

Journal Publications

- Huma Khan, **Jai Prakash Chaudhary**, R. Meena*. Anionic carboxymethylagarose-based pH-responsive smart superabsorbent hydrogels for controlled release of anticancer drug. *International journal of Biological Molecules*, 2019, 124, 1220-1229. I.F=3.67.
- **Jai Prakash Chaudhary**, Rajeev Gupta, Ashesh Mahto, Nilesh Vadodariya, Sanna Kotrappanavar, Nataraj; Ramavatar Meena*. Self-doped interwoven carbon network derived from *Ulva fasciata* for all solid supercapacitor devices: Solvent-less approach to a scalable synthetic route. *ACS Sustainable Chemistry & Engineering*, 2019, 7, 174–186. I.F=6.14.
- Ashesh Mahto, Anshu Kumar, **Jai Prakash Chaudhary**, Madhuri Bhatt, Atul Kumar Sharma, Parimal Paul, Sanna Kotrappanavar Nataraj, Ramavatar 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 Material*, 2018, 353, 190-203. I.F=6.43.
- Nilesh Vadodariya, **Jai Prakash Chaudhary**, Hiren D. Raval, Ramavatar Meena*. Graded agaroses directly from seaweed biomass: a sustainable tool for developing clean chemical process. *Journal of Process Biochemistry*, 2018, 66, 171-175. I.F=2.61.
- **Jai Prakash Chaudhary**, F. Kholiya, N. Vadodariya, A. Gogda, V. M. Budheliya, R. Meena*. Carboxymethylagarose based super stretchable and self-healable hydrogel with thread and film forming ability. *Arabian Journal of Chemistry* 2018., <https://doi.org/10.1016/j.arabjc.2017.12.034>. I.F=2.97.
- R. Gupta, N. Vadodariya, **Jai Prakash Chaudhary**, D. Parmar, D. N. Srivastava, S. K. Nataraj, R. Meena*. Seaweed derived graphene/PANI composite as efficient energy storage electrode *Journal of Applied Electrochemistry* 2018, 48, 37–48. I.F=1.54.
- N. Vadodariya, **Jai Prakash Chaudhary**, F. Kholiyaa, M. Sharma, R. Meena*. Reduction of graphene oxide using agarose-gallate as reducing agent: A green approach. *Current Science*, 2017, 113, 1361-1366. I.F=0.88.
- V. Veeragurunathan, N. Vadodariya, **Jai Prakash Chaudhary**, A. gogda, K. R. Saminathan, R. Meena*. Experimental cultivation of *Gelidium pusillum* in open sea along the south east Indian coast. *Indian Journal of Geo Marine Sciences*, 2018, 47, 02, 336-345. I.F 0.29.
- **Jai Prakash Chaudhary**, Ashesh Mahto, Nilesh Vadodariya, Faisal Kholiya, Subarna Maiti, Sanna Kotrappanavar Nataraj, Ramavatar Meena*. Fabrication of carbon and sulphur-doped nanocomposites with seaweed polymer carrageenan as efficient catalyst for rapid degradation of dye pollutants using solar concentrator. *RSC Advances*. 2016, 6, 61716. I.F=2.94.
- F. kholiya, **Jai Prakash Chaudhary**, N. Vadodariya, R. Meena*. Synthesis of bio-based aldehyde from seaweed polysaccharide and its interaction with bovine serum albumin. *Carbohydrate Polymers*, 2016, 150, 278–285. I.F=5.15.
- **Jai Prakash Chaudhary**, Anshu kumar, Parimal paul, Ramavatar Meena*. Carboxymethylagarose-AuNPs generated through green route for selective detection of Hg²⁺ in aqueous medium with a blue shift. *Carbohydrate Polymers* 2015, 117, 537. I.F=5.15.
- **Jai Prakash Chaudhary**, Dharmesh R Chejara, K. Eswaran, Ramavtar Meena,* Pushpito K Ghosh. Seaweed-derived polymeric materials for multiapplications including marine algal cultivation. *RSC Advances* 2015, 5, 19426. I.F=2.94.
- **Jai Prakash Chaudhary**, Nilesh Vadodariya, Sanna Kotrappanavar Nataraj, Ramavatar Meena* Chitosan-Based Aerogel Membrane for Robust Oil-in-Water Emulsion Separation. *ACS Applied Materials & Interfaces* 2015, 7, 24957–24962. I.F=8.09.

