

VISHWANATH R. PATIL

Professor in Chemistry

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ACADEMIC RECORD

Ph.D. University of Mumbai, India	June 2003
M.Sc. North Maharashtra University, Jalgaon, India Major Subject: Inorganic Chemistry	1997-99
B.Sc. North Maharashtra University, Jalgaon, India Major Subject: Chemistry	1994-97

AWARDS / HONORS

1.	<i>Prof. B. C. Haldar Memorial Research Award</i> , from Institute of Science, Mumbai	2001-2002
2.	<i>“Best Researcher and Academician Award”</i> from Bionano Frontier Mumbai, India and University of Mauritius	2017-2018
3.	<i>Kolgaon Ratna, (Jewel of Kolgaon)</i> from Grampanchayat Kolgaon, Tal. Bhadgaon, Dist. Jalgaon.	2017-2018
4.	<i>Dr. Arvind Kumar Memorial Award</i> for Best Young Scientist in Chemistry, by Indian Council of Chemists, India.	December 2019
5.	Fellow of Maharashtra Academy of Sciences	2021

AREA OF RESEARCH INTEREST

- Water soluble polymers
- Light emitting polymers
- Polymer-nano composites
- Synthesis of coordination compounds
- Nano Chemistry

RESEARCH EXPERIENCE & ITS HIGHLIGHTS

1. The Institute of Science (September 1999-June 2003)

- About four years research experience on the Synthesis, characterization and biological investigations of transition metal complexes of *Oximes* and their derivatives.

- The work was consisting of the synthesis of isonitroso oximes (*isonitroso-5-methyl-2-hexanone*) and its derivatives. The metal complexes of these oximes were prepared using transition metal salts.
- These compounds were characterized by elemental analysis, FTIR, ¹H NMR, UV-Visible, mass spectral data (GC-MS). Some of these compounds were unambiguously characterized by X-ray diffraction data.
- Thermal stability and biological activities of all the compounds against various microorganisms were also studied.

2. University of Mumbai (March 2004-till date)

- Presently, I am working as an Professor in the Department of Chemistry, University of Mumbai. Here I am conducting *Postgraduate Lectures* and *Practicals*. I am also supervising M. Sc. Project students. After two years of my joining in the department, I have started guiding **M.Sc. (By Research)** and **Ph.D.** students in the field of Coordination, Polymer and Nano Chemistry.
- Recently, our research group has published a very novel research article in highly reputed journal '**Advanced Materials**' (*Impact Factor 25.8*). This invention is related to ***new invisible barcode technology of future***. This is for the first time gold nanoparticles are actually synthesized and embedded inside a composite material. The said nanoparticles can be very easily embedded into a composite material to develop a unique type of invisible barcoding for composite parts after they are fabricated and hence do not require any additional step during their manufacturing. The barcode thus embedded is completely tamper-proof due to its invisible nature and one can see it only when it is incident upon by an ultraviolet light. Most importantly, there is no change in the characteristics (physical properties) of composite material due to embodiment of these nanoparticles.

This novel research can easily be used for invisible barcoding of carbon fiber and glass fiber reinforced epoxy composite parts that are used in manufacturing of **airplanes, expensive luxury cars and other automotive sectors**. This is the first invention of its kind wherein embedding gold nanoparticles as an invisible barcode in epoxy part for authentication is demonstrated. This research will certainly encourage manufacturers of composite parts to develop a simple, cost-effective, tamper-proof and scalable strategy of building an authentication system inside composite parts.

- **Recently in collaboration with Swachh Urja Alliance, Mumbai our research group has developed a new Antiviral nanotechnology based coatings for application on PPEs and N95 face masks that are used by doctors and support staff while treating and serving COVID19 patients.**

<https://timesofindia.indiatimes.com/city/mumbai/mumbai-doctors-may-soon-be-dressed-to-kill-virus-thanks-to-nanotech-research-at-arsity/articleshow/75592031.cms>

