 2013. Diatom aspects in microbial biotechnological research: a review" for 'National Symposium on Biotechnology: Present Status & Future Aspects' March15-16, 2013 at Deenbandhu Chotu Ram University of Science & Technology, Sonapat. Pp108
 - Shristy Gautam, **Vandana Vinayak**, Vichar Mishra and Aditi Arya. 2013. Diatoms- from silica cell wall to nanotechnology: a review National Symposium on Biotechnology: Present status and Future prospects, March 15-16, 2013 at DCRUST, Murthal. Pp46
 - Vandana VinayaK, Chitralekha, Sumandeep Kaur, Anshuman Rai and J.D Sharma.2013. Heinous crime against women an Alarming alert: National seminar at FSL, Sagar on 25-26th Oct'2013.
 - **Vandana Vinayak**, Anita Kadyan, Anshuman Rai and Chitralekha. 2012. Forensic Science: latest tools and technologies and their role in criminal investigations. 42nd All India Police Science Congress, BPRD, Feb15-17, 2012, Gangtok. Pp89-93
 - Shristy Gautam, **Vandana Vinayak** and Aditi Arya 2012. Forensic palynology: a review. Biological sciences, 22nd All India Forensic Science Conference, 26-28TH June'pp-21
- 2010**
- **Vandana Vinayak**, M.K Goyal and Vichar Mishra. 2010. A study of seasonal genera diversity of diatoms of Brahmasarover Lake of Kurukshetra to ascertain time period of death in drowning cases. International Symposium in Forensic Science, Feb22-24' 2010. Punjabi University Patiala.53
 - **Vandana Vinayak**, M.K Goyal, V.Mishra and Anshuman Rai. 2010. Diatom database as a great forensic tool in investigation of death due to drowning. Bureau of Police research and Development. 40th All India Police Science Congress. June 2'2010.
 - Ashok K.Dhawan and **Vandana Vinayak**. 2010. Purine, non-purine and aminopurine compounds in the *in vitro* shoot regeneration in sugarcane. National Conference on Plant Physiology. Nov25-27'2010, Banaras Hindu University.
- 2009**
- **Vandana Vinayak**, M.K Goyal and Vichar Mishra. 2009. Continuous ponds, lake and canal monitoring of diatoms for the diagnosis of death by drowning. XXX.2009Annual National Conference of Indian Academy of Forensic Medicine. Organised by Department of Forensic Medicine Indira Gandhi Govt. Medical College Nagpur (Maharashtra). India. Feb21-23rd. pp-66-67.
 - **Vandana Vinayak**, M.K Goyal and Vichar Mishra. 2009. Diatom test as a forensic marker in drowning cases: A study of seasonal genera diversity of diatoms by continuous water monitoring. Proceedings XIX All India Forensic Science Conference. Jan 18-20th Gandhinagar, Gujrat, India. Organised by DFS, New Delhi and DFS Gujrat. Pp-371-373.
 - **Vandana Vinayak**, Ashok K. Dhawan and V.K Gupta. 2009. Efficacy of 4-CPPU in the short regeneration in sugarcane tissue cultures. Proceedings of 70th Annual convention of sugarcane technologist Association of India. Aug, 26-29th. Udaipur (Rajasthan) India.
 - **Vandana Vinayak**, M.K Goyal and Vichar Mishra. 2009. Database study for Haryana state in relation to the death due to drowning. National workshop/Training on recent trends in Forensic Science, Forensic medicine and Toxicology. Organised by Department of Forensic Science. Dr. B.R Ambedkar University, Agra and Department of Forensic Medicine and Toxicology S.N Medical College, Agra. Pp23-24.
 - Vichar Mishra, **Vandana Vinayak** and M.K Goyal. 2009. A drowned body in Yamuna river which proved to be homicidal

murder. Proceedings of XX All India Forensic Science Conference Directorate of forensic science. Directorate of Forensic Science. 15-17th Nov'09. pp 93-96

- Mitali, M.K Mishra, **Vandana Vinayak** & A.K Gupta. 2009. Confirmation of drowning death by using diatoms as a tool: case study. Proceedings of XX All India Forensic Science Conference Directorate of forensic science. Directorate of Forensic Science. 15-17th Nov'09. pp. 129-132.

