7/9/2022

S K Nataraj, FRSC

Professor

Centre for nano and material sciences, jain university

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* ORCID ID: [0000-0002-1489-8312](https://www.scopus.com/redirect.uri?url=https://orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink%22)
* Researcher ID: [B-2455-2019](https://publons.com/researcher/B-2455-2019/)

Webpage: <https://cnms.jainuniversity.ac.in/faculty-nataraj-sk.htm>

Google scholar:[**http://scholar.google.co.in/citations?user=DFugHtIAAAAJ&hl=en**](http://scholar.google.co.in/citations?user=DFugHtIAAAAJ&hl=en)

**Date of Birth: 4th February 1981**

**DR.S.K. N A T A R A J, FRSC**

**Dr.S.K. N A T A R A J, FRSC**

## Professor and Group Leader

## Sustainable Materials and Processes Lab

## **Centre for Nano and Material Sciences**

## Jain University Global Campus

## Bangalore-562 112, India

**Tel** (mobile):+918469579774; E-mail: sk.nataraj@jainuniversity.ac.in ; sknata@gmail.com

## **PRESENT POSITION**

## **Professor, Centre for Nano and Material Sciences (CNMS)**

**Work Experience:**

|  |  |  |
| --- | --- | --- |
| Professor  | 1 Spt’18 to Present | CNMS, JU, India |
| Associate Professor | Dec’15 to 31 Aug’18 | CNMS, JU, Bangalore, India |
| DST-INSPIRE Faculty Fellow | July’13 to Nov’15 | CSIR-CSMCRI, Bhavnagar |
| University of Cambridge | May’10 to July’13 | Cavendish Laboratory, UK |
| Academia Sinica | June’09 to April’10 | IAMS and CCMS, Taiwan  |
| Chonnam National University | May’07 to April’09 | AMERI, South Korea |

# **Education**

Ph.D Thesis Title: “*Membrane based separation processes for industrial effluent treatment*” Supervisors: *Prof. K.M. Hosamani and Prof.T.M. Aminabhavi*, Ph.D. USA

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| --- | --- | --- | --- | --- |
| **Course** | **Centre/College** | **University** | **Duration** | **Awarded** |
| Ph. D. | Centre of Excellence in Polymer Science | Karnatak University, India. | 28-02-05 to 28-02-07 | 21st Jan’08 |
| M.Sc. | Centre of Excellence in Polymer Science | Karnatak University, India | **April’02 to June’04** | 19th Jan‘05 |
| B.Sc. | **P.C. Jabin Science College** | **Karnatak University, India** | **June’99 to May’02** | 10th Dec’02 |

## **GRANTS AND PROJECTS**

|  |  |  |
| --- | --- | --- |
| Project Details | Agency | Role |
| 1. Talent Attraction Program –Community of Madrid, Kingdom of Spain, Institute IMDEA-Water (€298,000) Duration 4 Years (2018-2022), Functional membranes for water treatment applications. Euros 299,000.00

2017-T1/AMB5610 | Community of Madrid, Spain | Principal Investigator |
| 1. DST-Nanomission Project:

Ordered Nanoporous Membranes and Functional Nanomaterials for Water Treatment Applications. Duration 3 Years (2019-2021) Fund Rs.160 LakhsSR/NM/NT-1073/2016 | DST Nanomission, Govt. of India | Principal Investigator |
| 1. DST-inspire FACULTY FELLOW AWARD

Novel Nanostructured Electrode for Fuel Cell and Battery Fuel Cell applications (Fund Rs.35.00 LAKH) | DSTGovt. of India | Principal Investigator |
| 1. Biomass Derived Heteroatom Doped Graphene and Hard Carbon Composites for Energy Storage Application

Funding: 77.00 Lakhs | DST Govt of India | Principal Investigator |
| 1. Separation of Biobutanol via Scalable Approach of Pervaporation: To be a “Viable Biofuel for Future

(Fund Rs.35.00 LAKH) CRG/2018/003474 | SERB, Govt of India | Co-PI |
| *Co-authroed/Co-pi projects*1. EPSRC-UK Follow-on-Fund, (£120,000.00), University of cambridge, UK

 A high performance supercapacitor using novel patented electrode technology.1. Qatar Foundation (qnrf)–Work Site- University of Cambridge, UK

Composite Reverse Osmosis Membranes from Block Copolymers |
| 👍Supervising: 10-Ph. D, (Ongoing), 2-Mater Projects, 3-Undergraduate Projects |
| Broader Research Interests and experience in: Membranes - Separation and Purification Technology, Sustainable and Green Energy Materials for Forward Osmosis, Fuel Cells - Membrane-Electrode-Assemblies [MEAs], Thin Supercapacitor |
| leadership(Design, Construction and Training) | * Developing block copolymer thin-film membranes, establishing lab scale preparation and testing facilities at Cavendish Lab, University of Cambridge (2011-13).
* Construction of Membrane Based-Gas Separation Unit at Cavendish Lab, University of Cambridge (May’2010-Nov’2010).
* Starting Proton-Exchange Membrane for Fuel Cell research activities (2009-10).
* Electrospinning Facility, National Taiwan University (2009-10).
* Establishing Membrane testing facilities in Karnatak University (2005-07).
 |
| SKILLs | **Membranes: Preparation/Development, Testing Including;** Performance Evaluation, Fouling Studies, Characterization usingScanning Electron Microscope (SEM)Transmission Electron Microscope (TEM)Atomic Force Microscope (AFM)ATR-Fourier Transform Infra-Red Spectroscope (FTIR)UV-Visible Spectroscope, Zeta Potential, Porosity Meter, OSMO Inspector, GPC, HPLC, Contact Angle, Testing Cell and Unit Design  |
| COLLABORATIONS | Prof. K-H. Chen, Academia Sinica, Taipei, Taiwan.Prof. C-H. Wang, NTUST, Taipei, Taiwan.Prof. K.S. Yang, Chonnam National University, South Korea.Dr. Kamalesh Prasad, CSIR-CSMCRI, Bhavnagar.Dr. Ramavatar Meena, CAIR-CSMCRI, Bhavnagar. |

**INTERNATIONAL CONFERENCE TECHNICAL SESSION CHAIR**

**CONVENER**

**International Conference on Green Methods for Separation, Purification and Nanomaterials Synthesis -2018 (GMSP&NS-2018) organized by Centre for Nano and Material Sciences, Jain University on 24th & 25th April 2018 at JGI Global Campus, Bengaluru.**

**Delegates from 5 Different Countries and 14 Different states within INDIA.**

**Organizing Committee**

* Advisory Committee: International Conference on “Advanced Materials Science and Applications (ICAMSA-2020)” Organized by MS Ramaiah Institute of Science and Technology, Bangalore 3rd & 4th September 2020.
* Technical Committee Member: 2nd National Seminar on Frontiers in Materials and Chemical Sciences (NSFMC 2020) 31st August to 4th September 2020.
* Technical Committee Member: International Conference on Innovations in Material Science (AIMS-2020) organized by BMS Institute of Technology and Management on 6th August 2020.
* Advisory Committee: 2nd International Conference on Advanced Materials & Technology (ICMAT-20) on 17th January 2020. 17th January 2020,

CONFERENCE SESSION CHAIR:

* Chaired Session on “Ultrafast Excited State Dynamics of Twisted Aromatics” at 2nd National Seminar on Frontiers in Materials and Chemical Sciences (NSFMC 2020) 31st August to 4th September 2020.
* Chair and Panel Member for session “Water Pollution: Monitoring & Remediation” at International Conference on Innovations in Material Science (AIMS-2020) organized by BMS Institute of Technology and Management on 6th August 2020.
* Chaired the Session on “Smart Materials and Water Treatment” at Second International Conference on Advanced Materials & Technology (ICMAT-20) on 17th January 2020. 17th January 2020,
* International Conference on Green Methods for Separation, Purification and Nanomaterials Synthesis -2018 (GMSP&NS-2018) organized by Centre for Nano and Material Sciences, Jain University on 24th & 25th April 2018
* International Conference on Advanced Materials and Technology, ICMAT-16 held at Mysuru on 26th to 28th May 2016.

**INVITED TALKS**

1. Delivered Invited Talk on **“**Exploring Bio-Based Materials for Energy and Environmental Applications” at National Webinar organized by Department of Physics, Davangere University, Davangere, 30th June 2021.
2. Delivered Invited Talk on “**“**Sustainable Materials and Processes for Future” at National Webinar organized by Department of Chemistry, Gokhale Centenary College, Ankola, Uttara Kannada, 18th June 2021.
3. Delivered Invited Talk on “**“**Advances in Sustainable Materials and Processes” at National Webinar organized by P. C. Jabin Science College, Hubballi, 10th June 2021.
4. Delivered Invited Talk on “**“**Functional Nanomaterials-based Membranes and
Filtration kits for effective treatment of Water” at Global Academy of Technology Bengaluru, 12th November 2020.
5. Delivered Invited Talk on “Strategic Multifunctional Materialsfor Water and Energy Applications” at Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, 18th September 2020.
6. Delivered Invited Talk on “Chemistry in the Service of Society at Raja Lakhamangouda Science Institute, Belagavi on 25th June 2020.
7. Delivered Invited talk on Intellectual Property Rights and Advances in Functional Nanomaterials for Water Treatment Applications” at One Day State Level Seminar on Intellectual Property Rights (IPR), BVV Sangha’s Basaveshwar Science College, Bagalkot on 24th February 2020.
8. Delivered Invited Talk on “Strategic Advancement in Multifunctional Materials” at BMS Institute of Technology and Management, Bangalore on 11th February 2020.
9. Delivered Invited Talk on “Smart and Functional Nanomaterials for Water Treatment and Energy Applications” at Second International Conference on Advanced Materials & Technology (ICMAT-20) on 17th January 2020.
10. Delivered Invited Talk on “Designing Sustainable Functional Nanomaterials for Water Treatment and Energy Applications at MS Ramaiah Institute of Science and Technology, Bangalore on 14th January 2020.
11. Delivered Invited Talk on “Waste to Wealth: Future Materials for Clean Water and Green Energy” at JSS University of Science and Technology, Bannimantap, Mysuru, Karnataka 570015 on 24th July 2019.
12. Invited Talk on "Sustainable Materials and Processes for Safe Water, Clean Environment and Green Energy" at Quality Improvement Programme in Chemistry held at Christ University, Bangalore on 21st May 2019.
13. Invited Talk on “Interdependence of Science and Technology in Present Scenario” on 2nd March 2018 at Tontadarya College of Engineering, Gadag, India.
14. Invited Talk on “Forward Osmosis: An Emerging Separation and Purification Process. On 18th January 2018 at Department of Chemistry and Physics, Ramaiah Institute of Technology, Bangalore-54, is organizing a Faculty Development Programme (FDP) on “Recent Advances in Material Science and Application (RAMSA-2018).
15. Invited Talk on “Green Materials for Clean Water and Energy” on 2nd August 2017 at Department of Physics, Ramaiah Institute of Technology, Bangalore-54, is organizing a Faculty Development Programme (FDP) on “Recent Trends in Photonic Techniques” during 31st July – 5th August 2017.
16. Invited Talk on “Sustainable Materials for Clean Water and Green Energy Applications” at *International Conference on Green Chemistry & Nanotechnology-Opportunities and Challenges* (GCNOC-2017) held at St. Aloysius College, Mangalore 27-28th February, 2017.
17. Invited Talk on Forward Osmosis: A Membrane Based Energy Efficient Process for Waste Treatment, Biomacro-molecules enrichment and value addition at *International Conference on Advanced Materials and Technology 2016*, **ICMAT-16** held at Mysuru on 26th May 2016 to 28th May 2016.
18. Delivered Invited Talk on “Sustainable Materials and Processes” at P. C. Jabin Science College, Hubballi on 8th March 32016.
19. Delivered Invited Talk on “Advanced and Sustainable Materials for Clean Water and Green Energy Applications” at Shri Siddeshwar Government College and PG Study Center, Nargund-582207 on 9th March 2016.
20. Young Researchers Conclave, Indian Institute of Technology Gandhinagar on December 27–28, 2013.
21. Recent Developments in Membrane Science and Technology: Focus on Forward Osmosis on 25th June-2014 RASPCENT-2014: Rajkot, Gujarat, INDIA.
22. Recent Advances in Separation and Purification Science and Technology on 19th August 2014, Forbes Academy, Gokak Falls, Karnataka, INDIA.
23. P.C. Jabin Science College, Karnatak University (2nd Aug’ 2011, Hubli, India)