RESEARCH PAPERS

1. Click Gold Quantum Dots Biosynthesis with Conjugation of Quercetin for Adenocarcinoma Exertion, Amol V. Pansare, Priyanka V. Pansare, Amol A. Shedge, Shubham V. Pansare, Vishwanath R. Patil, Giovanni P. Terrasi and Kamini J. Donde, **RSC Advances**, 2022, 12, 18425, DOI: 10.1039/d2ra02529a, ISSN: 2046-2069, **(Impact Factor: 3.36)**.
2. Deciphering the sensing of a-amyrin acetate with hs-DNA: a multipronged biological probe, Amol V. Pansare, Amol A. Shedge, Maryappa C. Sonawale, Shubham V. Pansare, Akshay D. Mahakal, Shyam R. Khairkar, Shraddha Y. Chhatre, Dnyaneshwar K. Kulal and Vishwanath R. Patil, **RSC Advances**, 2022, 12, 1238–1243, DOI: 10.1039/d1ra07195e, ISSN: 2046-2069, **(Impact Factor: 3.36)**.
3. Highly efficient potentiometric sensing device for gadolinium based on Tetraazacyclododecane-1, 4, 7, 10 - tetraacetic acid crown ether and multiwalled carbon nanotube composite, Nayan S Gadhari, Suyog S Patil, Jayram V Gholave, Vishwanath R Patil, Sharad S Upadhyay, **Microchemical Journal**, Vol.175 (107130) 2022), <https://doi.org/10.1016/j.microc.2021.107130>, **(Impact factor-4.821)**.
4. Biological macromolecule chitosan grafted co-polymeric composite: bio-adsorption probe on cationic dyes, Shyam R. Khairkar, Shubham V. Pansare, Amol A. Shedge, Shraddha Chhatre, Dnyaneshwar K. Kulal, Vishwanath R. Patil, Amol V. Pansare, **Polymer Bulletin**, 2021 <https://doi.org/10.1007/s00289-021-03954-w>, **(Impact factor-2.014)**.
5. High performance HPLC-UV Method development and validation for sulfadoxine from its potential interfering impurities, Nayan S Gadhari, Jayram V Gholave; Suyog S Patil, Ajay R. Patil, Kiran Shelke, Vishwanath R Patil, Sharad S Upadhyay, **Current Chromatography**, 2021, (DOI : [10.2174/2213240608666210813105715](https://doi.org/10.2174/2213240608666210813105715)) ISSN (Print): 2213-2406 ISSN (Online): 2213-2414.
6. Sono-Maceration- A Rapid and Inexpensive Method for the Isolation of Ursolic Acid from Neolamarckia cadamba Leaves, Jennifer George, Gangadhar A. Meshram, Vishwanath R. Patil, **Natural Product Research**. 2021, (<https://doi.org/10.1080/14786419.2021.1971978>). ISSN: 1478-6419 (print) 1478-6427 (web) **(Impact factor 2.158)**.
7. Enantioselective high performance new solid contact ion-selective electrode potentiometric sensor based on sulphated γ -cyclodextrin-carbon nanofiber composite for determination of multichiral drug moxifloxacin, Nayan S Gadhari, Jayram V Gholave; Suyog S Patil, Vishwanath R Patil, Sharad S Upadhyay, **Journal of Electroanalytical Chemistry**, 882, 114981, 2021, <https://doi.org/10.1016/j.jelechem.2021.114981>, ISSN: 1572-6657 **(Impact factor 3.218)**.
8. Benzo Crown Ether Functionalized Conjugated Polyfluorenes with Anthracene Fragment for Sustainable Light Emitting Device Technology, Meenakshi M. Rananaware, Vaijayanti D. Ghase, Vishwanath R. Patil, **Polymer Bulletin**, <https://doi.org/10.1007/s00289-021-03617-w>, ISSN:0170-0839 (print) 1436-2449 (web),2020, **(Impact factor-2.014)**.
9. Development and Validation of a Stability-indicating RP-HPLC Method for the Simultaneous Determination of Telmisartan and its Related Substances in Telmisartan Bulk Drug Substance, Jayram V. Gholave , Nayan S. Gadhari, Suyog S. Patil , Sharad S. Upadhyay, Vishwanath R. Patil, Kiran F. Shelke, **Analytical Chemistry Letters (Taylers & Fransis)** 10(5), 577-589, 2020, <https://doi.org/10.1080/22297928.2020.1850348>, ISSN: 2229-7928 **(Print)**, **(Impact factor-1.727)**.
10. Progress in the Synthesis of Oxindole-Naphthoquinone Molecular Hybrid Scaffolds: A Concise Review, Ganesh A. Thakur, Rupashri K. Kadu, Vishwanath R. Patil, Pramod B. Thakur, **Chemistry Select**, <https://doi.org/10.1002/slct.202002961>. ISSN 2365-6549 (Online), **(Impact Factor: 1.811)**.
11. Efficient Blue Light-Emitting Polydibenzofluorenes through the Integration of an Anthracene Unit Polymer, Vaijayanti D. Ghase, Meenakshi M. Rananaware, Deepika C. Hasija, and Vishwanath R. Patil, **Polymer**, 209, 122947 (2020) (doi.org/10.1016/j.polymer.2020.122947) ISSN: 0032-3896 **(Impact Factor: 4.321)**.
12. Nanocomposite of Functional Silver Metal Containing Curcumin Biomolecule Model Systems: Protein BSA Bioavailability, Amol A. Shedge, Shubham V. Pansare, Shyam R. Khairkar, Shraddha Y. Chhatre, S. Chakrabarti, Amit A. Nagarkar, Amol V. Pansare, Vishwanath R. Patil, **Journal of Inorganic Biochemistry**, 2020 (<https://doi.org/10.1016/j.jinorgbio.2020.111210>), ISSN: 0162-0134 (print) 1873-3344 (web) **(Impact Factor: 3.94)**.

13. Ullmann Coupling for Low-Cost Synthesis of Anthracene based Polyfluorenes: A Photophysical Approach, Deepika C. Hasija, Vaijayanti D. Ghase, Meenakshi M. Rananaware, and Vishwanath R. Patil, **High Performance Polymers**, <https://doi.org/10.1177/0954008320945386> ISSN: 0954-0083 (print) 1361-6412 (web) **2020, (Impact Factor 1.568)**.
14. Alkyl and allyl substituted polydibenzofluorene: blue emitters for future display applications, Vaijayanti D. Ghase, Meenakshi M. Rananaware, Deepika C. Hasija, and Vishwanath R. Patil, *SN Applied Sciences*, *SN Appl. Sci.* **2**, 1186 (2020). <https://doi.org/10.1007/s42452-020-2940-8>, DOI: ISSN: 2523-3963 (Print) 2523-3971 (Online) (**Impact factor- 2.83**).
15. Hydrophobic interpenetrating polyamide-PDMS membranes for desalination, pesticides removal and enhanced chlorine tolerance, Shyam R. Khairkar, Amol V. Pansare, Amol A. Shedge, Shraddha Y. Chhatre, A.K. Suresh, Subhananda Chakrabarti, Vishwanath R. Patil, Amit A. Nagarkar, **Chemosphere** **258 (2020) 127179**, DOI:<https://doi.org/10.1016/j.chemosphere.2020.127179>, ISSN:0045-6535 (**Impact Factor: 5.778**).
16. Novel blue-light emitting fluorescent liquid crystals based on 4, 4'-(2-(tert-butyl)- anthracene-9, 10-diyl)diphenol and their optical behavior, Sheetal Venkatesh, Pushpa Kumari Yadav, Deepika C. Hasija, V. R. Patil, M. M. V. Ramana, **Journal of Molecular Liquids**,310,113265(2020),DOI:<https://doi.org/10.1016/j.molliq.2020.113265> ISSN 0167-7322, (**Impact Factor: 5.065**).
17. Synthesis, Photophysical Studies of Blue-Light-Emitting Alternating Polymers from Substituted 9-Sila Fluorenes and Substituted p-Phenylacene, Jayasree Gopalakrishnan, Deepika C. Hasija, and Vishwanath R. Patil, **Chemistry Select**, 2020, 5, 2577 – 2580, DOI: <https://doi.org/10.1002/slct.201904422>, ISSN 2365-6549 (Online). (**Impact Factor: 1.811**).
18. Exploring Copper as a catalyst for cost effective synthesis of Polyfluorenes: An alternative to Platinum and Palladium, Deepika C. Hasija, Jayasree Gopalakrishnan, Vaijayanti D. Ghase, Alok V. Mishra, and Vishwanath R. Patil, *SN Applied Sciences*, 569 (2) (2020), DOI: 10.1007/s42452-020-2344-9. ISSN: 2523-3963 (Print) 2523-3971 (Online).
19. Recent Advances in MXene–Based Electrochemical Sensors and Biosensors, Pramod Kalambate, Nayan Gadhari, Xiang Li, Zhixiang Rao, Sachin T. Navale, Yue Shen, Vishwanath Patil, Yunhui Huang,**Trends in Analytical Chemistry**, 120, 115643 (2019) <https://doi.org/10.1016/j.trac.2019.115643> ISSN:0165-9936, (**Impact factor 11.72**).
20. AgQDs employing black box synthetic strategy: Photocatalytic and biological behavior, Amol V. Pansare, Amol A. Shedge, Shraddha Y. Chhatre, Debabrata Das, Punam Murkute, Shubham V. Pansare, Amit A. Nagarkar, Vishwanath R. Patil, S. Chakrabarti, **Journal of Luminescence**, 212, 133-140, 2019, DOI: <https://doi.org/10.1016/j.jlumin.2019.04.014> (2019) ISSN: 0022-2313 (**Impact Factor: 3.58**).
21. Adsorptive removal of strontium(II) using macroporous poly(AGE-co-EGDMA) beads modified with resorcin[4]arene, K. Mulani, V. Patil, N. Chavan and K. Donde, *Bull. Mater. Sci.* 42,82 (2019). <https://doi.org/10.1007/s12034-019-1786-4>, ISSN: 0250-4707 (print) 0973-7669 (web) (**Impact Factor 1.392**).
22. Photophysical properties of new fluorine-based conjugated polymers containing polyphenylene-substituted dendronized core, Rupashri K. Kadu, Pramod B. Thakur, Vishwanath R. Patil, **Polymer Bulletin**, **76**, 595–613(2019), doi.org/10.1007/s00289-018-2401-3 ISSN: 0170-0839 (print) 1436-2449 (web) (**Impact Factor- 2.014**).
23. Recent Development of Crown Substituted Polyfluorenes for Blue Light Emitting Devices in Organic Electronics, Meenakshi M. Rananaware, Vaijayanti D. Ghase, Vishwanath R. Patil, **Polymer Bulletin**, **76**, 1277–1294(2019), DOI: 10.1007/s00289-018-2412-0 ISSN:**0170-0839 (print) 1436-2449 (web)** (**Impact factor-2.014**).
24. Adsorptive removal of chromium(VI) using spherical resorcinol-formaldehyde beads prepared by inverse suspension polymerization, Khudbudin Mulani, Vishwanath Patil, Nayaku Chavan, Kamini Donde, **Journal of polymer Research**, 26 (2), 41, 2019, DOI: <https://doi.org/10.1007/s10965-019-1705-9> ISSN:1572-8935, (**Impact Factor: 2.426**).