2008

- Ashok K. Dhawan and **Vandana Vinayak**. 2008. What makes sugarcane an enormous sucrose storage system. Golden Jubilee Conference on challenges and emerging strategies for improving plant productivity. Nov 12-14, IARI, New Delhi, India. pp 80-86.
- A.K Dhawan and **Vandana Vinayak**. 2008. Sucrose transport and accumulation in parenchyma cells of cane stems: Physiological and molecular mechanisms. Proceedings of 69th Annual convention of sugarcane technologist Association of India. Aurangabad. pp-44-54.
- **Vandana Vinayak**, Ashok K. Dhawan and V.K Gupta. 2008. Effect of non –purine cytokinins on the invitro shootlet proliferation in sugarcane. National seminar on physiological and Biotechnological Approaches to Improve Plant Productivity. Organised by Centre for Plant Biotechnology. Department of Science and Technology, CCS, HAU New Campus. Mar, 15-17. pp38.
- **Vandana Vinayak**, Ashok K.Dhawan and V.K Gupta. 2008. PCR primers for identification of high sucrose Saccharum genotypes. 2008. National seminar on physiological and Biotechnological Approaches to improve plant productivity. March 15-17. Centre for plant biotechnology. Department of science and technology, CCS, H.A.U New Campus, Hisar, Haryana, India. Pp-41
- **2005**
- A.K Dhawan, **Vandana Vinayak**, Saravjeet Kukreja and J.P.D Dendsay. 2005. Sucrose accumulation in parenchyma cells of cane stems: A dynamic control by invertases. Satellite seminar on plant physiology. Organized by National Botanical Research Institute, Lucknow. India. Nov, 20-25th. Pp 37-38.
- **Vandana Vinayak** and Varindra Randhawa. 2005. Capsaicin synthesis in somatic cell cultures derived from fruits of various varieties of Capsicum annum. Satellite seminar on plant physiology. Organised by National Botanical Research Institute, Lucknow. India. Nov, 20-25th. Pp 53-54.
- Varindra P, **Vandana Vinayak** and S.S Gosal. 2005. Biosynthesis of capsaicin in callus cultures of Capsicum annum L. Fruits. National Conference (DST sponsored) on Modern trends in Chemical Sciences and Technology. Organised by P.G Deptt. Of Chemistry, D.A.V College. Jalandhar. Oct, 15-17. pp

1999

National

- Varindra, **V. Vinayak**, R. Randhawa and S.S Gosal. 1999. Capsaicin biosynthesis in callus cultures of Capsicum annum. National symposium on HRD requirements of Biotech industry in Agriculture sector, COBSH, Punjab Agricultural University, Mar'12-13.P.A.U Ludhiana. pp-86

**International
2020**

Vandana Vinayak and Mohd. Jahir Khan **2020** Stacked Photosynthetic Diatom Microbial Fuel Cell an efficient way to treat wastewater and simultaneously producing electricity, Biofuel and Value Added Product. SPARC funded workshop titled "Upscaling and field scale application of bio-electrochemical systems for wastewater treatment and bioenergy recovery" to be held on February 26-27, 2020 at Indian Institute of Technology Kharagpur

2019

Jagdish Rane^{1*}, Ramesh Singh², Mohd. Jahir Khan³, Asmita Gajbhiye¹, Khashti Ballabh Joshi² and **Vandana Vinayak**³. DIATOMS AS NANOBOTS IN DRUG DELIVERY, International conference at SVN college Sagar, M.P

2017

- Mrinal Kashyap, Vikas Kumar, Vandana Vinayak and Khashti Ballabh Joshi: Photo-induced milking of oil from diatoms using gold nanoparticles. International conference on Interface of Physical, Chemical and Biological Sciences. Jan 11-13, 2017.pp.
- Reha Murthy and Vandana Vinayak. Selection of Extremophilic diatoms and their use in diatom solar panels for biofuel production. International conference on Interface of Physical, Chemical and Biological Sciences. Jan 11-13, 2017.pp 92
- Shradhoy Gupta, Priyanshu Jain, Vandana Vinayak and Khashti Ballabh Joshi. International conference on Interface of Physical, Chemical and Biological Sciences. Jan 11-13, 2017.pp