## **Research Supervision/Guidance: Research Scholars**

## Ph.D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Name of the Student | Course | Joining/Duration | Role |
| 1 | Ashesh Mahto | Ph.D | August 2014-2019 | Guide |
|   | Title: Designing of Materials Targeting Separation and Energy Storage Applications |
| 2 | A.Kanakraj | Ph.D | June 2016-2020 | Guide |
|  | Title: Eco-friendly Synthesis of Functional Materials for Energy and Environmental Applicaions |
| 3 | M.R. Nidhi | Ph.D | August 2017-2021 | Guide |
|  | Title:Synthetic and Biomaterial Interfaces for Membrane Separation Applications |
| 4 | Mahaveer Halakarni | Ph.D | 2018 | Guide |
|  | Title: Designing High Performance Compatible Membranes and Draw Solutions for Forward Osmosis Process of Industrial Importance |
| 5 | Manohara H. M. | Ph.D | August 2017-2021 | Co-Guide |
|  | Title: Design and Synthesis of Functional Materials for Universal Water Purification with Simultaneous Value Addition  |
| 6 | Radha N. | Ph.D | August 2017-2021 | Co-Guide |
|  | Title: Functional Nanomaterials and Nanocomposites for Electrochemical Energy Storage |
| 7 | Supratim Chakraborty | Ph.D | 2018 | Co-Guide |
|  | Title: Design & synthesis of functionalized biopolymers and their application in catalysis  |
| 8 | Sachin M. Shet | Ph.D | August 2018 | Co-Guide |
|  | Title: Designing and Development of Strategies for Protein Packaging with Enhanced Stability for Improved Biocatalysis |
| 9 | Anshu Kumar | AcSIR 800 Project | January 2015 | Project Guide |
|  | Title: Collecting Water Sample From Different Part Of Rajasthan And Gujarat for Analysis and Removal of Fluoride, Chromium and Color  |
| 10 | Anita Samage | Ph.D | June 2019 | Guide |
|  | Title: Compatible Biomass Derived Nanocomposite Electrods for Energy Application |
| 11 | Smitha Kamath | Ph.D | June 2019 | Guide |
|  | Title: Bio-based Functional Nanomaterials for Water Treatment Applications |
| 12 | Ashok Maraddi | Ph.D | June 2019 | Guide |
|  | Title: Biopolymer Derived Functionalized Polyelectrolyte Complexes for Water Treatment |
| 13 | Santosh K.N. | Ph.D | June 2019 | Guide |
|  | Title: Design and Development of Controlled Nanoporous Membrane Molecular Separation |
| 14 | Mahadevprasad K.N. | Ph.D | June 2019 | Guide |
|  | Title: Engineering the Pore Characteristics in Membranes using Ordered Nanomaterials for Water Treatment Application |
| 15 | Glenita D’Souza | Ph.D | June 2019 | Guide |
|  | Title: Ordered Nanoporous Membranes for Water Treatment Application |
| 16 | Juno Rose Attakin | Ph.D | June 2019 | Guide |
|  | Title: Designing Seaweed-based Electrocatalysts for Energy Conversion and Storage Applications |
| 17 | Prahlada  | Ph.D | June 2019 | Co-guide |
|  | Title: Development of Flexible Miniaturized Li-S Batteries |
| 18 | Aditya D S | Ph.D | June 2022 | Guide |
|  | Title: Biomass-derived material for wastewater treatment and energy application |

## **M.Sc**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Name of the Student | Course | Joining | Status |
| 1 | M.R. Nidhi  | M.Sc -RO | Aug-2015 | Completed |
|  | Title: Low operating pressure nanofiltration membranes with Functionalized Nanoclay as antifouling and flux promoting agent |
| 2 | Deepika D. | M.Sc -RO | Aug-2016 | Completed |
|  | Title: Separation of Protein using Chitosan-Silver Nanocomposite-based UF Membranes |
| 3 | Vibha Sharma | M.Sc -RO | Aug-2016 | Completed |
|  | Title: Modified Fe-AL Layered Double Hydroxide as Reusable Micro-cleaner for Robust Removal of Anionic Dyes |
| 4 | Smitha Kamath | M.Sc | May-2018 | Completed |
|  | Title: Functionalized Carbon Helix as an Effective Adsorbent for Cationic Dye Removal |
| 5 | Sweedal Annunciata D’souza | M.Sc | May-2018 | Completed |
|  | Title: |
| 6 | Smitha | M.Sc | Dec-2017 | Completed |
|  | Title: Engineering the Hydrophilicity of Ultrafiltration Membrane to Prevent the Organic Fouling using Nanocomposites |
| 7 | Prahlada | M.Sc | May-2019 | Completed |
|  | Title: Deep Eutectic Solvents as an Electrolyte for Rechargeable Zinc ion Batteries |
| 7 | Aleena | M.Sc | June-2019 | Completed |
|  | Title: Biopolymer Based Aerogel Membrane for Water Purification |
| 8 | Asish Jolly | M.Sc | June-2019 | Completed |
|  | Title: Iron Based Magnetic Nanocomposite Aerogel Membrane for Heavy Metal Ion Removing |
| 9 | **Aswathi** | M.Sc | June-2019 | Completed |
|  | Title: Manganese Based Aerogel Membrane for Water Purification |
| 10 | **Keerthana** | M.Sc | June-2019 | Completed |
|  | Title: Carbon Induced Chitosan-Agar for Water Purification |
| 11 | **Shraddha Shetty** | M.Sc | June-2019 | Completed |
|  | Title: Preparation of Chitosan-Bentonite Membrane over Polysulfone |
| 12 | **Vishwanath Reddy** | MSc | June-2019 | Completed |
|  | Title: Preparation and Applications of Nanocomposite-based Self-Cleaning Hollow Fiber Membranes |
| 13 | **Gowri Kakade** | MSc | June-2021 | Completed |
|  | Title: Facile Modification of Polysulfone Composite Membranes via the Incorporation of Fe-MOF Nanoparticles for Humic Acid and Microplastic Removal |
| 14 | **Sahana Jadhav** | MSc | June-2022 | Ongoing |
|  | Title: Discarded ultrafiltration-Hollowfibres membranes modified with chitosan and functionalized bentonite for waste water treatment |
| 15 | **Santosh S P** | MSc | June-2022 | Ongoing |
|  | Title: Biomass-derived membrane for forward osmosis processes |
| 16 | **Komal Desai** | MSc | June-2022 | Ongoing |
|  | Title: Mg-aminoclay based polyamide membrane for multipollutant separation and wastewater treatment |
| 17 | **Pooja Patil** | MSc | June-2022 | Ongoing |
|  | Title: Bio-polymer based Al-aminoclay aerogel for oil-water separation and other emerging pollutants |
| 18 | **Rashmi Dhudati** | MSc | June-2022 | Ongoing |
|  | Title: synthesis of biomass (brinjal waste) derived carbon materials for flexible symmetric supercapacitor |
| 19 | **Priya Koneri** | MSc | June-2022 | Ongoing |
|  | Title: Doping and functionalization of biomass derived carbon material for oxygen evolution reaction |
| 20 | **Vishwanath Ankalgi** | MSc | June-2022 | Ongoing |
|  | Title: Engineering Ultrafast Permeable Saccharum officinarum- derived filters Integrated with Task-Specific Fe−Al double oxides for Robust Water Purification |
| 21 | **Kavya Hegde** | MSc | June-2022 | Ongoing |
|  | Title: CuO-integrated sugarcane bagasse-derived filters for wastewater cleanup |
| 22 | **Soundarya Pawar** | MSc | June-2022 | Ongoing |
|  | Title: Chitosan-gelatin biopolymer duet integrated Fe-Al double oxide supported jute fabric as a potential adsorbent for wastewater cleanup |
| 23 | **Shreya Betageri** | MSc | June-2022 | Ongoing |
|  | Title: Engineering Nano-particle Reinforced Sustainable Bio-polymer Foams for Water Remediation |
| 24 | **Sanjana Talekar** | MSc | June-2022 | Ongoing |
|  | Title: Designing low cost, MOF –induced Polystyrene supported hybrid adsorbent cartridge for Water treatment applications |
| 25 | **Akshata B Hubballi** | MSc | June-2022 | Ongoing |
|  | Title: Polyethersulphone ZnMn2O4 nanocomposite tight ultrafiltration membrane for selective seperation from wastewater. |
| 26 | **Shigufta naz Mavazzan** | MSc | June-2022 | Ongoing |
|  | Title: Sustainable conversion of fresh seaweed to Mn functionalized electrode material for supercapacitor application |

## **SCIENTIFIC AND ACADEMIC ACHIEVEMENTS**

|  |  |
| --- | --- |
| **Editorial Board** | **Google citations, May**’21 |
| * Advances in Environmental Chemistry 20/07/2013
* The Scientific World Journal (19/09/2013)
* Journal of Science and Technology (15/03/2016)
* Journal of Environmentally Friendly Processes

 (7May 20)  | **All citations** **h- index** **i10-index**  | **5187****37****67** |

**Journal Refereed**

1. *Polymer,* ***2.*** *Carbon,* ***3****. Nanoscale,* ***4.****International Journal of Hydrogen Energy,* ***5****. Environmental Technology,* ***6.*** *Advances in Polymer Technology,* ***7****. J. Microscopy and Microanalysis,* ***8.*** *Journal of Hazardous Materials,* ***9****. Biotechnology and Bioengineering,* ***10****. Material Science and Engineering B,* ***11.*** *Journal of Membrane Science,* ***12.*** *Chemical Engineering Journal,* ***13.*** *Medical Engineering and Physics,* ***14****. RSC Advances,* ***15****. Carbon Letters,* ***16.*** *Green Chemistry,* ***17.*** *Korean Journal of Chemical Engineering, 18. Advanced Material Interfaces19. Fibers and Polymers, 20. ACS Sus Chem& Eng*

# **Fellowships and Grants/Professional Memberships**

* **Fellow of Royal Society of Chemistry- Chemical Science: FRSC-Membership No: 515825 (Renewed and Reissued ID is: 726766)**
* Talent Attraction Program Fellowship, Institute IMDEA-Water, Spain (2018)
* 4th JU-AWARD for Research Achievements
* DST-INSPIRE Faculty Award (2013-2018)
* Member of American Chemical Society: Membership No: 31122994
* Postdoctoral Research Fellowship: Qatar National Research Fund [QNRF]
* Member: American Physics Society [APS]
* Member: Material Research Society [MRS]
* Grant from Global Partnership Program [GPP]
* Brain Korea Program [BK 21]
* Project Assistant Fellowship 2004–2007 (Funded by UGC, New Delhi, India).
* Member of the Society for Polymer Science, Dharwad Chapter
* AMAOUT II Fellowship, IMDEA Water Institute, Spain