25. Novel Blue-Emitter-Containing *o*-Terphenyl-Substituted Fluorene and Diphenylanthracene Units, Alok V. Mishra, Deepika C. Hasiya, and Vishwanath R. Patil, **Chemistry Select**, DOI: 3(48), 13665-13669 (2018) ISSN:2365-6549, (**Impact Factor: 1.811**).
26. In-Situ Nanoparticle Embedding for Authentication of Epoxy Composites, Amol V. Pansare, Shyam R. Khairkar, Amol A. Shedge, Shraddha Y. Chhatre, Vishwanath R. Patil, Amit A. Nagarkar, **Advanced Materials**, 30 (33), 1801523 (2018). doi.org/10.1002/adma.201801523 ISSN: 0935-9648 (**Impact Factor: 30.84**).
27. Microwave assisted novel synthetic route for polyfluorenes containing triphenylamine and solubilizing alkyl moiety for blue emitting diodes, Alok V. Mishra, Khushboo B. Chandorkar and Vishwanath R. Patil, **Polymer International**, 67, (4), 405–413, 2018, DOI: 10.1002/pi.5521 ISSN; 10970126 (**Impact factor: 2.72**).
28. Discrete Anticancerous SeNPs-Macromolecule Binding Manipulated by Hydrophilic Interaction, Amol V. Pansare, Amol A. Shedge, Vishwanath R. Patil, **Int. J. Biol. Macromolec.** 2018, **107**, 1982-1987 DOI: <https://doi.org/10.1016/j.ijbiomac.2017.10.065>, ISSN: 0141-8130 (print) 1879-0003 (web) (**Impact factor: 5.162**).
29. Novel methoxy spirobifluorene and alkyl substituted diphenylacene based organic blue light emitting polymers for application in organic electronics, **Rhushirajeshwari M. Chalke** and Vishwanath R. Patil, **Polymer**, 123, 355-365, (2017). DOI :doi.org/10.1016/j.polymer.2017.07.034. ISSN: 0032-3896 (**Impact factor: 4.231**).
30. New approaches towards the synthesis and characterization of alkoxy substituted spirobifluorenes and spiroisilabifluorenes for organic optoelectronics, **Rhushirajeshwari M. Chalke** and Vishwanath R. Patil , **Journal of Macromolecular Science, Part A-Pure and Applied Chemistry**, 54(9), 556-564, (2017). <https://doi.org/10.1080/10601325.2017.1309249>. I.P-1.0, ISSN: 1520-5738 (**Impact factor: 1.394**).
31. New Strategy for Synthesis of Polyphenylene Substituted Dendronised Monomers Containing Fluorene Unit and Study Their Properties, Rupashri K. Kadu, Vishwanath R. Patil, **Polycyclic Aromatic Compounds, (Available Online)** DOI: <http://dx.doi.org/10.1080/10406638.2015.1129974>. 37(5), 395-406 (2017), ISSN :1563-5333 (**Impact Factor 1.894**).
32. Fungal Strain of *Aspergillus Oryzae* Immobilized on Silica Gel for Au(Iii) Sorption, Dnyaneshwar K. Kulal, Amol V. Pansare, Amol A. Shedge and Vishwanath R. Patil, **Eur. Chem. Bull.**, 5(6), 225-231 (2016) DOI: DOI: 10.17628/ECB.2016.5.225 ISSN: 2063-5346 (E) (**Impact factor: 0.27**) .
33. hsDNA Minor Groove Binding, Photocatalytic Activity, in vitro Breast and Colon Cancer Cell reducing function of Greener SeNPs, Amol V. Pansare, Dnyaneshwar K. Kulal, Amol A. Shedge and Vishwanath R. Patil, **Dalton Transactions**, , 2016, **45**, 12144–12155,, DOI: **10.1039/c6dt01457g**, (2016), ISSN 1477-9234 (Online) (**Impact factor: 4.2**).
34. Green synthesis of Anticancerous Honeycomb PtNPs clusters: their Alteration Effect on BSA and hsDNA using Fluorescence Probe, Amol V. Pansare, Dnyaneshwar K. Kulal, Amol A. Shedge, Vishwanath R. Patil, **Journal of Photochemistry & Photobiology, B: Biology**, **162**, 473–485 (2016) Doi:10.1016/j.jphotobiol.2016.07.021 (2016) ISSN: 1011-1344. (**Impact factor: 4.383**).
35. Determination of Uranium (VI) using Penicillium Chrysogenum Immobilized on Silica gel and spectrophotometer, D. K. Kulal, A.V. Pansare, S. R. Tetgure, M. Karve and V.R. Patil **Journal of Radioanalytical and Nuclear Chemistry**, 50(16) 2496-2508, 2015, DOI 10.1007/s10967-015-4297-9 ISSN: 1588-2780 (online), (**Impact factor: 1.137**).
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37. Synthesis and Spectral Studies of 6,13- di (p-hydroxyphenyl) pentacene and 6,13-di (p-hydroxynaphthyl) pentacene, Sambhaji Raut & Vishwanath Patil, **Polycyclic Aromatic Compounds**, 33,127–137(2013), DOI:10.1080/10406638.2012.756043, ISSN:1563-5333(Electronic) ISSN:1040-6638(Print) (**Impact Factor 1.894**).
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PAPERS PRESENTED IN VARIOUS CONFERENCES / SYMPOSIUM