2016

International

- Vandana Vinayak, Khashti Ballabh Joshi, Mrinal Kashyap, Vikas Kumar, Richard Gordon and Benoit Schoefs. Fabrication of resonating microfluidics chamber for biofuel production in diatoms. 3rd International conference on Emerging devices, IITBombay. Organisers IITBombay and IISC Bangalore 27-30th Dec2016.

2015

International

- Shristy Gautam, K.B. Joshi, **Vandana Vinayak**. 2015. Diatoms as dye sensitized solar cell for biofuel production. 2015. National symposium on "Horizons of light in molecules, materials and daily life. December 18-19. Organized by department of chemistry (school of chemical science and technology), Dr. Harisingh Gour Vishwavidyalaya (a central university), Sagar, M.P, India. Pp-95
- Nisha Bawra, Shristy Gautam, **Vandana Vinayak**. 2015. Harvesting oil from diatoms in the presence of light. 2015. National symposium on "Horizons of light in molecules, materials and daily life. December 18-19. Organized by department of chemistry (school of chemical science and technology), Dr. Harisingh Gour Vishwavidyalaya (a central university), Sagar, M.P, India. Pp-111
- Manjushri Bagul, Shyam Sundar Jangir, Shristy Gautam, **Vandana Vinayak**. 2015. Poisonous Photosynthetic Alkaloids. 2015. National symposium on "Horizons of light in molecules, materials and daily life. December 18-19. Organized by department of chemistry (school of chemical science and technology), Dr. Harisingh Gour Vishwavidyalaya (a central university), Sagar, M.P, India. Pp-110
- Ankesh Ahirwar, Shristy Gautam, Prashant Shukla, **Vandana Vinayak**. 2015. Effect of Diatom Growth With Respect To Light". National symposium on "Horizons of light in molecules, materials and daily life. December 18-19. 2015. Organized by department of chemistry (school of chemical science and technology), Dr. Harisingh Gour Vishwavidyalaya (a central university), Sagar, M.P, India. Pp-109
- Avin Rathore, Khashti Ballabh Joshi and Vandana Vinayak.....National symposium on "Horizons of light in molecules, materials and daily life. December 18-19. 2015. Organized by department of chemistry (school of chemical science and technology), Dr. Harisingh Gour Vishwavidyalaya (a central university), Sagar, M.P, India.
- Vandana Vinayak. Diatom solar panels. National symposium on "Horizons of light in molecules, materials and daily life. December 18-19. Organized by department of chemistry (school of chemical science and technology), Dr. Harisingh Gour Vishwavidyalaya (a central university), Sagar, M.P, India.

2014

International

1. **V Vinayak**, K M Manoylov, H Gateau, J Marchand, R Gordon, A Beskok, B Schoefs La traite des diatomées : état actuel des connaissances et perspectives [Diatom milking: a review and new approaches] 33^{ème} Colloque de l'Association des Diatomistes de Langue Française (ADLaF), 7 - 10 octobre 2014, Clermont-Ferrand, France.

2. Mrinal Kashyap, **Vandana Vinayak** and J.D Sharma. 2014. Quantification of DNA from different forensic samples. International Conference on Frontier Discoveries and Emerging Opportunities In Life Sciences. 13th-15thFeb, 2014. Dr. H.S gour Central University, Sagar.

3. Neha Chaurasia, **Vandana Vinayak** and J.D Sharma. 2014 Wildlife forensics with hair as a physical evidence: a step ahead to conserve the biodiversity of India. International Conference on Frontier Discoveries and Emerging Opportunities In Life Sciences. 13th-15thFeb, 2014. Dr. H.S gour Central University, Sagar.