**NATURE India Research Highlights**

1. **OUTLOOK-Magazine Research Highlight WEBSITE: 09 AUGUST 2017 “Indian Scientists Turn Sugar Industry Waste Into Next-Gen Battery Material”: Link:** [**https://www.outlookindia.com/website/story/indian-scientists-turn-sugar-industry-waste-into-next-gen-battery-material/300202**](https://www.outlookindia.com/website/story/indian-scientists-turn-sugar-industry-waste-into-next-gen-battery-material/300202)
2. **Nature India Highlight:** Green material for making superecapacitors: Link: http://www.natureasia.com/en/nindia/article/10.1038/nindia.2017.112
3. **Seaweed used to make dye-degrading photocatalyst:** doi:10.1038/nindia.2016.87 Published online 13 July 2016; Link: [**http://www.natureasia.com/en/nindia/article/10.1038/nindia.2016.87**](http://www.natureasia.com/en/nindia/article/10.1038/nindia.2016.87)**; work:** Chaudhary, J. P. *et al.*Fabrication of carbon and sulphur-doped nanocomposites with seaweed polymer carrageenan as efficient catalyst for rapid degradation of dye pollutants using solar concentrator. *RSC Adv.* 6**,** 61716–61724 (2016).
4. [**Green process for purifying protein, DNA**](http://www.natureasia.com/en/nindia/article/10.1038/nindia.2015.144)**.** 29 October 2015; | doi:10.1038/nindia.2015.144: Nature India link: <http://www.natureasia.com/en/nindia/article/10.1038/nindia.2015.150> Work: Mondal, D. *et al.* Deep eutectic solvents as new class of draw agent to enrich low abundant DNA and proteins using forward osmosis. *RSC Adv.* **5,** 89539–89544 (2015).
5. [**Seaweed polymer helps make ecofriendly membrane**](http://www.natureasia.com/en/nindia/article/10.1038/nindia.2015.150)**.** 16 November 2015;|doi:10.1038/nindia.2015.150; Nature India link**:** [**http://pubs.acs.org/doi/abs/10.1021/acsami.5b08705**](http://pubs.acs.org/doi/abs/10.1021/acsami.5b08705); Work: Chaudhary, J. P. *et al.*Chitosan-based aerogel membrane for robust oil-in-water emulsion separation. *ACS Appl. Mater. Interfaces***7,** 24957–24962 (2015)
6. A. Mahto, A. Kumar, M. Bhatt, J. P. Chaudhary, A. K. Sharma, P. Paul, **S.K. Nataraj,\*** and R. Meena\* Solvent-free production of nano-FeS anchored Graphene from Ulva fasciata: A Scalable synthesis of super-adsorbent for lead, chromium and dyes, Journal of Hazardous Materials, ***Journal of Hazardous Materials***, ***353,5 July 2018, 190-203.***

1) <https://www.thehindubusinessline.com/news/science/nanomaterial-drawn-from-seaweed-can-clean-toxic-water/article23456953.ece>
2) <https://paperdabba.com/2018/04/06/nanomaterial-drawn-from-seaweed-can-clean-toxic-water/>
3) <http://www.easternmirrornagaland.com/nanomaterial-drawn-from-seaweed-can-clean-toxic-water/>
4) <http://www.indianews-today.com/news/nanomaterial-drawn-from-seaweed-can-clean-toxic-water>
5) [http://www.thehindu.com/sci-tech/science/csmcri-uses-seaweed-to-remove-lead-chromium-and-dyes-from-wastewater/article23458746.ece?utm](http://www.thehindu.com/sci-tech/science/csmcri-uses-seaweed-to-remove-lead-chromium-and-dyes-from-wastewater/article23458746.ece?utm_campaign=socialflow)

6) <https://www.researchstash.com/2018/04/06/seaweed-nanoparticles-can-clean-toxic-water/>

7) <http://www.downtoearth.org.in/news/nanomaterial-drawn-from-seaweed-can-clean-toxic-water-60113>

**FIRST TIME**

1. Forward Osmosis: Granted 2 patents on potential platform technology based on Forward Osmosis process indigenous membranes.
2. Filed a patent on Bio-based Fluoride, Chromium and colour removal nanocomposite in easy to used Tea Bag and filter cake design, which can take up F >150 mg/g.
3. First time we created stock of Aerogels for multi-contaminants removal.
4. First time we adopted natural fibres as an effective media for treating various contaminated water.
5. Patented (filed) process of converting Fresh Seaweed to scalable graphene oxide and reduced Graphene oxide for Fuel Cell and Energy storage applications.
6. Successfully prepared seaweed based membranes and tested for Oil-Water (wastewater) separation (Patented) and in Direct Methanol Fuel Cells.

**Books Authored (In Progress)**

1. Title: **Advances in Emerging Pollutant Treatment**

Author: **S. K. Nataraj**

Publisher: ***CRC PRESS/TAYLOR & FRANCIS***

ISBN 9781032103242

1. Title: **Advanced Materials and Methods for Water Treatment**

Author: **S. K. Nataraj**

 Publisher:I K INTERNATIONAL PVT LTD

**Books Edited (In Progress)**

1. Title: **Advanced Polymeric Functional Materials for Energy and Environment**

Author: **K. S. Nithin**, **S. K. Nataraj, S. Siddaramaih**

Publisher: **Springer**

eBook ISBN:978-981-16-8755-6

**BOOK CHAPTERS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl No** | **Authors** | **Book Series** | **Book Chapter** | **Publisher** |
| 1 | S. K. Nataraj, B. H. Kim & K. S. Yang, | Nanofibers: Fabrication, Performance, and Applications Editors: W. N. Chang,  | *Chapter-5:*Carbon Nano-Fibers and Their Applications: Derived From Electrospinning and Vapor Grown Processes- | 2009 Nova Science Publishers, Inc., New York, USA. ISBN 978-1-60741-947-1. |
| 2 | S.K. Nataraj & T.M.Aminabhavi | Bisphenol A and Phthalates: Uses, Health Effects and Environmental Risks Edited By: Bradley C. Vaughn,  | *Chapter-4:*Bisphenol A: Uses, Health Effects and Environmental Risks, In | 2009 Nova Science Publishers, Inc, New York, USA. ISBN: 978-1-60741-701-9. |
| 4 | https://secure-ecsd.elsevier.com/covers/80/Tango2/large/9780128184844.jpgSmitha, AK & S.K.Nataraj | Polymer-Based Advanced Functional Composites for Optoelectronic and Energy Applications | Chapter-2: Conjugated Polymer Based Smart Composites for Opto-electronics and Energy Applications | Elsevier Publishing House |
| 5 | Satisha & SKN | Polymer-Based Functional Materials for Biomedical Applications | Synthesis and Characterization of Biomedically Important Hydrogels using High Energy Radiation | IGI Global Publisher |
| 7 | Juno, AK & SKN | Aerogel and their use for Energy Savings and Storages | Aerogels and their composites in Energy generation and conversion Devices | Wiley |
| 8 | Sachin, DM & SKN  | Polymer-Based Functional Materials for Biomedical Applications | Polymers in Medicine: An Overview | IGI Global Publisher |
| 9 | Manohara, DM &SKN | Advanced Polymeric Functional Materials for Energy and Environment | Advanced polymer aerogels for energy storage and water purification applications | Springer |
| 10 | Nidhi & SKN | Advanced Polymeric Functional Materials for Energy and Environment | Sustainable polymer based membrane for energy and environmental applications | Springer |
| 11 | Santosh, MHM & SKN | 3D Printing Technology For Water Treatment Applications | Chapter 1: An overview of water pollutants in present scenario | Elsevier publishing house |
| 12 | Mahadevprasad & SKN | Smart and Flexible Energy Devices | Chapter: Metal-Organic Frameworks for Flexible Supercapacitors | CRC Press |
| 13 | Glenita & SKN | Smart and Flexible Energy Devices | Chapter: Flexible fuel cells based on carbon nanomaterials | CRC Press |
| 14 | Radha, SKN, DG | Metal-organic Framework-based Nanomaterials for Energy Conversion and Storage | Metal-organic Framework-based Nanomaterials for Energy | Elsevier Publishing House |
| 15 | Rangaswamy, SKN, DG | Metal-organic Framework-based Nanomaterials for Energy Conversion and Storage | Metal-organic Framework-based Nanomaterials for Energy | Elsevier Publishing House |
| 16 | Prahalad, SKN, DG | Metal-organic Framework-based Nanomaterials for Energy Conversion and Storage | Metal-organic Framework-based Nanomaterials for Energy | Elsevier Publishing House |
| 17 | Pooja, SKN, DG | Metal-organic Framework-based Nanomaterials for Energy Conversion and Storage | Metal-organic Framework-based Nanomaterials for Energy | Elsevier Publishing House |
| 18 | Hemanth, SKN, DG | Metal-organic Framework-based Nanomaterials for Energy Conversion and Storage | Metal-organic Framework-based Nanomaterials for Energy | Elsevier Publishing House |
| 19 | Ashok , SKN | Advanced Functional Membranes: Materials and Applications | Chapter-5: Polymer-Based Membranes | Material Research Forum, LLC, USA |
| 20 | Anshu Kumar & SKN | Advanced Polymeric Functional Materials for Energy and Environment | Polymer-based advance materials for sensing of hazardous material applications | Springer |

**PATENTS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No** | **Authors** | **Title** | **Patent Number/Status** |
| 1 | Debasis Ghosh, S. K. Nataraj, Radha Nagaraj, | Vanadium Oxide/Carbon/Clay Composite Positive Electrode Material,Preparation Method Thereof and Application Thereof in Water-Based Battery | **Patent Number CN110707299B** |
| 2 | S. K. Nataraj, D. Mondal, Anita Samage, Manohara H.M. & Mahaveer Halakarni | Design of Metal Salt-based Ternary DES for Rapid Preparation of Metal ion Doped Metal Oxides Preparation and their Applications | Ref No-IN202141033878**Application Number: TEMP/E-****1/36928/2021-CHE** |
| 3 | S. K. Nataraj, D. Mondal, Santosh K.N. & Ashesh Mahto | Polyacrylonitrile based nanofiltration membrane composition and method for preparation thereof | **TEMP/E1/17639/2021- CHE****202141016298** |
| 4 | S. K. Nataraj, D. Mondal, Ashok Maraddi | Method for preparation of polyurethane derived carbon from polyurethane waste | **TEMP/E1/17644/2021- CHE****202141016296** |
| 5 | S. K. Nataraj, D. Mondal, Glenita D’Souza | Solvothermal carbon induced bio-foam | **TEMP/E1/17652/2021- CHE****202141016297** |
| 6 | S.K. Nataraj, D. Mondal, A. Kanakaraj, Nidhi M.R, | Process for Preparation of Multifunctional Helical Carbon Composites Derived from Ubiquitous Biomass. | **App No: TEMP/E-1/45817/2018-CHE.** |
| 7 | D. Mondal, S.K. Nataraj, Supratim Chakravarthy, | Process for Metallization of DNA/Protein and Applications Thereof. | **App No: TEMP/E-1/45819/2018-CHE.** |
| 8 | D. Mondal, S.K. Nataraj, Manohar H.M. Sachin Seth, | Silk-based Bionanocomposites Membrane and Process for Preparation for the same. | **App No: TEMP/E-1/45820/2018-CHE.** |
| 9 | P.K. Ghosh, Rhea Bhansali, Bharat Honmane, **S.K. Nataraj**, Sangeeta Srivastava and Rahul Pathak, | “Spontaneous Dewatering of Incoming Feed with Outgoing Feed for Mutual Gains in Commercially Important Processes. | **File No.201721011893, Indian Patent Granted 348905 (2020).** |
| 10 | P. Pal, ***S.K. Nataraj***, Anshu Kumar and P. Prajapati, | Membrane-Bio Nanomaterial integrated water treatment kit for domestic usage. | **Application PCT/IN2016/050216.** |
| 11 | A.V.R. Reddy, ***S.K. Nataraj***, K. Prasad, D. Mondal, A. Mahto, P. Veerababu, and J. Bhatt. | Dewatering process through forward osmosis using deep eutectic solvents with or without dispersed magnetic nanopartscles as novel draw solutions. | Application No. PCT/IN2015/000322, Publication No. **PCT Patent WO 2016027280 A3**, **US** **2017/0044030A1.** |
| 12 | P.K. Ghosh, D. Mondal, ***S. K. Nataraj***, A.V.R. Reddy, K.K. Ghara, P. Maiti, S.C. Upadhyay. | New use of salt bitterns as draw solution in forward osmosis for energy efficient dewatering and process thereof. | **PCT Patent WO/2015/136554 A1.** |
| 13 | R. Meena, N.D. Sanandiya, J.P. Chaudhary, D. Mondal, and ***S.K. Nataraj****,* | Seaweed polysaccharides based Superhydrophilic foam membrane for energy efficient oil-water separation. | **PCT Patent WO/2015/056273 A1.** **US Patent 10,688,446** |
| 14 | K.S. Yang, ***S.K. Nataraj***, Bo-Hye Kim, | The electrode for the high-capacity hybrid super pseudo-capacitor including the manganese oxide/carbon nanofiber composite manufacturing method, | **Korean Patent 1011267840000.**  |