- S. Kondaveeti, N. A. Chudasama, **Jai Prakash Chaudhary**, R Meena* & A K Siddhanta. Functional modification of agarose: Synthesis of nanosize half-esters of succinic, phthalic and maleic acids. *Indian Journal of Chemistry* Vol. 54A, 2015, 734-743. I.F=0.56.
- M. Sharma, **Jai Prakash Chaudhary**, D. Mondal, K. Prasad, R. Meena*. A green and sustainable approach to utilize bio- ionic liquids for the selective precipitation of high purity agarose from an agarophyte extract. *Green Chemistry*, 2015, 17, 2867. I.F=8.58.
- Ramavatar Meena*, **Jai Prakash Chaudhary**, Shruti chaterji, Pradeep Agrawal, Hiren D Raval, Pratiyous Maiti, Kamalesh Prasad, Arup Kumar Siddhanta. Surfactant-induced coagulation of agarose from aqueous extract of Gracilaria dura seaweed as an energy-efficient alternative to the conventional freeze-thaw process. *RSC Advances* 2014, 4, 28093. I.F=2.94.
- **Jai Prakash Chaudhary**, Stalin Kondavetti, Vishal Gupta, Kamalesh Prasad & Ramavatar Meena* Preparation and functional evaluation of agarose derivatives. *Journal of Applied Polymer Science* 2014, DOI: 10.1002/APP.40630. I.F=1.90.
- **Jai Prakash Chaudhary**, Dharmesh R Chejara, Dipak Makwana, Kamalesh Prasad, Ramavatar Meena*. Agarose based multifunctional materials: Evaluation of thixotropy, self-healability and stretchability. *Carbohydrate polymers*, 2014, 114, 306. I.F=5.15.
- **Jai Prakash Chaudhary**, Sanna Kotrappanavar Nataraj, Azaz Gogda, Ramavatar Meena*, Bio-based Super Hydrophilic Foam Membranes for Oil-Water Separation. *Green Chemistry* 2014, 16, 4552. I.F=8.58.
- D. Mondal, A. Ghosh, K. Prasad, S. Singh, N. Bhatt, S. T. Zodape, **Jai Prakash Chaudhary**, J. Chaudhari, P. B. Chatterjee, A. Seth, P. K. Ghosh. *Plant Growth Regulation* 2014, DOI: 10.1007/s10725-014-9967-z. I.F=2.08.
- D. Mondal, **Jai Prakash Chaudhary**, M. Sharma, K. Prasad. Simultaneous dehydration of biomass derived sugars to 5-hydroxymethyl furfural (HMF) and reduction of graphene oxide in ethyl lactate: One pot dual chemistry. *RSC Advances* 2014, 4, 29834. I.F=2.94.
- E. R. Reddy, M. Sharma, **Jai Prakash Chaudhary**, H. Bosamiya, R. Meena*. One-pot synthesis of biodiesel from high fatty acid Jatropha curcas oil using bio-based basic ionic liquid as a catalyst. *Current Science* 2014, 106, 1394. I.F=0.88.