4. Shristy Gautam, **Vandana Vinayak**, Shyam Sunder Jangir, Vichar Mishra and J.D Sharma. 2014. Primer designing for gene of interest to barcode diatom DNA. International Conference on Frontier Discoveries and Emerging Opportunities In Life Sciences. 13th-15thFeb, 2014. Dr. H.S gour Central University, Sagar. Pp- 72

5. Vichar Mishra, **Vandana Vinayak**, Shristy Gautam, Shyam Sunder Jangir, Vichar Mishra and J.D Sharma. 2014. Biodiversity among diatoms and their forensic significance. International Conference on Frontier Discoveries and Emerging Opportunities In Life Sciences. 13th-15thFeb, 2014. Dr. H.S gour Central University, Sagar. Pp-129

6. Shyam S. Jangir, **Vandana Vinayak**, Shristy Gautam and J.D Sharma. 2014. Biodiversity of forensically important insects and their use in crime investigation. International Conference on Frontier Discoveries and Emerging Opportunities In Life Sciences.

13th-15thFeb, 2014. Dr. H.S gour Central University, Sagar. Pp- 125

2013

International

7. Aditi Arya, **Vandana Vinayak**, Shristy Gautam, "Pharmacological aspects of *Andrographis paniculata* in treating diseases."54th Annual conference of Association of Microbiologists of India, International Symposium on 'Frontier Discoveries and innovations in Microbiology and its Interdisciplinary relevance' (FDMIR-2013) Nov. 2013, MDU-Rohtak. Pp 203

International

8. **Vandana Vinayak** and Varindra Randhawa. Capsaicin synthesis in somatic cell cultures of *Capsicum annuum*.2005. International Conference on Plant Genomics and Biotechnology: Challenges and Oppurtunities. Indira Gandhi Agricultural University, Raipur. India. Oct26-28th. Pp105.