**REVIEW ARTICLES**

1. **S.K. Nataraj**,\* T.M. Aminabhavi, K. S. Yang,\*Polyacrylonitrile-Based Nanofibers-A state-of-the art review, ***Progress in Polymer Science***37 (2012) 487-513. **(IF=24.558)**
2. M. Sairam, **S.K. Nataraj**, T.M. Aminabhavi, Sukumar Roy and C.D. Madhusoodana; Polyaniline Membranes for Separation and Purification of Gases, Liquids, and Electrolyte Solutions, ***Separation & Purification Reviews,***35 (2006) 1–35. **(IF=4.21)**
3. Pranav K., **Nataraj S.K.,** Geetha R.B., D. H. Nagaraju and M. V. Venkatashamy Reddy, Nanostructured binary and ternary metal sulfides: Synthesis methods and its application in energy conversion and storage devices. ***Journal of Materials Chemistry A***, 2017,**5**, 22040-22094. **(IF=9.931).**
4. S. P. Dharupaneedia, **S. K. Nataraj**, M. Nadagouda, K. R. Reddy, S. S. Shukla, T. M. Aminabhavi, Membrane-based separation of potential emerging pollutants, ***Separation and Purification Technology 210 (2019) 850–866.***
5. S Bhandari, D. Mondal, **S. K. Nataraj**, R. Geetha Balakrishna, Biomolecules Derived Quantum Dots for Sustainable Optoelectronics, **Nanoscale Advances 1 (2019) 913-936**
6. A. Mahto, A. Kanakaraj, R. Meena and **S.K. Nataraj\*,**T.M. Aminabhavi**,** Forward Osmosis-based Hybrid Processes as Emerging Wastewater Treatment Techniques: a Critical Review, **Separation and Purification Technology 254 (2021) 117568.**
7. Rangaswamy, P., **S. K. Nataraj\***, and Debasis Ghosh. "Rational designing of inorganic and organic materials based nancomposites hybrid as Na-ion battery electrodes." **Materials Advances (2021).**
8. H.M. Manohara, Sooraj Nayak, Gregory Franklin, S.K. Nataraj,\* D. Mondal, Progress in marine derived renewable functional materials and biochar for sustainable water purification, **Green Chemistry**, **2021,**23**, 8305-8331**
9. Kamath Smitha, Manohar H M, **S. K. Nataraj\*,** “Nanocomposite-based high-performance adsorptive water filters: Recent advances, limitations, nanotoxicity and their environmental implications.” **Environmental Science: Nano (2022).**
10. Mruthunjayappa, Manohara Halanur, **S. K. Nataraj\***, and Dibyendu Mondal. "New prospects on solvothermal carbonisation assisted by organic solvents, ionic liquids and eutectic mixtures–A critical review." **Progress in Materials Science (2022): 100932.**

**ORIGINAL RESEARCH ARTICLES-PUBLISHED**

**2022**

1. Aruchamy, Kanakaraj, **S. K. Nataraj\***, "Creating ultrahigh surface area functional carbon from biomass for high performance supercapacitor and facile removal of emerging pollutants." **Chemical Engineering Journal 427 (2022): 131477.**
2. Kamath, Smitha V., **S. K. Nataraj\***, "Sorption based easy-to-use low-cost filters derived from invasive weed biomass for dye contaminated water cleanup." **RSC advances 12.15 (2022): 9101-9111**.
3. Puttaswamy, Rangaswamy, **S. K. Nataraj\***, and Debasis Ghosh. "MOFs-based nanomaterials for metal-ion batteries." **Metal-Organic Framework-Based Nanomaterials for Energy Conversion and Storage. Elsevier, 2022. 293-313.**
4. Naik, Pooja B., **S. K. Nataraj\***, "Developing High-Performance Flexible Zinc Ion Capacitors from Agricultural Waste-Derived Carbon Sheets." **ACS Sustainable Chemistry & Engineering 10.4 (2022): 1471-1481.**
5. Mruthunjayappa, Manohara Halanur, **S. K. Nataraj\***, and Dibyendu Mondal. "Bioinspired engineering protein nanofibrils-based multilayered self-cleaning membranes for universal water purification." **Journal of Hazardous Materials 424 (2022): 127561.**
6. Samage, Anita, **S. K. Nataraj\***, "High power, long cycle life capacitive carbon from Hibiscus cannabinus, a Agri-bio-waste with simultaneous value addition in water treatment application." **Chemical Engineering Journal 435 (2022): 134952.**
7. Shet, Sachin M., **S. K. Nataraj\***, "Presenting B-DNA as macromolecular crowding agent to improve efficacy of cytochrome c under various stresses." **International Journal of Biological Macromolecules (2022).**
8. Mahto, Ashesh, Mahaveer A. H, **S. K. Nataraj\***, "Upcycling cellulose acetate from discarded cigarette butts: Conversion of contaminated microfibers into loose-nanofiltration membranes for selective separation." **Desalination 535 (2022): 115807.**
9. D'Souza, Glenita Bridget, **S. K. Nataraj\***, "Designing engineered biopolymer mesh filter for robust sequestration of chromium (VI), fluoride and other emerging pollutants: A sustainable approach." **Chemical Engineering Journal 443 (2022): 136462.**

**2021**

1. SM Shet, SK Thayallath, M Bisht, MM Pereira, JAP Coutinho, **S. K. Nataraj,\*** D. Mondal, Engineering Cytochrome C with Quantum Dots and Ionic Liquids: A Win-Win Strategy for Protein Packaging against Multiple Stresses, **ACS Sustainable Chem. Eng. 2021, 9, 24, 8327–8335.**
2. Supratim Chakraborty, Sachin M. Shet, Matheus M. Periea, **S. K. Nataraj,\*** Dibyendu Mondal\*, Designing biopolymer-based artificial peroxidase for oxidative removal of dibenzothiophene from a model diesel fuel, **International Journal of Biological Macromolecules xxx, 2021 (In Press) 1–10**
3. Rangaswamy Puttaswamy, Radha Nagaraj, Pranav Kulkarni, Hemanth Kumar Beere, Shrish Nath Upadhyay, R. Geetha Balakrishna, **S. K. Nataraj**, Srimanta Pakhira, and Debasis Ghosh, Constructing a High-Performance Aqueous Rechargeable Zinc-Ion Battery Cathode with Self-Assembled Mat-like Packing of Intertwined Ag(I) Pre-Inserted V3O7·H2O Microbelts with Reduced Graphene Oxide Core, **ACS Sustainable Chem. Eng. 2021, 9, 11, 3985–3995.**
4. Mahaveer Halakarni, Ashesh Mahto, Kanakaraj Aruchamy, Dibyendu Mondal, **S. K. Nataraj,\*** [Developing helical carbon functionalized chitosan-based loose nanofiltration membranes for selective separation and wastewater treatment](https://www.sciencedirect.com/science/article/pii/S1385894720340304), [**Chemical Engineering Journal**](https://www.sciencedirect.com/science/journal/13858947)**,** [**Volume 417**](https://www.sciencedirect.com/science/journal/13858947/417/supp/C)**, 1 August 2021, 127911.**
5. Ashesh Mahto, Ankit Singh, Kanakaraj Aruchamy, Ashok Maraddi, Gopala Ram Bhadu, **S.K. Nataraj,\*** Ramavatar Meena, [A hyperaccumulation pathway to hierarchically porous carbon nanosheets from halophyte biomass for wastewater remediation](https://www.sciencedirect.com/science/article/pii/S2214993721000476), [**Sustainable Materials and Technologies**](https://www.sciencedirect.com/science/journal/22149937)**,** [**Volume 29**](https://www.sciencedirect.com/science/journal/22149937/29/supp/C)**, September 2021, e00292.**
6. Nidhi M.R, Kanakaraj Aruchamy, Veerababu Polishetti, Mahaveer Halakarni, Ashesh Mahto, Dibyendu Mondal, **S. K. Nataraj,\*** [Restructuring thin film composite membrane interfaces using biopolymer as a sustainable alternative to prevent organic fouling](https://www.sciencedirect.com/science/article/pii/S0144861720314703), [**Carbohydrate Polymers**](https://www.sciencedirect.com/science/journal/01448617)**,** [**Volume 254**](https://www.sciencedirect.com/science/journal/01448617/254/supp/C)**, 15 February 2021, 117297.**