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25. Synthesis and characterization of polyphenylene substituted dendronised monomers containing fluorene moiety, Rupashree Kadu, V. R. Patil, National Seminar on Recent Advances in Material Sciences Jointly organized by Department of Chemistry & Department of Physics, Mahatma Phule Arts, Science & Commerce College, Panvel, 18th January 2014, P-16.
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31. Synthesis and spectral studies of light emitting polymers containing 9- silafluorene and diphenyl anthracene moiety, Jayasree Gopalakrishnan and Vishwanath R Patil, UGC-SAP Sponsored National Conference on, Advances and Innovations in Chemical Sciences (NCAICS-2015),, Dept. of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 12 & 13th February 2015, PP-23.
32. Fungal Strain Mediated for Synthesis of Manganese Nanoparticles, Chandrabhan R. Pal, Dnyaneshwar K.Kulal, Amol V. Pansare, Vishwanath R. Patil, Two Days National Conference on Chemistry-Sustainability and Environment, Organised by Department of Chemistry, Ramnarain Ruia College, Matunga (E), Mumbai – 400 019, 20-21 February, 2015, P-43.
33. Novel Green Method for Synthesis of Manganese Nanoparticles (MnNPs) Using *Ravenala Madagascariensis* Leaves Extract, Lavanya V. Dussa, Amol V. Pansare, Dnyaneshwar K. Kulal, Vishwanath R. Patil, Two Day National Conference on Chemistry-Sustainability and Environment, Organised by Department of Chemistry, Ramnarain Ruia College, Matunga (E), Mumbai – 400 019, 20- 21 February, 2015, P-39.
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36. Biosynthesis and Characterization of Aluminum Nanoparticles Using *Ficus Arnotiana* Leaves Extract, Satyavan P. Varande, Amol V. Pansare, Dnyaneshwar K. Kulal, Vishwanath R. Patil, Two Day National Conference on Chemistry-Sustainability and Environment, Organised by Department of Chemistry, Ramnarain Ruia College, Matunga (E), Mumbai – 400 019, 20- 21 February, 2015, P-48.
37. Development of new radianalytical method for the trace determination of 8-hydroxy quinoline, Milind M. Thigle, V. R. Patil, R. S. Lokhande, 10th Mid Year CRSI Symposium in Chemistry, Organised by National Institute of Technology and Bharthidasan University, Tiruchirappalli, Trichy, 23-25 July, 2015, PP-280.

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42. Synthesis and Characterization of Alkyl Substituted Different Derivatives of Fluorenes for Light Emitting Diodes, Vaijayanti D. Ghase and Vishwanath R. Patil, UGC – SAP Sponsored International Conference on new Horizons in Synthetic and Materials Chemistry (ICSMC-2015), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 26-28 November, 2015, PP-136.
43. Blue light emitting co-polymers with substituted Fluorene and acene moiety, Alok V. Mishra, Vishwanath R. Patil, UGC–SAP Sponsored International Conference on new Horizons in Synthetic and Materials Chemistry (ICSMC-2015), Department of Chemistry, Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 26-28 November, 2015, PP-137.
44. Development of new radiolytical methods for the trace determination of 5,7-dihalo derivatives of 8-hydroxy quinoline, Milind M. Thigle, V. R. Patil, R. S. Lokhande, Two days Symposium in Frontiers on Advances in Chemistry and Technology, organized by Royal Society of Chemistry and School of Chemical Sciences, North Maharashtra University, Jalgaon, 11-12th December, 2015, PG-18.
45. Green synthesis of SeNPs using *Trigonella foenum-graecum* extract and there in vitro anticancer activity, alteration with hsdNA and bovine serum albumin environment, Amol V. Pansare, Dnyaneshwar K. Kulal and Vishwanath R. Patil, National Conference on Nanotechnology in Drug Delivery Research: Innovations, Challenges and Opportunities (NCNDDR2015), SPPSPTM, SVKM'S NMIMS, Mumbai, 16-17th October 2015. A-47.
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49. Quenching Mechanism of Human Serum Albumin Fluorescence by Lanthanum-Capecitabine Nanoparticles for In-vitro Anticancer activity. Amol A. Shedge, Amol V. Pansare, Dnyaneshwar K. Kulal, Shubham V. Pansare and Vishwanath R. Patil, National Seminar on Nanotechnology: Environmental, Economic, Social and Health Perspectives (NEESH2016), organized by, Annasaheb Waghire College, Otur, Pune, ISBN:978-93-5158-581-7, P-221.
50. Preeminent Synthesis of Cerium Nanoparticles by Reduction Process Using Extract of *Ficus Arnottiana* under the Influence of Solar Energy. Amol V. Pansare, Pritam S.Walanj, Dnyaneshwar K.Kulal, Vishwanath R. Patil, National Seminar on Nanotechnology: Environmental, Economic, Social and Health Perspectives (NEESH2016), organized by, Annasaheb Waghire College, Otur, Pune, ISBN:978-93-5158-581-7, A-228.
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53. Anticancer activity of green Synthesized TiNPs with its complex of Capecitabine, Amol A. Shedge, Amol V. Pansare, Dnyaneshwar K. Kulal and Vishwanath R. Patil, Interdisciplinary National Conference on Green technology and Sustainable Development: Indigenous Practices, organized by Ameity University Mumbai, 26-27th February, 2016.
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58. Microwave synthesized blue electroluminescent polyfluorenes containing triphenylamine and alkyl derivatives, A. V. Mishra, V. R. Patil, National Conference on Innovative Research in Chemical Sciences (IRCS–2017), Sponsored by University Grant Commission, New Delhi and Organized by, Department of Chemistry, Shivaji University, Kolhapur, February 1-2, 2017, OP-20 (*Awarded Second Prize for Oral Presentation*).
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62. New Series of Alkyl and Acetyl Substituted Different Derivatives of Fluorene Based compounds for Light Emitting Diodes, V. D. Ghase, V. R. Patil, National Conference on Innovative Research in Chemical Sciences (IRCS–2017), Sponsored by University Grant Commission, New Delhi and Organized by, Department of Chemistry, Shivaji University, Kolhapur, February 1-2, 2017, PP-06.
63. Discrete Anticancerous SeNPs-Macromolecule Binding Manipulated by Hydrophilic Interaction, Amol V. Pansare, Amol A. Sedge and Vishwanath R. Patil, Multidisciplinary Global International Conference on Emerging Trends and Challenges in Science, Technology and Society, ETCST-2017, Organized By : Bionano Frontier and University of Mauritius, May 12-16, 2017, Oral Presentation No.44.
64. Synthesis and optoelectronic properties of Triphenylamine configured polyfluorene containing acene moiety with improved hole injection, Deepika C. Hasija and Vishwanath R. Patil, National Conference on Modern Research Tools in Science, Organized by G. M. Vedak College of Science, Tala, Raigad, 19th August, 2017, AB-23.
65. A Multifunctional Interpenetrating TFC Reverse Osmosis membrane (CRSAM) for desalination, Chlorine Tolerances and organic pollutant rejection, Shyam. R. Khairkar, Amol V. Pansare, Amol A. Sedge, A. K. Suresh, Vishwanath R. Patil, UGC – SAP Sponsored National Conference on