Patents Filed/Granted

- **Jai Prakash Chaudhary**, Krishna Kanta Ghara, Anshu Kumar. An Improved Process for Isolation of Biopolymers (*Full Patent Submitted: Application No: 201821010838* Dated 23/03/2018).
- Ramavatar Meena, **Jai Prakash Chaudhary**, Process for the preparation of graded Agarose from seaweed extract. (*Full Patent Submitted: Application No-201611002824, Dated: 27/01/2016*).
- Ramavatar Meena, P. K. Ghosh, D. R Chejara, K. Eswaran, A.K. Siddhanta, K. Prasad, **Jai Prakash Chaudhary**. Biodegradable hydrophobic synthetic materials, and the manufacturing process. *JP Patent: JP6336457B2; June 06, 2018*
- Ramavatar Meena, P. K. Ghosh, D. R Chejara, K. Eswaran, A.K. Siddhanta, K. Prasad, **Jai Prakash Chaudhary**. Biodegradable hydrophobic composite materials and process for the preparation thereof. *US Patent: US9556328B2; Jan 31, 2017*.
- Ramavatar Meena, N. Sanandiya, **Jai Prakash Chaudhary**, D. Mondal & S K Nataraj. Seaweed Polysaccharides Based Superhydrophilic Foam Membrane for Energy-Efficient Oil-water Separation. *US Patent: US20160243505 A1; August 25, 2016*.

Book Chapters

- **Jai Prakash Chaudhary** & Ramavatar Meena, Seaweed Polysaccharides Based New Hydrogel Materials: A Green Approach, *Book entitled "Micro and Nanostructured Polymer Systems From Synthesis to Applications" Chapter: 5*, 2015, *Apple Academic Press*, Editors: Sabu Thomas, Robert Shanks, & Jithin Joy, ISBN: 978-1-77188-100-5.
- Nilesh Vadodariya, **Jai Prakash Chaudhary**, Faisal Kholiya & Ramavatar Meena. Synthesis of functional derivatives of cellulose for wider applications" *Book entitled "Cellulose and Cellulose Derivatives: Synthesis, Modification, Nanostructure and Applications", Chapter: 17*, 2015 *Nova Science Publishers*, Editor: Md. Ibrahim H. Monda, ISBN: 978-1-63483-127-7.

Conferences & Symposium

- **Jai Prakash Chaudhary** & Ramavatar Meena*. Modification and characterization of some indian seaweed polysaccharides' in *CARBO-XXVII in Dec-2012 at CFTRI Mysore, India*.
- **Jai Prakash Chaudhary**, Dipak Makwana, A.K.Siddhanta, Ramavatar Meena*. Carageenans-TiO₂ composites based hydrogel beads for removal of Pb (II) ions and controled drug release applications in *ICANN-2013 at IIT Guwahati, India*.
- **Jai Prakash Chaudhary**, A. K. Siddhanta and Ramavatar Meena*. Microwave assisted synthesis of chitosan-polyuronic acid adducts and their drug release performance in *ISCBC-2014 at University of Delhi, India*.
- **Jai Prakash Chaudhary**, Ramavatar Meena* Energy efficient and eco-friendly process for the preparation of agarose from aqueous extract of *Gracilaria dura*. in The 5th Asia-Oceania Conference on Green and Sustainable Chemistry 15-17 January 2015, India Habitat Centre, New Delhi, India.
- **Jai Prakash Chaudhary**, Huma Khan, Ramavatar Meena, Daylight mediated green synthesis and characterization of CMA stabilized gold nanoparticles in *ALIGARH NANO-V & STEMCON-16 International Conference on Nanotechnology & STEM-ER on March 12-15, 2016*.
- **Jai Prakash Chaudhary**, Sanna Kotrappanvar Nataraj, Ramavatar Meena, Bio-based foam membranes for sustainable oil-water separation in The *17th CRSI National Symposium in Chemistry, Fab 06-08-2015, NCL Pune*.
- Nilesh Vadodariya, **Jai Prakash Chaudhary**, Shyam Sunder Meena, Ramavatar Meena* "Synthesis of bio-based stretchable and solvent responsive self-healable materials": *A green Approach in The 5th Asia-Oceania Conference on Green and Sustainable Chemistry 15-17 January 2015, India Habitat Centre, New Delhi, India*.
- Faisal Kholiya, **Jai Prakash Chaudhary**, Nilesh Vadodariya, Ramavatar Meena. Eco-friendly sensor for selective detection of Hg²⁺ in aqueous mediumIn *17th CRSI National Symposium in Chemistry, Fab 06-08-2015, NCL Pune*.
- F. Kholiya, **Jai Prakash Chaudhary**, N. Vadodariya, Ramavatar Meena, Stabilization of refined kappa-carrageenan and semi refined kappa-carrageenan films by crosslinking with a naturally occurring cross-linker genipin. *Advancements in Polymeric Materials (APM-2016), Fab 12-14, 2016:CIPET-Ahmedabad*.
- N. Vadodariya, **Jai Prakash Chaudhary**, F. Kholiya, Ramavatar Meena, Natural cross-linker for the stabilization of agar and agarose based films, *Advancements in Polymeric Materials (APM-2016), Fab 12-14, 2016:CIPET-Ahmedabad*.
- **Jai Prakash Chaudhary**, Anshu Sinhmar, Badri Vishal Meena & Chinmay Ghoroi, Development of sustainable process to treat effluents from textile industries. ICW-2018, International conference on water: From pollution to purification, Dec 7-10, 2018 Mahatma Gandhi University, Kottayam, Kerala.