**2020**

1. Niketa Yadav, Meena Bisht, **SK Nataraj,** Pannuru Venkatesu, Dibyendu Mondal, [Multifunctional solvothermal carbon derived from alginate using ‘water-in-deep eutectic solvents’ for enhancing enzyme activity](https://pubs.rsc.org/ko/content/articlehtml/2020/cc/d0cc03866k), **Chemical Communications 56 (67), 9659-9662.**
2. Radha Nagaraj, Srimanta Pakhira, Kanakaraj Aruchamy, Prahlad Yadav, Dibyendu Mondal, Kalpana Dharmalingm, **S.K. Nataraj\*,** Debasis Ghosh\*, [Catalyzing the Intercalation Storage Capacity of Aqueous Zinc-Ion Battery Constructed with Zn (II) Preinserted Organo-Vanadyl Hybrid Cathode](https://pubs.acs.org/doi/abs/10.1021/acsaem.9b02466), **ACS Applied Energy Materials 3 (4), 3425-3434.**
3. Manohara Halanur Mruthunjayappa, Vibha T. Sharma, Kalpana Dharmalingam, **S. K. Nataraj,\*** and Dibyendu Mondal\* Engineering a Biopolymer-Based Ultrafast Permeable AerogelMembrane Decorated with Task-Specific Fe−Al Nanocomposites for Robust Water Purification **ACS Applied Biomaterials** **2020, 3, 8, 5233–5243.**
4. K. Vishal, K. Manjunatha, **S.K. Nataraj**, B. S. Sasidhar and S.A. Patil, DNA as a Bioligand Supported on Manetite for Grafting Palladium Nanoparticles for Cross Coupling Reactions, **Applied Organometallic Chemistry 34 (3) (2020), e5357.**
5. Vibha Sharma, Manohar H.M, A. Kanakaraj, Nidhi M.R; Radha N, Kalpana D, D. Ghosh; D. Mondal, S.K. Nataraj,\* One-pot Synthesis of Modified Layered Double Hydroxide-based Micro Cleaners for Robust Removal of Anionic Pollutant **Chromosphere (2020) 127421.**
6. NC Horti, MD Kamatagi, SK Nataraj, M Wari, S Inamadar, Structural and optical properties of zirconium oxide (ZrO2) nanoparticles: Effect of calcination temperature, ***Nano Express***, **Nano Express 1 (1), (2020) 010022.**
7. SM Shet, M Bisht, S Pramanik, S Roy, S Kumar T, SK Nataraj, D Mondal, Engineering Quantum Dots with Ionic Liquid: A Multifunctional White Light Emitting Hydrogel for Enzyme Packaging, ***Advanced Optical Materials* 8 (8) (2020), 1902022.**
8. K Aruchamy, R Nagaraj, HM Manohara, MR Nidhi, D Mondal, D Ghosh, S.K. Nataraj, One-step green route synthesis of spinel ZnMn2O4 nanoparticles decorated on MWCNTs as a novel electrode material for supercapacitor, ***Materials Science and Engineering: B 252, 114481,2020.***
9. N Maalige, SA Dsouza, MM Pereira, PV Babu, D Mondal, SK Nataraj, Introducing deep eutectic solvents as flux boosting and surface cleaning agents for thin film composite polyamide membrane, ***Green Chemitry., 2020, 22, 2381***.
10. N Radha, K Aruchamy, HM Manohara, MR Nidhi, D Mondal, SK Nataraj, D. Ghosh, Boosting the electrochemical performance of polyaniline based all-solid-state flexible supercapacitor using NiFe2O4 as adjuvant, ***JOURNAL OF ELECTROANALYTICAL CHEMISTRY 8, 856, 51, 113482, 2020.***
11. A.  Kanakaraj, M.R. Nidhi, H.M. Manohar, A. Mahto, N. Radha, D. Kalpana, D. Ghosh, D. Mondal, S.K. Nataraj, Ultrafast Synthesis of Exfoliated Manganese Oxide in Deep Eytectuv Solvents for Water Purification and Energy Storage, ***Chemical Engineering Journal 379 (2020) 122327.***
12. V Kandathil, M Kempasiddaiah, SK Nataraj, SB Somappa, SA Patil, DNA as a bioligand supported on magnetite for grafting palladium nanoparticles for cross‐coupling reaction, **Applied Organometallic Chemistry** 34 (3), e5357
13. A. Kanakaraj, Radha N., Manohar H. M, Nidhi M. R., D. Mondal, D. Ghosh, S. K. Nataraj, One-Step Green Route Synthesis of Spinel ZnMn2O4 Nanoparticles Decorated on MWCNTs as a Novel Electrode Material for Supercapacitor, **Materials Science and Engineering B 252 (2020) 114481.**

**2019**

1. Supratim Chakraborty, Manohara Halanur Mruthunjayappa, Kanakaraj Aruchamy, Nripat Singh, Kamalesh Prasad, Dharmalingam Kalpana, Debasis Ghosh, **Nataraj Sanna Kotrappanavar\*** Dibyendu Mondal**\*** Facile Process for Metallizing DNA in a Multitasking Deep Eutectic Solvent for Ecofriendly C–C Coupling Reaction and Nitrobenzene Reduction ***ACS Sustainable Chem. Eng.* 2019, 7, 16, 14225–14235**
2. H.M. Manohara, A. Kanakaraj, S. Chakraborty, N. Radha, M. R. Nidhi, D. Ghosh, **S.K. Nataraj,\*** D. Mondal,\* Sustainable Water Purification Using Engineered Solvothermal Carbon Based Membrane Derived from a Eutectic System***ACS Sustainable Chem. Eng.* 2019, 7, 11, 10143–10153**
3. [J. P. Chaudhary](https://pubs.acs.org/author/Chaudhary%2C%2BJai%2BPrakash), [R. Gupta](https://pubs.acs.org/author/Gupta%2C%2BRajeev), [A. Mahto](https://pubs.acs.org/author/Mahto%2C%2BAshesh), [N. Vadodariya](https://pubs.acs.org/author/Vadodariya%2C%2BNilesh), [Kalpana D.](https://pubs.acs.org/author/Dharmalingm%2C%2BKalpana) S.K. [Nataraj](https://pubs.acs.org/author/Sanna%2BKotrappanavar%2C%2BNataraj)[\*](https://pubs.acs.org/doi/10.1021/acssuschemeng.8b02831#cor2), and [R. Meena](https://pubs.acs.org/author/Meena%2C%2BRamavatar)[\*](https://pubs.acs.org/doi/10.1021/acssuschemeng.8b02831#cor1) Self-Doped Interwoven Carbon Network Derived from Ulva fasciata for All-Solid Supercapacitor Devices: Solvent-Free Approach to a Scalable Synthetic Route, **ACS Sustainable Chem. Eng., 2019, 7 (1), 174–186.**
4. H.M. Manohara, S. Chakravarthy, A. Kanakaraj, D. Ghosh, N. Singh, K. Prasad, D. Kalpana, **S. K. Nataraj\*** and Dibyendu Mondal, Engineering Fe-doped highly oxygenated solvothermal carbon from glucose-based eutectic system as active microcleaner and efficient carbocatalyst, **Journal of Materials Chemistry- A, 2019, 7, 4988–4997.**
5. Radha N., A. Kanakaraj, H.M. Manohar, Nidhi M.R., D. Mondal, **S. K. Nataraj\*,** D. Ghosh, Binder free self-standing high performance supercapacitive electrode based on graphene/titanium carbide composite aerogel, **Applied Surface Science 481 (2019) 892–899**
6. J.P. Chaudhary, R. Gupta, A. Mahto, N. Vadodariya, Kalpana D. **Nataraj S.K.\*** and R. Meena,\* Self-Doped Interwoven Carbon Network Derived from Ulva fasciata 2 for All-Solid Supercapacitor Devices: Solvent-Free Approach to a 3 Scalable Synthetic Rout, **ACS Sustainable Chemistry & Engineering, 7 (2019) 174–186.**
7. Nidhi Maalige, A.  Kanakaraj, A. Mahto, V. Sharma, D.  Mondal, **S.K. Nataraj**,\* Low Operating Pressure Nanofiltration Membrane with Functionalized Natural Nanoclay as Antifouling and Flux Promoting Agent, ***Chemical Engineering Journal*** **358 (2019) 821-830.**

**2018**

1. A.I. Argüelles-Pesqueiraa, N.M. Diéguez-Armentab, A.K. Bobadilla-Valenciac, **S.K. Nataraj,** A. Rosas-Durazoa , R. Esquivelb , M.E. Alvarez-Ramosb , Roberto Escuderoc , P. Guerrero-Germana , J.A. Lucero-Acuñaa,b , P. Zavala-Riveraa,Low intensity sonosynthesis of iron carbide@iron oxide core-shell nanoparticles, **Ultrasonics - Sonochemistry 49 (2018) 303–309.**
2. A. Kanakaraj, Meena  Bisht, P. Venkatesu, D. Kalpana,M. R. Nidhi, Nirpat Singh, D. Ghosh, D. Mondal, **S.K. Nataraj,\*** Direct Conversion of Lignocellulosic Biomass to Biomimetic Tendril-Like Functional Carbon Helices: A Protein Friendly Host for Cytochrome C, **Green Chemistry 20 (2018), 3711-3716. (IF=8.58)**
3. A. Kanakaraj, A. Mahto and **S.K. Nataraj\*** Electrospun nanofibers, nanocomposites and characterization of art: insight on establishing fibres as product,**Nano-Structures & Nano-Objects 16 (2018) 45–58.**
4. A. Mahto, A. Kumar, M. Bhatt, J. P. Chaudhary, A. K. Sharma, P. Paul, **S.K. Nataraj,\*** and R. Meena\* Solvent-free production of nano-FeS anchored Graphene from Ulva fasciata: A Scalable synthesis of super-adsorbent for lead, chromium and dyes Journal of Hazardous Materials, ***Journal of Hazardous Materials***, ***2018,353(5) 190-203***. **(IF=6.43)**
5. R. Gupta, N. Vadodariya, A. Mahto, J. P. Chaudhary, D.B. Parmar, D.N. Srivastava,\* **S. K. Nataraj,\*** R.Meena,\* Functionalized-Seaweed Derived Graphene/Polyaniline Nanocomposite as Efficient Energy Storage Electrode, ***Journal of Applied Electrochemistry*** 2018, 48 (1) 37-48. **(IF=2.62)**

**2017**

1. A. Mahto, D. Mondal, P. Veera Babu, J. Bhatt, K. Prasad and S.K. Nataraj**\*** Sustainable water reclamation from different feed streams by Forward Osmosis Process Using Deep Eutectic Solvents as Reusable Draw Solution, ***Industrial Engineering Chemistry and Research* 2017**, *56* (49),14623–14632***.*** **(IF=3.14)**
2. Ashesh Mahto, Rajeev Gupta, Krishna Kanta Ghara, Divesh N. Srivastava, Pratyush Maiti, Kalpana D., Paul Zavala-Rivera, R. Meena,\* **S.K. Nataraj**\*, Development of High-Performance Supercapacitor Electrode Derived from Sugar Industry Spent Wash Waste, **Journal of Hazardous Materials, 2017, 340, 189-201.(IF=6.43)**
3. A. Kumar, P. Paul, S.K. Nataraj,\* Functionalized Biomaterials Scaffold for High Fluoride, Chromium and Colour Uptake, ***ACS Sustainable Chemistry & Engineering*, 2017, *5* (1),  895–903. (IF=6.14)**

**2016**

1. J.P. Chaudhari, Ashesh Mahto, N. Vadodaria, S. Maiti, S.K. Nataraj,\* and R. Meena,\* Simple and greener approach to rapid dye degradation in visible light using seaweed carrageenan templated photocatalyst TiO2, ***RSC Advances* 6, 2016, 61716-61724.**  **(IF=2.93)**
2. R. Gupta, M. Singhal, S. K. Nataraj,\* and Divesh N. Srivastava,\* Potentiostatic approach of growing polyaniline nanofibers in fractal morphology by interfacial electropolymerization, ***RSC* Adv., 2016, 6, 110416–110421. (IF=2.93)**
3. M.P. Bhat, Madhuprasad,\* Pravin Patil, S.K. Nataraj, D. Losic and M.D. Kurkuri,\* Turmeric, Naturally Available Colorimetric Receptor for Quantitative Detection of Fluoride and Iron, ***Chemical Engineering Journal, 303, 2016, 14-21*. (IF=6.73)**
4. C. Mukesh, R. Gupta, D.N. Srivastava, S.K. Nataraj,\* K. Prasad,\* Bio-deep eutectic solvents based self-polymerized ionogels with capacitive behaviour and its performance as solid electrolytes in EDLC with PAN carbon fibers, ***RSC Advances*****2016,6, 28586-28592. (IF=2.93)**
5. D. Mondal, M. Sharma, C-H. Wang, A. Saha, S.K. Nataraj,\* K. Prasad\*,Transforming Seaweed to Graphene: An efficient oxygen reduction electrocatalyst in fuel cells, **Green Chem., 2016, 18, 2819–2826. (IF=8.58)**

**2015**

1. J.P. Chaudhary, N. Vadodariya, S.K. Nataraj,\* R. Meena, Agarose-Based Aerogel as Efficient Oil-Water Separation Membrane, ***ACS Applied Materials and Interfaces 7, 2015, 24957-24962.* (IF=8.097)**
2. D. Mondal, A. Mahto, P. Veerababu, J. Bhatt, K. Prasad and S.K. Nataraj**\*** Natural deep eutectic solvents as new class of draw agent to enrich low abundant DNA andproteins using forward osmosis, ***RSC Advances*,** 2015, 5, 89539–89544. **(IF=2.93)**
3. D. Mondal, S.K. Nataraj,\* A.V.R. Reddy,K.K. Ghara,P. Maiti, S.C. Upadhyay and P.K. Ghosh\* Four-fold concentration of sugarcane juice through forward osmosis using abundant seawater bittern as draw solution, ***RSC Advances,*** 2015, 5, 17872–17878. **(IF=2.93)**
4. S.K. Nataraj,\* C-H. Wang, H-C. Huang, H-Y. Du, L-C. Chen,K-H. Chen,\*Functionalizing Biomaterials to be an Efficient Proton-Exchange Membrane and Methanol Barrier for DMFCs, ***ACS Sustainable Chemistry & Engineering*** 2015, 3, 302−308. **(IF=6.14)**