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66. Nano-Gold composites of Paclitaxel- Design, Synthesis, In-vitro Anticancer activity and Biological evaluation, Amol A. Shedge, Amol V. Pansare, Shyam Khairkar, Jitendra M. Jawale and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-5.
67. Synthesis of silver nanoparticles by different plant extracts and its antimicrobial activity, Ashlesha A. Patil, Deepika C. Hasija and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-15.
68. Low-bandgap conjugated polymers based on diphenyl hydrazine substituted fluorene and acene as blue light emitting materials, Deepika C. Hasija and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-21.
69. Antioxidant activity of various extracts of *Neolamarckiacadamba*, Jennifer George*, G. A. Meshram, Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-28.
70. Optoelectronic study of triphenyl substituted polyfluorene with improved charge injection for light emitting diodes, Manali P. Mungi, Deepika C. Hasija and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-41.
71. Exploring synthesis and characterization of crown substituted polyfluorenes with diphenylacene moieties for potential applications in light emitting device technology, Meenakshi Ranaware and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-47.
72. Exploring novel organic blue light emitting polymers based on methoxyspirobifluorene and substituted diphenylacenes for application in organic electronics, Rhushirajeshwari. M. Chalke and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-74.
73. Green synthesis of Gold nanoparticles using leaf, flower and plant extract of *Couroupita Guianensis*, Shraddha S. Talgulkar, Deepika C. Hasija and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-87.
74. UV induced photocatalytic degradation of methyl orange by biosynthesized ZnO nanoparticles, Sunita B. Dalvi, Deepika C. Hasija and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by

Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-92 (***Awarded with best Poster Presentation***).

75. Synthesis and spectral studies of light emitting polymer containing Allyl Dibenzofluorene and diphenyl anthracene units, Vaijayanti D. Ghase and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-99.
76. Synthesis and optoelectronic properties of benzeneamine configured Polyfluorene for light emitting diodes, Manish R. Shingole, Deepika C. Hasija and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-104.
77. Synthesis of triphenyl substituted polyfluorene with improved charge injection for light emitting diodes, Shivam S. Shitole, Deepika C. Hasija and Vishwanath R. Patil, UGC – SAP Sponsored National Conference on Recent Developments in Chemical Sciences (RDCS-2018), Organised by Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), 8-9 March, 2018, PP-105.
78. Synthesis and Optoelectronic Studies of Blue Light Emitting Polyfluorene Containing Diphenylacene Moeity, Deepika C. Hasija, Vishwanath R. Patil, National conference on Frontiers in Chemical Sciences' organized at IIT- Guwahati, 6-8 December 2018.
79. Green synthesis of Gold nanoparticles using *Neolamarckiacadamba extract*, Sadaf Syed, Deepika C. Hasija and Vishwanath R. Patil National conference on 'Recent trends in Advanced Materials and their applications' organized by Kirti College, Mumbai, 12 January 2019, OP-34.
80. Optoelectronic Studies of Blue Light Emitting Polyfluorene for Application in LED, Deepika C. Hasija, Vishwanath R. Patil at National Conference on Nanotechnology for sustainable Development organized by National Centre for Nanoscience and Nanotechnology on 15 and 16 March 2019 (***Awarded 1st prize***).
81. Bioactive triterpenoid isolated from *Neolamarckiacadamba* leaves, Jennifer George, Gangadhar A. Meshram and Vishwanath R. Patil, 'International Conference on Plant Biofactories: Strategies and Challenges' organized by Ramnarain Ruia Autonomous College, Mumbai, 19th to 21st December, 2019 (POSTER-PBSC19/0019).
82. Phytochemical and pharmacological evaluation of leaf extracts of *Neolamarckiacadamba* (Rubiaceae) from India, Falak Shaikh, Jennifer George and Vishwanath R. Patil, 'International Conference on Plant Biofactories: Strategies and Challenges' organized by Ramnarain Ruia Autonomous College, Mumbai, 19th to 21st December, 2019 (POSTER-PBSC19/0020).
83. Ultrasound-assisted extraction and isolation of bioactive Ursolic acid from *Neolamarckiacadamba* leaves, Jennifer George, Gangadhar A. Meshram and Vishwanath R. Patil, 38th Annual Convention of Indian Council of Chemists, organized by Jaipur National University, 26-28th December, 2019 (ORAL-PCO-05).
84. Development of new radioanalytical method for the trace determination of cupferron, Milind M. Thigle, V. R. Patil and R. S. Lokhande, 38th Annual Convention of Indian Council of Chemists, organized by Jaipur National University, 26-28th December, 2019, AP-11

CONFERENCES / WORKSHOPS / SYMPOSIA ATTENDED

1. Eighteenth Annual Convention of Chemists, Indian Council of Chemists 1999, Chemistry Department, North Maharashtra University, Jalgaon, 27th -29th Dec 1999.
2. International Conference in Emerging Trends in Chemical Sciences, Department of Chemistry, University of Mumbai, India, 23rd-25th Jan, 2007.
3. National Seminar on Nanomaterials, Department of Chemistry, University of Mumbai, India, 28-29 March 2008.
4. **2nd Science Conclave: A Congregation of Nobel Laureates**, The Indian Institute of Information Technology, Allahabad (IIIT-A) (Supported By MHRD, DST and Government of India), Allahabad, India, December 8-15, 2009.
5. A one-day lecture series "INSPIRE" as a part of Science Week Celebration (INSPIRE-2011), Department of Physics, University of Mumbai, India, 22nd February, 2011.
6. One day workshop on Book publishing, organized by Department of Civics and politics, Department of Biotechnology and Jawaharlal Nehru Library, University of Mumbai, in collaboration with Elsevier, USA, 25th February, 2015.