- Anshu Sinhmar, **Jai Parkash Chaudhary**, Chinmay Ghoroi Development of co-doped nano-structured tio2 composite for photocatalytic degradation of methylene blue. ICW-2018, International conference on water: From pollution to purification, Dec 7-10, 2018 Mahatma Gandhi University, Kottayam, Kerala.
- Sophia Verghese, **Jai Prakash Chaudhary**, Chinmay Ghoroi. Control release of Doxorubicin using Iron Based Nanobiocomposite impregnated in biopolymeric matrix. *AAPS conference Washington DC, USA Nov 4-7 2018.*
- Sophia Verghese, **Jai Prakash Chaudhary**, Chinmay Ghoroi. "Controlled release of hydrophobic drug - Ibuprofen using Fe-based nano biocomposite impregnated on a polymeric matrix", in the *Annual European Rheology Conference (AERC-2018), Hilton Sorrento Palace, Sorrento, Italy, Apr. 17-20, 2018.*
- Jai Prakash Chaudhary participated on "Short course on Applied Rheology" on Feb 04, 2019 at JNU, Convention Centre, JNU, Delhi.

Scientific Records

Published **22 Research Papers** in national and international peer reviewed journals, **04 Patent**, **02 Book Chapters** and 253 citations with h-index 9.

Technology Transferred & other Professional Experience

- **Actively participated in technology demonstration during technology transfers**
 - Commercial extraction of Agarose, Semi refined & refined carrageenan's
 - Commercial extraction of liquid seaweed fertilizers as bio-stimulant to enhance the yield and productivity of the crops.
- **Created awareness about seaweeds**
 - Interaction with farmers & fisherman to create awareness about cultivation of seaweeds at Gujarat seacoast to explore seaweeds in India.
- **Reviewer of Journals**
 - International journal of Biological Macromolecules, Elsevier

Research Highlights and Media Coverage

• <i>RSC Adv.</i> , 2014, 4, 28093	CSIR News on July 2014
• <i>Carbohydr. Polym</i> 2015, 117, 537	Nature India, News on Oct 30, 2014
• <i>Green Chem.</i> , 2014, 16, 4552	CSIR News on Sept 2014
• <i>ACS Appl. Mater. Interfaces</i> 2015, 7, 24957	Nature India, News on Nov 16, 2015
• <i>Current Science</i> , 2014, 106, 1394	QUANTUM LEAP on June 4th, 2014. Cheaper way to produce diesel.
• <i>RSC Adv.</i> , 2015, 5, 19426	a) Nature India on 9 th March 2015 b) Current science News on 25 th June 2015. c) Bussiness standard news on 3 rd July , 2015
• <i>RSC Adv.</i> , 2016, 6, 61716.	• The Hindu News on 18 th August, 2016.

	(b) Nature India on 13 th July, 2016.
<ul style="list-style-type: none">• <i>J. Hazard. Mater.</i>, 2018, 353, 190	<ul style="list-style-type: none">• The Hindu News on 06th April, 2018• News today India on 06th April, 2018• Nature India on 12th April, 2018• Graphene research on 28th March, 2018• CSIR News on 06th April, 2018