**2014**

1. D.H. N. Perera, S.K. Nataraj, H.A.M. Qiblawey, E. Sivaniah. Room temperature development of thin-film composite reverse osmosis membranes from cellulose acetate with antibacterial properties. ***Journal of Membrane Science***, 453, (1) 2014, 212-220. **(IF=6.578)**
2. J. P. Chaudhary, S. K. Nataraj,\* A. Gogda and R. Meena\* Bio-based super hydrophilic foam membranes for sustainable oil-water separation, ***Green Chemistry* 16 (2014) 4552-4558. (IF=8.58)**

**2013**

1. S.K. Nataraj, Q. Song, S.A. Al-Muhtaseb*,* S.E. Dutton, Q. Zhang,E. Sivaniah,Thin, Flexible Supercapacitors Made from Carbon Nanofiber Electrodes Decorated at Room Temperature with Manganese Oxide Nanosheets, ***Journal of Nanomaterials*** Volume2013***,*** (2013) Article ID 272093. [**(IF=2.207)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)

**2012**

1. Q. Song,S. K. Nataraj,M. V. Roussenova,J.C. Tan,D. J. Hughes,W. Li, P. Bourgoin,M.A. Alam,A.K. Cheetham,S.A. Al-Muhtaseb, E. Sivaniah, Zeolitic imidazolate framework (ZIF-8) based polymer nanocomposite membranes for gas separation, ***Energy and Environmental Science*** 5 (2012) 8359-8370.[**(IF=30.067)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)
2. H-C. Hsu, C-H. Wang, S.K. Nataraj, H-C Huang, H-Y Du, S-T. Chang, L-C. Chen, K-H. Chen.Stand-up structure of graphene-like carbon nanowalls on CNT directly grown on polyacrylonitrile-based carbon fiber paper as supercapacitor, ***Diamond and Related Materials*** 25 (2012) 176-179.[**(IF=2.23)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)
3. S.K. Nataraj, C.H. Wang, H-C. Haung, H-Y. Du, S-F. Wang, Y-C. Chen, L-C. Chen, K.H. Chen, Nafion Surface Modification with Proton Selective Chitosan Layer Coating, ***ChemSusChem***5 (2012) 392-395.[**(IF=7.41)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)
4. P. Zaval-Revera, K. Channon, V. Nyugen, E. Sivaniah, S.K. Nataraj, D. Kabra, R.H. Friend, S.A. Al-Muhtaseb,Collective osmotic shock in ordered materials, ***Nature Materials***11 (2012) 53-57.[**(IF=38.23)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)

**2011**

1. S.K. Nataraj, S. Roy, M.B. Patil, N.N. Mallikarjun, W.E.Rudzinski, T. M. Aminabhavi; Performance of Polymer-Coated Alumina Ceramic Membranes in Wastewater Treatment, ***Desalination*** 281 (2011) 348-353. **(IF=6.603)**
2. S.K. Nataraj, A.A. Hussain, M.E.E. Abashar, I.S. Al-Mutaz, T.M. Aminabhavi, N.N. Mallikarjuna, Prediction of Physical Properties of Nanofiltration Membranes for Neutral and Charged Solutes, ***Desalination*,**280(2011) 174-182. **(IF=6.603)**
3. R.S. Keri, K.M. Hosamani, H.R.S. Reddy, **S.K. Nataraj**, T.M. Aminabhavi, Application of the electrodialytic pilot plant for fluoride removal ***Journal of Water Chemistry and Technology*** 33 (2011) 293-300.**(IF=0.38)**
4. S.K. Nataraj, B.H. Kim, J.H. Yun, D.H. Lee, T.M. Aminabhavi, and K. S. Yang, Pore Characteristics of the Carbon Nanofibers of Polyacrylonitrile Containing Iron-oxide by Electrospinning, ***International Journal of Nanotechnology***, 8, (2011) 868-876. ***(IF=0.512)***

**2010**

1. S. K. Nataraj, Bo-Hye Kim, Kap Seung Yang, and Hee-Gweon Woo, In-Situ Deposition of Iron Oxide Nanoparticles on Polyacrylonitrile-Based Nanofibers by Chemico-Thermal Reduction Method,***J. Nanosci. Nanotechnol*.** 10 (5) (2010) 3530-3533.[**(IF=1.35)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)
2. Bo-Hye Kim, S.K. Nataraj, Kap Seung Yang, and Hee-Gweon Woo, Synthesis, Characterization, and Photocatalytic Activity of TiO2/SiO2 Nanoparticles Loaded on Carbon Nanofiber Web, ***J. Nanosci. Nanotechnol*.** 10 (5)(2010) 3331-3335.[**(IF=1.35)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)
3. R.S. Harisha, R.S. Keri, K.M. Hosamani, S.K. Nataraj, T. M. Aminabhavi, Arsenic removal from drinking water using thin film composite nanofiltration membrane, ***Desalination***252 (1-3) (2010) 75-80. **(IF=6.603)**

**2009**

1. S.K. Nataraj, B.H. Kim, D.H. Lee, J.H. Yun, T.M. Aminabhavi, and K. S. Yang, Morphological Characterization of Electrospun Carbon Nanofiber Mats of PAN Containing Heteropolyacid, **Synthetic Metals** 159, (14), (2009)1496-1504.[**(IF=2.52)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)
2. S.K. Nataraj, B.H. Kim, J.H. Yun, D.H. Lee, T.M. Aminabhavi, K. S. Yang, Effect of Added Nickel Nitrate on the Physics, Thermal and Morphological Characteristics of Polyacrylonitrile-based Carbon Nanofibers”, ***Materials Science and* Engineering B**162, (2), (2009)75-81. [**(IF=3.31)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)
3. S.K. Nataraj, K. M. Hosamani and T. M. Aminabhavi; Nanofiltration and Reverse osmosis application for the removal of dye and salt from simulate effluent,***Desalination*** *249* (2009) 12-17. **(IF=6.603)**
4. S.K. Nataraj, B.H. Kim, M.D. Cruz, J. Ferraris, T.M. Aminabhavi and K.S. Yang, Free Standing Thin Webs of Porous Carbon Nanofibers of Polyacrylonitrile Containing Iron-Oxide by Electrospinning, ***Materials Letters*,** 63 (2009) 218-220. [**(IF=2.68)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)

**2008**

1. A. Hussain, S.K. Nataraj, M.E.E. Abashar, I.S. Al-Mutaz and T.M. Aminabhavi; Mathematical modeling to predict surface charge density of nanofiltration membranes ***Journal of Membrane Science*** 310 (2008) 321–336. **(IF=6.578)**
2. S.S. Jawalkar, S.K Nataraj and T.M. Aminabhavi,Prediction of Blend Compatibility of Poly(vinyl pyrrolidone) and Poly(sulfone) through Molecular Modeling, ***Journal of Applied Polymer Science***108 (2008) 3572-3576. **(IF=1.90)**
3. S.K Nataraj, B.H. Kim, J.H. Yun, D.H. Lee, T.M. Aminabhavi, K.S. Yang, Electrospun nanocomposite fiber mats of zinc-oxide loaded polyacrylonitrile, ***Carbon letters*** 9 (2), 108-114.[**(IF=1.432)**](https://www.scopus.com/redirect.uri?url=http://www.orcid.org/0000-0002-1489-8312&authorId=12790439100&origin=AuthorProfile&orcId=0000-0002-1489-8312&category=orcidLink)

**2007**

1. S.K. Nataraj, K. M. Hosamani and T. M. Aminabhavi; Potential application of electrodialytic pilot plant containing ion-exchange membrane in chromium removal, ***Desalination***217 (2007) 181–190. **(IF=6.603)**
2. S.K. Nataraj, S. Sridhar, I. N. Shaikh, D. S. Reddy, T. M. Aminabhavi; An efficient membrane-based microfiltration/electrodialysis hybrid process for the treatment of paper industry wastewater, ***Separation and Purification Technology***57 (2007) 191–198. **(IF=3.927)**

**2006**

1. S.K. Nataraj, K. M. Hosamani and T. M. Aminabhavi; Distillery wastewater treatment by the membrane-based nanofiltration and reverse osmosis processes, ***Water Research*** 40 (2006) 2349-2356. **(IF=7.05)**
2. S.K. Nataraj, K. M. Hosamani and T. M. Aminabhavi; Electrodialytic Removal of Nitrate and Hardness from Simulated Mixtures Using Ion-Exchange membranes, ***Journal of Applied Polymer Science*,** 99 (2006) 1788–1794. **(IF=1.90)**
3. M. Sairam, B.V.K. Naidu, S.K. Nataraj, B. Sreedhar and T.M. Aminabhavi; Inorganic-Organic Nanocomposite Membranes for Dehydration of Isopropanol, 1,4-Dioxane and Tetrahydrofuran, ***Journal of Membrane Science***283 (2006) 65–73. **(IF=6.578)**

**Conference Papers**

1. NC Horti, MD Kamatagi, **SK Nataraj**, Photoluminescence properties of copper oxide nanoparticles: Effect of solvents, AIP Conference Proceedings 2100 (1), 020048
2. M Sakar, RG Balakrishna, **SK Nataraj**, D Mondal, International Conference on Green Methods for Separation, Purification and Nanomaterials Synthesis (24-25th April 2018), Materials Today: Proceedings 9, 491-498