RESEARCH PROJECTS

No.	Title of the project	Funding Agency	Grant Received (Rs.)	Project duration
1.	Synthesis and Studies of Water-Soluble Polyesters Containing Ethylenediaminetetraacetic acid and Their Metal Complexes	UGC, Delhi	1.1 Lakhs	2010-12
2.	Stable Blue Light Emitting Polyfluorene Containing Diphenylanthracene and Terphenyl-based Light Emitting Diodes	DST-SERB	20 Lakhs	2013-16
3.	Bioremediation of Hydrocarbon from Mithi River and understanding its mechanism through Omics approaches	Ramniklal S. Gosalia & Co., Mumbai	25 Lakhs	2017-23
4.	A Novel Self-healing Poly(urethane-urea) Protective Coatings With Possibility of Embedding Invisible Barcode Using Gold Nanoparticles for Defence and Aerospace Applications.	Aeronautics Research & Development Board (AR & DB), DRDO	44.5157 Lakhs	2019-21

GROUP MEMBERS

Ph.D. students

Sr. No.	Name of Student	Topic of Research	Date of Registration	Date of Declaration of degree
1	Dr. Sunil N. Peshane	Synthesis and study of structure property	Ph.D. Registration No./ 87(A)/2008	Date of Declaration

		relationships in water borne polyetherane dispersion	Dated: 07/04/2008	17/04/2014
2	Dr. Sambhaji Sahebrao Raut	Synthesis and studies of light emitting polyacenes containing fluorenyl units	Ph.D. Registration No./138/2010 Dated: 02/07/2010	Date of Declaration 05/04/2014
3	Dr. Kanchan Arun Barve	Synthesis and properties of light emitting polyfluorenes containing cyanine dye moiety	Ph.D. Registration No./141/2011 Dated: 28/07/2011	Date of Declaration 04/07/2015
4	Dr. Rupashree Kisor Kadu	Synthesis and studies of light emitting polyfluorenes containing phenylene Dendron moiety	Ph.D. Registration No./142/2011 Dated: 28/07/2011	Date of Declaration 28/08/2015
5	Dr. Khushboo Bhalchandra Chandorkar	Synthesis and studies of light emitting polyfluorenes containing substituted porphyrin unit in polymer backbone	Ph.D. Registration No./140/2011 Dated: 28/07/2011	Date of Declaration 21/06/2016
6	Dr. Jayashree Gopalkrisnan	Synthesis and studies of conjugated light emitting polymers based on substituted fluorene units	Ph.D. Registration No./152/2011 Dated: 25/08/2011	Date of Declaration 21/06/2016
7	Dr. Dnyaneshwar Kisan Kulal	Biosorbents for separation and determination of certain contaminants from the environment	Ph.D. Registration No./166/2013 Dated: 19/07/2013	Date of Declaration 13/10/2017
8	Dr. Maryappa. C. Sonawale	Kinetics and mechanism of oxidation of some amino acids containing aliphatic hydroxyl, sulfur and aromatic side chains	Ph.D. Registration No./37/2015 Dated: 25/11/2005	Date of Declaration 19/04/2018
9	Dr. Amol Vasant Rao Pansare	Development of novel methods for analysis of certain herbal samples	Ph.D. Registration No./167/2013 Dated: 19/07/2013	Date of Declaration 06/04/2018
10	Dr. Rhushirajeshwari Mahadeo Chalke	Synthesis and studies of conjugated light emitting poly(spirobifluorenes) containing acene moiety	Ph.D. Registration No./163/2013 Dated: 22/03/2013	Date of Declaration 19/04/2018

11	Dr. Alok Vinod Mishra	Synthesis and studies of alkyl and aryl substituted electroluminescent polyfluorene copolymers	Ph.D. Registration No./165/2013 Dated: 28/04/2013	Date of Declaration 11/07/2018
12	Dr. Meenakshi Madhavrao Ranaware	Design of fluorine based light emitting polymers with pendent crown ether and acene moiety	Ph.D. Registration No./174/2014 Dated: 27/06/2014	Date of Declaration 24/12/2018
13	Dr. Vaijayanti Dattaram Ghase	Colour tuning properties of light emitting co-polymers of dibenzofluorene and substituted units	Ph.D. Registration No./173/2014 Dated: 12/06/2014	Date of Declaration 15/04/2019
14	Dr. Deepika Chander Hasija	Design and Studies of light emitting Polyacene Based Nanocomposites	Ph.D. Registration No./187/2015 Dated: 04/11/2015	Date of Declaration 18/08/2020
15	Ms. Alappatt Jennifer George	Isolation, characterization and biological evaluation of some phytochemicals from Neolamarckia cadamba	Ph.D. Registration No./201/2016 Dated: 27/09/2016	Date of Declaration 06/12/2021
16	Mr. Amol Adhikrao Shedje	Synthesis and studies of anticancer drug – metal nanocomposites and their activity against carcinomas cell and binding behavior with certain proteins.	Ph.D. Registration No./190/2015 Dated: 16/11/2015	Date of Declaration 10/01/2022

M.Phil / M.Sc. by Research students

Sr. No.	Name of Student	Topic of Research	Date of Registration	Date of Declaration of degree
1	Mr. Sunil Sudam Patil (M. Phil)	Synthesis, spectral and biological studies on mixed ligand Co(II), and Ni(II) complexes of some amino acids	Enrolment No. A7A6734522 (Madhurai Kamraj University)	Date 15 th May 2008
2	Miss Chaitrali Janardan Rane M.Sc. (by Research)	Study of water soluble polyesters based on ethylenediamine	MSc. Registration No./60(A)/2007 Dated: 05/03/2007	Date of Declaration 7/7/2009

		tertaacetic acid and their metal complexes		
3.	Mr. Sambhaji Sahebrao Raut <i>M.Sc. (by Research)</i>	Synthesis of diethylenetriamine pentaacetic acid based water soluble polyesters and their metal complexes	MSc. Registration No./60/2007 Dated: 05/03/2007	Date of Declaration 04/09/2009
4.	Miss. Kanchan Arun Barve <i>M.Sc. (by Research)</i>	Synthesis and studies of light emitting polymers based on fluorenone and diphenylanthracene	MSc. Registration UDC No./89/2008 Dated: 31/01/2008	Date of Declaration 22/10/2010
5.	Mr. Alok Vinod Mishra <i>M.Sc. (by Research)</i>	Synthesis and studies of light emitting polyfluorenes containing terphenyl and diphenylanthracene units	MSc. Registration UDC No./130/2010 Dated:06/02/2010	Date of Declaration 25/09/2012