National Seminar/Conference/Workshops (Organised- 2013 onwards)	
	1. Course Coordinator of Workshop on Funding in Life Sciences and Health Care , Resource Person Dr Ramjee Pallela, Chief Manager, IKP, Park(BIG, BIRAC), Hyderabad on 25.01.2017
International Seminar/Conference/Workshops (Organised- 2013 onwards)	
	Course Coordinator of GIAN (Global Initiative of Academic and Networking Ministry of Human Resources and Education, Govt of India) on "Microalga as renewable high value compounds" with Foreign Faculty Prof. Benoit Schoefs, School of Science and Technology from University Le Mans, France. Nov 22-27th 2016.
Research Papers in Proceedings (National Seminar/Conference/Workshops- 2013 onwards)	
	DIATOMS FOR BIOFUEL; NATIONAL CONFERENCE ON NANOTECHNOLOGY AND RENEWABLE ENERGY. 28-29 April 2014, Jamia Milia Islamia University , New Delhi. 2014-04-28
Research Papers in Proceedings (International Seminar/Conference/Workshops- 2013 onwards)	
	FABRICATION OF RESONATING MICROFLUIDIC CHAMBER FOR BIOFUEL PRODUCTION 3RD INTERNATIONAL CONFERENCE ON EMERGING ELECTRONICS. IIT BOMBAY. 27-30 Dec 2016(IEEE Thailand section) International (within country) 2016-12-27
No. of Patents Filed (with date, title and other details- 2013 onwards)	
	• Vandana Vinayak *(2650/DEL/2013) "A diatom primer kit to detect death due to drowning cases". Filed
No. of Patents Awarded (with title and other details- 2013 onwards)	
	Vandana Vinayak *, Richard Gordon, Khashti Ballabh Joshi and Benoit Schoefs. "Diafuel." 2018 Trademark application no 3778882. Trade Marks Journal No: 1846 , 23/04/2018 Class 4 http://www.ipindia.nic.in/journal-tm.htm GRANTED.
Invited Lectures delivered (Outside University) with title, date and place:	
	- National Symposium attended on" HRD Requirements of Biotech Industry in Agriculture Sector" ranked third position for Poster Session. March 12-131999. COBSH,P.A.U, Ludhiana. - Participated in an All India Council For Technical Education sponsored workshop on the programme of Environment and Pollution Awareness and Biotechnological Methods in Pollution Control June 19' 2004. N.C College of Engineering, Panipat. - Participated in an All India Council For Technical Education sponsored workshop on the programme of Biotechnological Methods in Pollution Control 3'Aug 2004. N.C College of Engineering, Panipat. - International Conference on"Plant Genomics and Biotechnology:Challenges and Oppurtunities" Indira Gandhi Agricultural University, Raipur, on Oct'26-28 2005. IGAR, Raipur. - National Conference (DST Sponsored) on Modern Trends in Chemical Science and Technology at Jalandhar Oct'15-17 2005. DST. - Satellite Seminar on Plant Physiology Organized by National Botanical Research Institute, Lucknow KK Nanda Foundation, Delhi on Nov'20 2005. NBRI, Lucknow. - Seminar on Plant Physiology held at P.U Chandigarh organized by KKNF - KKNF, Panjab University, Chandigarh. - Workshop on Patent Awareness and IPR organized by DST, TIFAC at Ambala on 27th Feb'2007, DST, TIFAC. - National Seminar on Physiological and Biotechnological Approaches to Improve Plant Productivity at Hisar Mar'15-17 2008, CPB, Hisar. - Workshop on Patent Awareness and IPR organized by DST, TIFAC at NDRI, Karnal on 16th Oct'2008,DST, TIFAC 1st One day workshop for Medical Officers at FSL (H), Madhuban"Collection, Preservation, and Packaging & Forwarding of Physical Evidence" on 22nd April 2008. Forensic Science Laboratory, Madhuban, Karnal. Haryana 2nd One day workshop for Medical Officers at FSL(H), Madhuban"Collection, Preservation, and Packaging & Forwarding of Physical Evidence" on 25th Sep 2008. Forensic Science Laboratory, Madhuban, Karnal. Haryana "XIX All India Forensic Science Conference." held at Ahmadabad on 18-20th Jan'09. DFS, New Delhi - XXX Annual National Conference of Indian Academy of Forensic Medicine, 21st-23rd Feb'2009. Department of Forensic Medicine Indira Gandhi Govt. Medical College, Nagpur - KKNF Meeting and Seminar at Punjab University, Botany Department, Chandigarh on 21st Mar'2009. KKNF Science Society, Panjab University, Chandigarh 70th Annual convention of sugarcane technologist Association of India. Aug. 26-29th. Udaipur (Rajasthan) India. Sugarcane Technologist Association of India - Indian Agricultural and Research Institute, 28 March 2008, IARI, New delhi. - Workshop on Bioinformatics 12-13th Oct'2012, Department of biochemistry, Lucknow University. Lucknow - Workshop on Forensic evidence of Human Trafficking. 26th-28th Dec'2012, LNjN National Institute of Criminology and Forensic Science. - National Seminar on "Crime against women at National seminar on Crime against women and children Oct25th-26th 2013, FSL(Sagar),M.P in collaboration with ICMR New Delhi - Workshop on "Use of digital data for datacollection."28-30th Oct'2013, ASC staff college Harisingh Gour Central University, Sagar M.P - Workshop on Patent awareness Dec 18 2013, Harisingh Gour Central University - Participation in International Conference on Frontiers discoveries and emerging oppurtunities in life sciences, DST-PURSE, Feb 13-15, 2014, Harisingh Gour Central University - Workshop on NMR 16th Feb'2014, Harisingh Gour Central University - Delivered lecture on "Cell culture Forensics" Hands on training programme on Microbial Biotechnology sponsored by MPPSCT 20th Jan to 3rd Feb 2014, Harisingh Gour Central University