**Conferences and Presentations**

1. Manohara H.M., Supratim C., Kanakaraj A., Debasis Ghosh, Nripat Singh, Kamalesh Prasad, D. Kalpana, D. Mondal,\* and **S. K. Nataraj\*** Presented poster on the topic “Active microcleaner derived from green solvent for water purification and as potential carbocatalyst” in the International conference on Frontiers in materials from basic science to real-time applications (F2DM-2019) held at Jain University, Bangalore, on 13-16th March, 2019. (Awarded Best Poster Presentation)
2. Sachin M. Shet, Manohara H. M., Supratim Chakraborty, Debasis Ghosh, **S. K. Nataraj\*** and D. Mondal\* presented a poster entitled “Biopolymer based free standing membrane for water purification” in the International conference on Frontiers in materials from basic science to real-time applications (F2DM-2019) held at Jain University, Bangalore, on 13-16th March, 2019.
3. Radha N, Kanakaraj A, Manohar H. M, Nidhi M. R, D. Mondal, **S. K. Nataraj\*** and Debasis Ghosh\* presented poster on the topic “Constructing a High Performance Aqueous Zinc Ion Battery cathode with a Organo Vanadyl Hybrid material” in the International conference on Frontiers in materials from basic science to real-time applications (F2DM-2019) held at Jain University, Bangalore, on 13-16th March, 2019. (Awarded Best Oral Presentation)
4. Kanakaraj A., Nidhi M. R., Manohar H. M., Radha., Debasis Ghosh, D. Mondal,\* and **S. K. Nataraj\*** presented Poster on the topic “Biomass Derived Ultrahigh Surface Area Activated Carbon for Supercapacitor and Water Treatment Applications” in an International conference Frontiers in Materials from Basic Science to Real-time Appliacations (F2DM-2019), held at Bangalore on 13-16,March 2019.
5. T. Sarath Kumar, Sachin M. Shet, **S.K. Nataraj\*,** D. Mondal\*, Satyapriya Bhandari\* presented a poster entitled “Review on optoelectronics derived from biobased quantum dots” in the International conference on Frontiers in materials from basic science to real-time applications (F2DM-2019) held at Jain University, Bangalore, on 13-16th March, 2019.
6. Supratim Chakraborty, Manohara H.M., Kanakaraj A., Nidhi M. R., Radha N., Debasis Ghosh, **S. K. Nataraj\*** and D. Mondal\* (\*corresponding author) presented poster “An ecofriendly approach for DNA metallization in DES; a reusable nano bio catalyst for Suzuki coupling reaction” in the F2DM - 2019, held on 13 - 16th March, in CNMS, Jain University, Bengaluru.
7. Radha N, Kanakaraj A, Manohar H. M, Nidhi M. R, D. Mondal, **S. K. Nataraj\*** and Debasis Ghosh\* presented poster on the topic “Boosting the Supercapacitive Performance of Polyaniline Using Nickel-iron Oxide as Adjuvant” in KSTA organized conference held at NMKRV college, Bangalore on 1-2nd February 2019.
8. Manohara H.M., Kanakaraj A., Nidhi M. R., Radha N., Debasis Ghosh, **S. K. Nataraj\*** and D. Mondal\* (\*corresponding author) presented Poster on the topic “Active Micro-cleaner derived from Green Solvent for On-Demand Applications” in an KSTA organized conference held at NMKRV college, Bangalore on 1-2nd February 2019.
9. Kanakaraj Aruchamy, Manohar H.M., Radha., Nidhi M. R, Debasis Ghosh, D. Mondal,\* and **S. K. Nataraj\*** (\*corresponding author) presented Poster on the topic “Ultrafast Synthesis of Exfoliated Manganese Oxide in Deep Eutectic Solvents for Water Purification and Energy Storage” in an International conference KSTA 11th annual conference, held at Bangalore on 1-2,February 2019.
10. Nidhi M.R. A. Kanakaraj, D. Ghosh, D. Mondal\* and **S. K. Nataraj\*** (\*corresponding author) presented poster on the topic of “Antifouling properties of biopolymer-Ag interfaces with polysulfone Ultrafiltration membrane for wastewater Treatment’’ International conference on Nanoscience and Nanotechnology (ICONN 2019), on 28th to 30th January 2019 at SRM University Chennai.
11. Manohara H.M., Kanakaraj A., Nidhi M. R., Radha N., Debasis Ghosh, **S. K. Nataraj\*** and D. Mondal\* (\*corresponding author) presented Poster on the topic “One-pot Synthesis of Solvothermal Carbon from Eutectic Mixture as High-performance Micro/Nano-cleaner and Efficient Carbocatalyst” in an International conference 10th Bangalore India Nano, held at Bangalore on 5-7th December 2018.
12. Supratim C., Manohara H.M., Kanakaraj A., Debasis Ghosh, **S. K. Nataraj\*** and D. Mondal,\* (\*corresponding author) presented poster “An ecofriendly approach for DNA metallization in DES; a reusable nano bio catalyst for Suzuki coupling reaction” in the 11th Annual KSTA conference, held on 1 - 2nd Feb 2018, in NMRKV college for women, Bengaluru.
13. Kanakaraj Aruchamy, Manohar H.M., Radha., Nidhi M. R, Debasis Ghosh, D. Mondal,\* and **S. K. Nataraj\*** (\*corresponding author) presented Poster on the topic “Green solvent mediated ecofriendly and Ultrafast Synthesis of Exfoliated Manganese Oxide in room temperature for dye removal and supercapacitor” in an International conference 10th Bangalore India Nano, held at Bangalore on 5-7th December 2018.
14. K. Aruchamy, R. N, Manohara H. M, Nidhi M. R, D. Mondal, D. Ghosh\* and **S. K. Nataraj\*** presented poster on the topic “One-step Green Route Synthesis of Spinel ZnMn2O4/MWCNT Nano-composites as a Novel Electrode Material for Supercapacitors” in International Conference on Green methods for, Separation and Purification and Nanomaterial Synthesis (GMSPNS), on 24th & 25th April 2018 at CNMS Jain University, Bangalore.
15. **Kanakaraj Aruchamy,** Meena Bisht, P. Venkatesu, Nidhi M. R, Debasis Ghosh, Dibyendu Mondal,\* and Sanna Kotrappanavar Nataraj\* presented oral presentation on the topic “Green Conversion of Biomass to Functionalized Helical Carbon as a Support for Cytochrome C” in International Conference on Green methods for, Separation and Purification and Nanomaterial Synthesis **(GMSPNS),** on 24th & 25th April 2018 at CNMS **Jain University**, Bangalore.
16. **Kanakaraj Aruchamy,** Radha N, Manohara H. M, Nidhi M. R, Dibyendu Mondal,Debasis Ghosh\* and Sanna Kotrappanavar Nataraj\* presented poster on the topic “One-step Green Route Synthesis of Spinel ZnMn2O4/MWCNT Nano-composites as a Novel Electrode Material for Supercapacitors” in International Conference on Green methods for, Separation and Purification and Nanomaterial Synthesis **(GMSPNS),** on 24th & 25th April 2018 at CNMS **Jain University**, Bangalore.
17. **Nidhi M. R.,** Kanakaraj Aruchamy, Vibha Sharma, D. Deepika, and Sanna Kotrappanavar Nataraj\* presented Poster on the topic  “Functionalized Nanoclay as Antifouling and Flux Promoter in Nanofiltration and FO membrane” in an International conference **GCNOC**, held at **Mangalore** on 27- 28th February 2017.
18. Manohara H.M., Kanakaraj A., **Nidhi M. R.,** Radha N., Debasis Ghosh, Dibyendu Mondal,\* and Sanna Kotrappanavar Nataraj\* presented Poster  on the topic “Bio nanocomposite-based magnetic aerogel membrane for selective separation and removal of emerging pollutants” in an International conference **9th Bangalore India Nano,** held at **Bangalore** on 7- 8th December 2017.
19. Kanakaraj Aruchamy, Meena Bisht, P. Venkatesu, Nidhi M. R, Debasis Ghosh, Dibyendu Mondal,\* and Sanna Kotrappanavar Nataraj\* presented Poster  on the topic “Deep Eutectic Solvent Mediated Solvothermal conversion of Biomass to Protein Friendly Spring like Functional carbon nanomaterials” in an International conference **9th Bangalore India Nano,** held at **Bangalore** on 7- 8th December 2017.
20. **Nidhi M.R.,** A. Kanakaraj, Manohar H.M., Radha N,  Debasis Ghosh, Dibyendu Mondal, S. K. Nataraj\*, presented Poster  on the topic “Silver based Nanocomposite coating prevent biofilm formation during ultrafiltration of tannery wastewater’’, International conference on Nanomaterials and their Applications, held at **Mysore** on 1st and 2nd March 2018.
21. **Nidhi M.R.,** A.Kanakaraj, Manohar H.M., Radha N., D.Ghosh, D.Mondal, S. K. Nataraj\*, Presented poster on the topic of ‘’ Biopolymer Modified Ultrafiltration Membrane for Efficient Tannery Wastewater Treatment’’, International Conference on Green methods for Separation and Purification and Nanomaterial Synthesis **(GMSPNS),**, on 24th & 25th April 2018 at CNMS **Jain University**, Bangalore.
22. **Nidhi M.R.** attended National Conference on Jnana Chilume held at **Jain University**, Bangalore 25th March 2017.
23. **Manohara H.M.,** Vibha T. Sharma, Kanakaraj A., Nidhi M. R., Radha N., Debasis Ghosh, Dibyendu Mondal,\* and Sanna Kotrappanavar Nataraj\* presented Poster  on the topic “Bio nanocomposite-based magnetic aerogel membrane for selective separation and removal of emerging pollutants” in an International conference **9th Bangalore India Nano,** held at **Bangalore** on 7- 8th December 2017.
24. **Manohara H.M.,** Kanakaraj A., Nidhi M. R., Radha N., Debasis Ghosh, Dibyendu Mondal,\* S. K. Nataraj\* presented Poster  on the topic “ Green Solvent Mediated Facile Preparation of Potential Micro/Nano Cleaner for the Abatement of Emerging Pollutants from Water” in an **International conference on Nanomaterials and their Applications**, held at **Mysore** on 1st and 2nd March 2018.
25. **Manohara H.M.,** Kanakaraj Aruchamy, Nidhi M. R., Radha N., Debasis Ghosh, Dibyendu Mondal\*, S. K. Nataraj\* presented Poster on the topic “Solvothermal Carbon Prepared from Green Solvents as High-performance Micro-cleaner for Cationic Pollutants” in an International Conference on Green methods for Separation and Purification and Nanomaterial Synthesis **(GMSPNS),** on 24th & 25th April 2018 at CNMS **Jain University**, Bangalore.
26. Manohara H.M., Kanakaraj A., Nidhi M. R., **Radha N.,** Debasis Ghosh, Dibyendu Mondal,\* and Sanna Kotrappanavar Nataraj\* presented Poster  on the topic “Bio nanocomposite-based magnetic aerogel membrane for selective separation and removal of emerging pollutants” in an International conference **9th Bangalore India Nano,** held at **Bangalore** on 7- 8th December 2017.
27. **Radha N.** in an International Conference on Green methods for Separation and Purification and Nanomaterial Synthesis **(GMSPNS),** on 24th & 25th April 2018 at CNMS **Jain University**, Bangalore.
28. **Supratim Chakraborty** attended an international conference on Green methods for Separation and Purification and Nanomaterial Synthesis **(GMSPNS),** on 24th & 25th April 2018 at CNMS **Jain University**, Bangalore.
29. Manohara H.M., **Vibha T. Sharma,** Kanakaraj A., Nidhi M. R., Radha N., Debasis Ghosh, Dibyendu Mondal,\* and Sanna Kotrappanavar Nataraj\* presented Poster  on the topic “Bio nanocomposite-based magnetic aerogel membrane for selective separation and removal of emerging pollutants” in an International conference **9th Bangalore India Nano,** held at **Bangalore** on 7- 8th December 2017.
30. **Vibha Sharma,** H.M. Manohara, A. Kanakaraj, M.R. Nidhi, D.Ghosh, D.Mondal, and S. K. Nataraj\*, presented Poster  on the topic “Reusable magnetic aerogel membranes for selective separation and removal of emerging pollutants” in an National Conference on Recent Advances in Chemistry and Material Sciences (**RACMS-2018**) on 3rd February 2018 at **Jain University,** Bengaluru.
31. **Vibha Sharma** attended National Conference on Jnana Chilume held at **Jain University**, Bangalore 3rd Feb 2018.
32. **Vibha Sharma,** H.M. Manohara, A. Kanakaraj, M.R. Nidhi, D.Ghosh, D.Mondal, and S. K. Nataraj\*, presented Poster  on the topic Reusable magnetic aerogel membranes for selective separation and removal of emerging pollutants in an **International conference on Nanomaterials and their Applications**, held at **Mysore** on 1st and 2nd March 2018.
33. **Vibha Sharma,** H.M. Manohara, A. Kanakaraj, M.R. Nidhi, D.Ghosh, D.Mondal, and S. K. Nataraj\* presented Poster on the topic “Reusable active micro-cleaner for selective separation and removal of emerging pollutants”  in an international conference on Green methods for Separation and Purification and Nanomaterial Synthesis **(GMSPNS),** on 24th & 25th April 2018 at CNMS **Jain University**, Bangalore.
34. A. Kanakaraj, M. Bisht, P. Venkatesu, Nidhi M. R, D. Ghosh, D. Mondal, and S. K. Nataraj a\* Conversion of Biomass to Bio-inspired Helical Carbon Composites, as a host for Cytochrome C for Facile Biocatalysis presented at Gujarat Science Congress on 4,5-February 2018, Bhavanagar, India.
35. V. Sharma, H.M. Manohar, A. Kanakaraj, M.R. Nidhi, D.Ghosh, D.Mondal, and S. K. Nataraj\*, Reusable magnetic aerogel membranes for selective separation and removal of emerging pollutants, National Conference Recent Advances in Chemistry and Material Sciences (RACMS-2018) on 3rd February 2018 at Jain University, Bengaluru.
36. A.Kanakaraj, M. Bisht, P. Venkatesu, Nidhi M.R,D. Ghosh, D. Mondal, and S.K. Nataraj, Deep Eutectic solvent Mediated Solvothermal Conversion of *Partheniumhysterophorous* to Protein Friendly Spring-Like Functional Carbon Nanomaterials, Bengaluru India Nano 9th Edition, at The Lalith Ashoka, on 7-8th December-2017, Bengaluru.
37. H.M. Manohar, V. Sharma, A. Kanakaraj, M.R. Nidhi,D. Ghosh, D. Mondal, and S. K. Nataraj\*, Bionanocomposite-based magnetic aerogel membrane for selective separation and removal of emerging pollutants, Bengaluru India Nano 9th Edition, at The Lalith Ashoka, on 7-8th December-2017, Bengaluru.
38. Nidhi M.R., A. Kanakaraj, Vibha Sharma, Deepika and S.K. Nataraj on “Functionalized clay as antifouling and flux promoters in Nanofiltration and forward osmosis applicaitions” at *International Conference on Green Chemistry & Nanotechnology-Opportunities and Challenges* (GCNOC-2017) held at St. Aloysius College, Mangalore 27-28th February, 2017.
39. A. Mahto, R. Meena and S.K. Nataraj\*, Forward Osmosis: A Membrane Based Energy Efficient Process for Waste Treatment, Biomacromolecules enrichment and value addition at ***International Conference on Advanced Materials and Technology 2016*,**  **ICMAT-16** held at Mysuru on 26th May 2016 to 28th May 2016.
40. D. Mondal, K. Prasad, S.K. Nataraj,\* P. Ghosh, Exploring the potential of green drawing agents for dewatering of feed solutions through energy less forward osmosis process. ***RAIC-2015, Recent Advances in Chemical Sciences***, **21-24 August**, Jaipur, India. (Received: **BEST PRESENTATION AWARD**)
41. A. Mahto, D. Mondal, K. Prasad and S.K. Nataraj, In-situ Synthesis of Magnetic Nanoparticles and their Use as Sustainable Draw Solutions for Forward Osmosis Applications, ***CRSI, 7-9th February 2015, National Chemical Laboratory***, PUNE, India.
42. Jai Prakash Chaudhary, Sanna Kotrappanvar Nataraj\*, Ramavatar Meena\*, Bio-Based Foam Membranes for Sustainable Oil-Water Separation, ***CRSI, 7-9th February 2015, National Chemical Laboratory***, PUNE, India.
43. Ashesh Mahto, D. Mondal, K. Prasad and S.K. Nataraj Sustainable and Efficient Draw Solution for Forward Osmosis Applications,***The 5th Asia-Oceania Conference on Green and Sustainable Chemistry, 15-17 January 2015***, India Habitat Centre, New Delhi, India