Present Research students

Sr. No.	Name of Student	Topic of Research	Date of Registration	Date of Declaration of degree
1	Vasant Magan Patil	Synthesis of UV Curable Polyurethane Coatings from Bio-renewable Polyols Modified Through Thiol-ene Click Coupling Chemistry	239/10-12-2019	Presently working
2	Satyavan Parshuram Varande	Self-healing Polyurea Coatings with Dynamic Covalent Urea Bond and Possibility of Embedding Invisible Barcode using Gold Nanoparticles	235/13-12-2019	Presently working
3	Bhavesh Mahendra	Self-healing	233/11-12-	Presently

	Patil	Poly(urethane-urea)Smart Coatings and Elastomers With Possibility of Embedding Invisible QR Code using Gold Nanoparticles	2019	working
4	Paresh Mahendra Patil	Design strategies for UV stabilized Non-yellowing Styrene Acrylic Emulsions	237/11-12-2019	Presently working
5	Roshan Pravin Rane	Urban Mining of Li-ion Batteries to Extract Active Materials for Construction of New Cathode Materials.	236/10-12-2019	Presently working
6	Shubham V. Pansare	Synthesis of Advanced Sustainable High-Performance Polymer Towards Circular Economy of Structural Composite	Topic approved on 31 st May 2022	Presently working

Post-Doctoral students

Sr. No.	Name of Student	Topic of Research	Date of Registration	Date of Declaration of degree
1	Dr. Shyam Khairkar	Hydrophobic interpenetrating polyamide-PDMS membranes	Postdoctoral Fellow	Completed his Postdoctoral research and now doing another PDF at NIMS, Japan)
2	Dr. Sunita Arjun Chaudhari (Patil)	Enhancing the Efficiency of RT-PCR Using Metal Nanoparticles for Forensic Applications	Postdoctoral Fellow	Presently working

INVITED LECTURES DELEVIERED AT VARIOUS UNIVERSITIES AND INSTITUTES

Sr. No. Title and details of the program where lecture is delivered

1. **Light Emitting polymers**
UGC refresher course organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (2013).
2. **Polymer studies**
First Pre Ph.D. Workshop, organized by Jaipur National University Jaipur (February 1, 2012).
3. **Polymer characterization**
UGC refresher course organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (2011)
4. **Polymer synthesis & characterization**
UGC refresher course organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (2010)
5. **Light emitting polymers**
UGC refresher course organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (2009)
6. **Light emitting polymers**
UGC refresher course organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (2008)
7. **Practicals based on Thermal methods**
UGC refresher course organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (2007)
8. **Practicals based on Thermal methods**
UGC refresher course organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (2006)
9. **Light emitting polymers**
First Pre Ph.D. Workshop, organized by Jaipur National University Jaipur (August 27, 2014).
10. **Light emitting polymers**
UGC refresher course in Advances in Chemical science organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (13th October 2016)
11. **Practicals based on Thermal methods**
UGC refresher course in Advances in Chemical science organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (17th, 18th and 19th October 2016)
12. **Synthetic and biological polymers**
UGC refresher course in Advances in Materials Chemistry and Technology (AMCT) organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai (14th November, 2017)
13. **Synthetic light emitting polymers**
First Pre Ph.D. Workshop, organized by Jaipur National University Jaipur (1st August, 2018).
14. **Careers in sciences**
Chief Guest for Inaugural function of Science Association, at Phule college Panvel on 31.08.2018
15. **Research**
Chief Guest for Inaugural function of Science Association, at BNN College Bhivandi on

- 04.09.2018
16. **Careers and in sciences**
Science Association Function at Shri Shivaji Science College, Amravati, date: 6th September 2018.
 17. **Projects in Sciences**
At workshop of Avishkar Research Convention 2018-2019 organized by University of Mumbai on 10th September 2018
 18. **Career guidance**
At late Gopichand Poona Patil High School & College, Kolgaon, Dist. Jalgaon on 15th October 2018.
 19. **Natural and synthetic polymer**
Refresher course on 'Recent Advances in Chemical Sciences and Technology' organized by UGC HRD, University of Mumbai and Department of Chemistry, University of Mumbai on 22nd November 2018
 20. **Inaugural Speech**
Chief Guest for Inauguration function of CHEMFEST-REACT at Ramnarain Ruia College, Matunga on 24th December 2018
 22. **Careers option in Chemistry**
Chief Guest of inaugural function of golden Jubilee year program *CHEMOPHILIC, 18th January 2019 organized by Bhandodkar College, Thane*
 23. **Invisible Barcode Technology**
Keynote address, at National Conference on Recent Trends in Chemical and Physical Sciences, organized by Thakur College, Kandivali on 11th January, 2019
 24. **Inaugural Speech**
Chief Guest of State Level Inter College Science Exhibition 2019 organized by Shivaji Arts Science Commerce College, Kannad, Aungmyethay, on 12th January, 2019.
 25. **Invisible Barcode Technology**
At Short Term Course organized by National Centre for Nano sciences and Nanotechnology, University of Mumbai and UGC Human Resource Development Centre, University of Mumbai on 14th February, 2019.
 26. **Title: Research**
Chief Guest for Inaugural function of Science Association Function at Veer Wajekar College, Phunde, date: 22nd August, 2019.
 27. **Title: Invisible Barcode Technology**
First Pre Ph.D. Workshop, organized by Jaipur National University Jaipur (19th September, 2019).
 28. **Title: Water: Every Drop Counts**
Symposium on Water-Our Future, Indian Scenario, 38th Annual Convention of Indian Council of Chemists, organized by Jaipur National University, 27th December, 2019
 29. **Title: Invisible Barcode Technology (Award Lecture)**
38th Annual Convention of Indian Council of Chemists, organized by Jaipur National University, 26th December, 2019
 30. **Title: Invisible Barcode Technology**
National Conference on "New Dimensions of Chemistry" (**NDC-2020**) organized by Wilson College, Mumbai on **1st February, 2020**
 31. **Title: Invisible Barcode Technology**
Annual Cultural Fest "NANO HOLIX" organized by National Centre For Nanosciences and Nanotechnology, University of Mumbai, 27th March, 2018
 32. **Title: Research for the Benefit of Mankind**
Workshop organized by Ruia Science Association, Ruia College on **23rd November, 2019.**
 33. **Title: Journey of Science**
Chief Guest for Inaugural function of Science Association, at BNN College Bhivandi on 28.11.2019.