• Training workshop on 9th May 2014, Harisingh Gour Central University • Participation on Seminar on Role of Forensic Science in criminal Justice system Indian Science congress Sagar, Chapter. Feb 22, 2014, Harisingh Gour Central University • Oral presentation on National Conference on Nanotechnology and Renewable Energy NCRNE April 28-29, 2014, Jamia Milia Central University, New Delhi • Participation in Conference of Directorate of Forensic Science, MHA, GoI, 23rd All india Forensic Science Conference, March 23-24 2015, Bhopal • Participation in One day workshop on Shodhganga and use of anti plagiarism softwares Turnitin and I Tenticate organised by INFLIBNET UGC, Ahmedabad in collaboration with Bhai Gurdas Library held at Auditorium , Guru Nanak Bhawan , Guru nanak dev university, Amritsar on 19.05. 2014, Guru Nanak Bhawan , Guru nanak dev university, Amritsar • Orientation programme at Guru nanak dev university, Amritsar organized by UGC from 13th May 2014 to 9th June 2014, Guru nanak dev university, Amritsar • Participated in workshop on DNA Sequencer and Real time PCR on Sep 17-19, 2015. Deptt of Biotechnology, Harisingh Gour Central University, Sagar M.P • Participated in short term training course on Bioinformatics: Biology on your computer sponsored by DBT, MSCT, GOI, at NEHU, Tura Campus on Oct 6-8 Oct 2015 • Participated and won 2nd prize in National seminar organized by Deptt of Rural Development and Agricultural Production, NEHU, Tura Campus, Meghalaya • Invited talk on Diatoms and Light at National Symposium on Horizons of light in molecules, materials and daily life held on Dec 18-19 2015, Harisingh Gour Central University • Poster presentation on at National Symposium on Horizons of light in molecules, materials and daily life held on Dec 18-19 2015, Harisingh Gour Central University • Science Academics Lecture workshop on scope of medical Biotechnology on Jan 21-22 , 2016, Deptt of Biotechnology, Harisingh Gour Central University, Sagar M.P • Orientation programme at Jawahar Lal Nehru University, New Delhi organized by UGC, HRDC from 08.2.16 to 04.03.2016, Jawahar Lal Nehru University, New Delhi • Indian Nanoelectronics Users Programme Hands on training Workshop on Fabrication of MEMS sensor at IIT BOMBAY from April 11- 15, 2016, Deptt of Nanotechnology, INUP, IIT BOMBAY • 3rd International Conference on Emerging Devices at IIT Bombay in collaboration with IIT Bombay and IISC Bangalore 27-30th Dec2017, IIT BOMBAY • “ Career Development Workshop for women in Physics to be held in Abdus Salem International centre for theoretical physics, a UNESCO category 1 institute Italy in Trieste from 09.10.2017 to 13.10.2017. • Workshop on Smart metabolic engineering of plants for drug biosynthesis” from Mar 16-17, 2018 at International centre for Genetic Engineering, New Delhi. • Three week online certified course at Technion - Israel Institute of Technology, Israel on “Nanotechnology and Nanosensors” 6th Feb to 20th March 2017(completed on 30/12/2017). • Attended and certified Refresher course on “Nanotechnology and Nanoscience”at HRDC-ASC at North Eastern Hill University, Shillong from 13.11.2017 to 03.11.2017 • Invited talk at UGC SAP DRS seminar on Current trends in Life Science2-3/2/18, NMU, Jalgaon, Maharashtra. Organized by School of life sciences.	
No. of Ph.D. Awarded:	2
No. of Ph.D. Scholars working:	0
No. of Foreign Visits : 2	
• 2018: UNIVERSITY OF CAMBRIDGE, CAMBRIDGE, UNITED KINGDOMS: To chair professional training course on algal biotechnology and opportunities for the sustainable bio-economy on 27-28th Sep 2018. • 2017: INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS TRIESTE ITALY: To attend the workshop for carrier development of women in physics in a fully funded International travel grant by ICTP from 09.10.2017 to 13.10.2017	
Memberships in Academic Bodies:	
• KKNF Science Society, Punjab University Chandigarh, India • Indian Science Congress	• IEEE • STAI
Other Academic Achievements :	
(i) Reviewer of the Journal(s) (With details of the journal(s) and duration)	
• Bioresource Technology, Elsevier • Botany Letters, Wiley • Scientific Reports, Nature • ACS Applied Materials and Interfaces, ACS • Egyptian Journal of Forensic Science Elsevier	
(ii) Membership of the Board of Studies/School Board / Academic Council/ Executive Council (Within/ outside the university)	
• Executive member KKNF Science Society, Punjab University Chandigarh, India	