# Q. Song, S.K. Nataraj, P. Zavala-Rivera, S.A. Al-Muhtaseb, E. Sivaniah, High Performance Gas Separation Membrane from a Polymer of Intrinsic Microporosity by Photochemical Surface Modification, **2012 AIChE Annual Meeting** held at **Pittsburgh Convention Center, Pittsburgh, PA, USA on October 28 - November 2, 2012.**

1. P. Zavala-Rivera, E. Sivaniah, S.K. Nataraj, Collective Osmotic Shock (COS) a New Way to Create Polymeric Templates for Inorganic Nanomaterials,**2012 AIChE Annual Meeting** held at**Pittsburgh Convention Center, Pittsburgh, PA, USA on October 28 - November 2, 2012.**
2. S.K. Nataraj, Paul Zavala-Rivera, Qilei Song, S.A. Al-Muhtaseb, E. Sivaniah. High Performance Ordered Nanoporous Membranes from Block Copolymers; **Euromembrane-2012held on 23-27th September 2012, London, United Kingdom.**
3. H-C. Hsu, C-H. Wang, S.K Nataraj, H-C. Huang, S-T. Chang, H-Y. Du, Li-Chyong Chen, Kuei-Hsien Chen, High power supercapacitor using CNT directly grown polyacrylonitrile-based CNF paper, International Conference on New Diamond and New Carbons, [NDNC-2011], held on May 16-20, 2011, **Sendai, JAPAN.**
4. Nataraj S.K, M. Byun, Paul Zaval-Rivera, Kevin Channon, S.A. Al-Muhtaseb, E. Sivaniah. Ordered ferrofluidic assemblies in polymer film formed by magnetically induced polymer-solvent phase separation, 2011 March Meeting of the **American Physical Society (APS) March 21-25, 2011,Dallas, Texas, USA**.
5. Paul Zaval-Rivera, Kevin Channon, Vincent Nyugen, E. Sivaniah, Nataraj S.K, S.A. Al-Muhtaseb. Interconnected and nano-perforated lamellar sheets of metal oxides produced using novel block copolymer templates, 2011 March Meeting of the **American Physical Society (APS) March 21-25, 2011,** Dallas, Texas, USA.
6. Nataraj S.K, Paul Zaval-Rivera, Kevin Channon, S.A. Al-Muhtaseb, E. Sivaniah. From blood dialysis to desalination: A one-size fits all block copolymer based membrane system, 2011 March Meeting of the **American Physical Society (APS) March 21-25, 2011**, Dallas, Texas, USA.
7. E. Sivaniah, Paul Zaval-Rivera, Kevin Channon, S.K. Nataraj, S.A. Al-Muhtaseb, Bicontinuous nanoporous block copolymer films prepared from a spherical-phase architecture, 2011 March Meeting of the **American Physical Society (APS) March 21-25, 2011,** Dallas, Texas, USA.
8. Paul Zavala-Rivera, Kevin Channon, E. Sivaniah, S.K. Nataraj, S.A. Al-Muhtaseb, Osmotica**MRS Fall Meeting-2010**, Boston, USA.
9. S.K. Nataraj, K.S. Yang; Nanocomposite-based Carbon Nanofibers, International Carbon Festival: Carbon-2009, France.
10. S.K. Nataraj, K.S. Yang; Korean Carbon Society Conference-Spring-2009; Inha University, Incheon, South Korea, May 6-7, 2009.
11. S.K. Nataraj, B.H. Kim and K. S. Yang, The 2nd Bio-Energy Symposium: Cellulosic Bio-Energy: Bio-Energy Research Institute, College of Agriculture and Life Sciences, Chonnam National University, South Korea: March, 27th 2009
12. D.H. Lee, B.H. Kim, J.H. Yun, S.K. Nataraj, K.S. Yang; The 4th Workshop on Electro-Beam Applications (WEBA-2009) KAIST, Korea on 13-03-2009.
13. S.K. Nataraj, K.S. Yang; 3rd International Carbon Festival, 4th Asian Carbon Forum meeting and Fall Korean Carbon Society Meeting, Jeonju, 11th -14th Nov. 2008.
14. K.S. Yang, B.H. Kim, W.J. Lee, S.K. Nataraj;3rd International Carbon Festival, 4th Asian Carbon Forum meeting and Fall Korean Carbon Society Meeting, Jeonju, 11th -14th Nov. 2008.
15. D.H. Lee, B.H. Kim, S.K. Nataraj, K.S. Yang;3rd International Carbon Festival, 4th Asian Carbon Forum meeting and Fall Korean Carbon Society Meeting, Jeonju, 11th -14th Nov. 2008.
16. S.K. Nataraj, K.S. Yang; International Conference on Nano-Science and Nano-technology: 2008; In-situpreparation of magnetic iron oxide nanoparticles in Polyacrylonitrile nanofibers, Chonnam National University, Gwangju, South Korea.
17. S.K. Nataraj, K.S. Yang; International Carbon Conference-2008 (NAGONA-2008) at Nagona, Japan 10-12 June’ 2008.
18. S.K. Nataraj, B.H. Kim, B.T.N. Ngoc, J. Ferraris, T.M. Aminabhavi, K. S. Yang,Conference of Korean Carbon Society, Electrochemical Performance of Free Standing Porous Carbon Nanofibers of Polyacrylonitrile Containing Iron Oxide, Deajon, South Korea, 10-11 April,2008.
19. S.K. Nataraj, B.H. Kim, D.H. Lee, J.H. Yun, T.M. Aminabhavi, K. S.Yang; Conference of Korean Carbon Society, Effect of Added Nickel Nitrate on the Morphology and Physico-chemical Properties of Polyacrylonitrile-Based Carbon Nanofibers, Deajon, South Korea, 10-11 April,2008.
20. S.K. Nataraj, B.H. Kim, B.T.N. Ngoc, J. Ferraris, T.M. Aminabhavi, K. S. Yang, Iron oxide induced Polyacrylonitrile carbon nanofibers mats.ICAM-2008: International Conference on Advanced Materials,Kottayam, Kerala, India, 18 - 21 February 2008.
21. K.S. Yang and S.K. Nataraj; ICAM-2008: PAN and PITCH-based Carbon nanofibers in energy storage devices. International Conference on Advanced Materials,Kottayam, Kerala, India, 18 - 21 February 2008.
22. *S.*K.Nataraj, and K.S.Yang; International Conference on Carbon Nanotubes: 2007 Nano Forum on CNT-TCF & TFT, Platform of Jeollabuk-do Provincial Government, Jeonju, Korea, Oct 31-Nov 3, 2007.
23. S.K. Nataraj, T.B.N. Nogc, B.H. Kim and K.S. Yang, Conference of Korean Carbon Society, PAN-Based Highly Porous Carbon Nanofibers Induced by Fe, held at Yonsei University, Seoul, South Korea, 22-23 Nov,2007.
24. S.K. Nataraj, S. Sridhar, I. N. Shaikh, D. S. Reddy, T. M. Aminabhavi; An efficient membrane-based MF/ED hybrid process for the treatment of paper industry wastewater; Presented at NCL, Pune on Dec. 17-20, **2006** in *Macro-2006;* NCL, Pune, India.
25. S.K. Nataraj, S. Roy and T.M. Aminabhavi, Preparation, Modification and Characterization of Ceramic Membrane Modules for Water Treatment;Presented t *Macro-2006* Presented at NCL, Pune on Dec. 17-20, **2006** in *Macro-2006*, India.

**Teaching/Research Supervision experience**

1. Course (20 hour): Battery-Primary, Battery-Secondary and Fuel cells at CNMS, Jain University
2. Course (20 hour): Cyclic Voltammetry, X-ray Spectroscopy and Electron Spectroscopy at CNMS Jain University
3. AcSIR Course Work (10 hour): Advanced Separation and Purification Techniques at CSIR-CSMCRI, Bhavnagar
4. Course (10 hour): Membrane Separation Processes, Polymer Rheology, Plastic Processing and Engineering at Centre of Excellence in Polymer Science, Karnatak University.
5. Supervised 3 BE Projects and 12 M.Sc. Projects

### **Professional Courses Attended**

1. **Entrepreneurial Training: Centre for Entrepreneurial Learning, Judge Business School, University of Cambridge. UK.**
2. **Induction Course: Health, Chemical Safety and Environment**
3. **Course on Nano-Hazard and Health Safety**
4. **Undergone training in CIPET-Hyderabad on “Plastic Processing and Engineering”**

**Personal Details**

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| Full Name Date of BirthMarital Status Nationality Languages Known  | Sanna Kotrappanavar Nataraj4th February, 1981Married Indian English, Kannada, Hindi and Telugu |

# I hereby declare that the above furnished is true to my knowledge.

# (S.K. Nataraj)