

Dr. Navin P Chikhaliya

Designation : Assistant Professor (S.S)

Specialization : Industrial Polymer Chemistry

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Educational Qualifications

- Ph.D (Chemistry),
- M.Sc. (Industrial Polymer Chemistry)

Academic Experience

- Micro-Analyst (1996-2012)
- Senior Scientific Officer, In-Charge (1999-2009)
- Assistant Professor in Industrial Polymer Chemistry (2012-2016)
- Sr. Scale Asst Prof. (Sept 2016 onwards)

Research Area

- Proton exchange membranes for the fuel cell.
- Polymer electrolytes.
- Viscosity index improvers (polymer additives) for lubricating oil.
- Synthesis, properties and applications of linear, branched and heterocyclic polymers.
- Studies on Physico-chemical properties of synthetic polymers. (Experimental and Theoretical aspects).
- Bio-polymers

Expertise

- Polymer structure and properties
- Solution properties of polymers
- Polymer Science and Technology
- Sophisticated analytical instruments
- Instrumental Chemical Analysis
- Testing of Plastics and Rubbers
- Membranes for fuel cell.

No. of Publication

8 papers published, 10 papers presented at International and National conference

List of Publications (Appendix)

Presentation of Research Paper:

1. "Development of a Cone-plate device for high viscosity measurements" 13th Indian council of chemists held at University of Jammu, Jammu-INDIA during October-1994.
2. "Synthesis and copolymerization of linear alkyl benzyl acrylates and its applications as viscosity index improvers" National Symposium on Polymers held at Chemistry Department., Sardar Parel University., V.V.Nagar during March-12-13, 2001
3. "Second virial coefficients for linear terpolymers" ICC, International conference held in **Bangkok, Thailand** during Jun-11-15, 2010.
4. "Physico-chemical studies on novel terpolymers for Viscosity-Index improvers" 4th International Science Congress, Pacific University, Udaipur, Rajasthan, India during 8-9 December 2014.
5. "Design of chemical recycling system for poly (methyl methacrylate) scrap" National Seminar on Frontier Areas in Chemical Sciences held at Department of Chemistry, M.S.University of Baroda, Vadodara-390002 during 19th March 2016.
6. "Specific Refractive Index Increment, Intrinsic viscosity and MW Relationship for Dilute Terpolymer" 11th National Conference of the Indian Thermodynamics Society, University of Jammu, Jammu during 2-3/12/2016.

7. "Bio Lubricant: An approach to novel green lubricating oil based on terpolymers", National Seminar on Environment, Pollution and Climate Change, Jointly organized by Dept. of Environment Science & Technology, ISTAR and Department of Biological & Environmental Science, NVPAS, Vallabh Vidyanagar and Gujarat Ecology commission, Gandhinagar, during 30/01/2018
8. "A Study on environment friendly bio-lubricants based on branched terpolymers" International conference on Science: Emerging Scenario & future Challenges (SESFC-2018), National Institute of Technology (NIT), Hamirpur, H.P (India) during 08-09/09/2018.
9. "Fuel Cell Technology: The future begins here" World Environment Day: Symposium and Poster Presentation, Organized by C.C.Patel Community Science Centre and Department of Chemistry, Sardar Patel University., Vallabh Vidyanagar, GUJCOST Gandhinagar during 04/06/2019.
10. "Durable and thermally stable polymer electrolyte membranes based on novel heterocyclic compounds like derivatives of (bipyridine,diyl) dibenzene-1,2-diamine for the fuel cell application" BITS-Pilani Goa Campus, Goa during 20-22nd December 2019.

List of Publication:

1. "Bioactive polymers: Synthesis, release study and anti microbial properties of polymer bound ampiciline" Die Angewandte Makromolekulare Chemie, (Now Macromolecular Materials and Engineering). 271 (1999) 24-27, [I.F:3.038 (2018)]
2. "UV-Visible Spectra of Charge Transfer Complexes of Lead Phthalocyanine" Prajna – Journal of Sardar Patel University, 9 (1999), 51-60 ISSN 0975 2595
3. "Study on novel epoxy based poly (Schiff reagent) s" International Journal of Polymeric mater, 2000,Vol-46. Pages. 499-509. [I.F:2.263 (2018)]
4. "Novel epoxy curing agents from epoxy resin based dialdehyde derivative" International Journal of Polymeric materials, 2000,Vol-46, p.p 711-719, [I.F:2.263 (2018)]
5. "Tetrabutylammonium hydrogen sulfate mediated domino reaction: synthesis of novel benzopyran-annulated pyrano [2,3-c] pyrazoles" Tetrahedron Letters, Vol.52, Pages 2853-2856,(2011). [I.F:2.259 (2019)]

6. "An efficient domino reaction in ionic liquid: Synthesis and biological evaluation of some pyrano- and thiopyrano-fused heterocycles" *Bioorganic & Medicinal Chemistry Letters* (Elsevier), Volume 23, Issue 6, Pages 1656-1661(2013),. [I.F:2.448 (2019)]
7. "A highly efficient, rapid one-pot synthesis of some new heteroaryl pyrano[2,3-c]pyrazoles in ionic liquid under microwave-irradiation" *RSC Advances* (RSC Publication) March 2013, **3**, 8064-8070 (2013), Impact Factor:3.7
8. "Physico-chemical studies on novel terpolymers for viscosity index improvers" *Res. J. Recent. Sci.*,ISSN 2277-2502, Vol. 4(**ISC-2014**), 291-298 (**2015**)

List of Minor/ Major projects carried out

One minor project completed

Others

Honors

- Awarded Late Shree Gordhanbhai Iswarbhai Patel Scholarship for the Year 1992-93

Highlights of achievements

- First Prize in Oral Presentation: Gujarat Ecology Commission, Gandhinagar Sponsored National seminar on Environment, Pollution and Climate change.