34. **Title: Polymers and their applications**
UGC refresher course in 'Recent Developments in Applied Chemistry (RDAC)' organized by Department of Chemistry, University of Mumbai under the aegis of Academic Staff College, University of Mumbai, 11th November, 2019.
35. **Title: Invisible Barcode Technology (Key Note Address)**
One day National Conference on Recent Advances in Sciences (NCRAIS-2020), Shivaji Arts Science Commerce College, Kannad, Auganrabad on 13th February, 2020.
36. **Title: Material Chemistry for Social Cause**
Online conference on. The theme of the conference is "GREEN CATALYSIS AND MATERIAL CHEMISTRY", Organized by K.E.S.A.P.Sc.College, Nagothane, 27th May, 2020, Link of lecture <http://www.youtube.com/watch?v=fEDMIG64z6E>
37. **Title: "Impact of Pandemic on Research"**
National level webinar "Pandemics: Impacts, Challenges and Innovations", organized by Wilson College, Mumbai on 30th May, 2020.
38. **Title: Corona Virus Outbreak –Implications on Research**
Webinar, "COVID-19: CHEMISTRY PERSPECTIVE" organized by Chemistry Department of Smt. Chandibai Himathmal Mansukhani College on 15th June, 2020.
39. **Title: Research for the Benefit of Mankind**
Conducted Online workshop organized by the Department of Chemistry, St. Xavier's College (Autonomous), Mumbai in collaboration with the Xavier's Association of Chemistry on 16th June 2020. Link of lecture <https://youtu.be/XLe0qtWZChw>
40. **Title: Research for the Benefit of Mankind**
National Webinar on Green and Sustainable Chemistry, Organized by Pratap College, Amalner, Dist Jalgaon on 1st November 2020
41. **Title: Polymers and their applications**
Refresher Course in Chemistry –Recent trends in Chemistry Education and Research, organized Department of Chemistry, Sant Gadge Baba University, Amravati under the aegis of HRDC, Amravati University on 30th November 2020.
42. **Title: guidance lecture on Research in Material Science**
RUSA, DST-FIST and DBT-STAR Lecture Series organized by Science club of Jaihind College, on 6th February 2021.
43. **Title: Incubating ideas into research**
Webinar Series on 'R for Research' under STAR College Scheme (DBT) organized by Avishkar Research Committee and R-quest D.G. Ruparel College of Arts, Science and Commerce, Mumbai on 18th March, 2021
44. **Title: Material Chemistry for social cause**
National webinar on "Green Catalysis & Material Chemistry" organized by Department of Chemistry and IQAC of Miraj College, Miraj on Friday, 25th June, 2021.
45. **Title : Introduction to Nanomaterials**
National Workshop on 'Recent Trends in Organic and Inorganic Chemistry: from teaching, learning, and research perspective' in association with 'Royal Society of Chemistry' West India Section held from 3rd - 6th April 2021 organized (online mode) by **Department of Chemistry, Gogate Jogalekar College, Ratnagiri, Date of invited talk 5th April, 2021.**
46. **Title: Use of nanoparticles for social cause**
One day workshop on "Emerging Trends in Nanscience and Nanomaterials, jointly organized by Department of Chemistry and Department of Physics, Wilson College, 31st July, 2021.
47. **Title: Material Chemistry for social cause**
Online Refresher Course in *Recent Advances in Chemical Sciences and Technology*

- organized by the UGC-Human Resource Development Centre, University of Mumbai, Mumbai and Department of Chemistry, University of Mumbai, 23rd September, 2021
48. **Title : Research Methodology**
Workshop on research methodology for M.Sc. students, organized (offline mode) by Dr. Babasaheb Ambedkar College, Mahad on 11th October 2021.
 49. **Title: Research in Material Chemistry**
One day webinar on Material Chemistry, Organized by Veer Wajekar College, Phunde, date: 13th October, 2021.
 50. **Title: Applied Chemistry for social cause**
International Conference on “Applied Chemistry: Exploring Futuristic Applications For Sustainable Development, (An Initiative to Empower Women towards Research), organized by internal Quality Assurance Cell (IQAC), & Department of Chemistry, Isabella Thoburn College, Lucknow on 27th October, 2021.
 51. **Title: Material Chemistry for social cause**
One day National webinar Material Science organized by Yashwantrao Chavan Institute of Science, Satara, on 25th November 2021.
 52. **Title: Material Chemistry for social cause**
Second Pre-Ph.D. workshop for newly enrolled Ph.D. students organized by School of Basic Sciences, Department of Chemistry, organized by Jaipur National University, Jaipur on 3rd December, 2021.
 53. **Title : Introduction to Nanomaterials**
National Workshop on 'Recent Trends in Organic and Inorganic Chemistry: from teaching, learning, and research perspective' in association with 'Royal Society of Chemistry' West India Section held from 3rd - 6th April 2021 organized (online mode) by Department of Chemistry, Gogate Jogalekar College, Ratnagiri, Date of invited talk 5th April 2021.

LIST OF PATENTS FILED

1. Green synthesis of chromium nanoparticles using mixtures of three *herbal* plants leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA-MB-435) as well as alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, K. J. Donde, J. M. Pansare, V. R. Patil, **(2015), IN 2015MU03633 A 20170331.**
2. Green synthesis of combined platinum-palladium nanoparticles using mixtures of two *herbal* plants leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA MB-435) as well as alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, K. R. Bhotkar, J. M. Jawale, V. R. Patil, , Indian Pat. Appl. **(2015), IN 2015MU03632 A 20170331.**
3. Isolation of (4, 4, 6a, 6b, 8a, 11, 12, 14b-octamethyl-2, 3, 4a, 5, 6, 7, 8, 9, 10, 11, 12, 12a, 14, 14a-tetradecahydro-1h-picen-3-yl) acetate from *Ficusarnottiana* leaves using ultrasonication method at ambient temperature, A. V. Pansare, D. K. Kulal, J. M. Jawale, P. K. Kalambate, V. R. Patil, , **(2016), IN 2014MU01580 A 20151127.**
4. Isolation of (4,4,6a,6b,8a,11,12,14b-Octamethyl-2, 3, 4a, 5, 6, 7, 8, 9, 10, 11, 12, 12a, 14, 14a-tetradecahydro -1H -picen -3-yl) acetate from *Ficusarnottiana* leaves using circularly spread silica gel and ultrasonication at ambient temperature, A. V. Pansare, D. K. Kulal, M. M. Jawale, J. M. Jawale, V. R. Patil, **(2016), IN 2014MU02086 A 20160101.**
5. Green synthesis of platinum nanoparticles using *Ravenalamadagascariensis* leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA-MB-468), alteration of

- bovine serum albumin environment, A. V. Pansare, D. K. Kulal, M. K. Malave, M. M. Jawale, R. K. Jagtap, J. M. Jawale, V. R. Patil, **(2016), IN 2014MU03806 A 20160603.**
6. Green synthesis of gold nanoparticles using *Colocasia esculenta* leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA-MB-468), alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, M. K. Malve, M. M. Jawale, R. K. Jagtap, J. M. Jawale, V. R. Patil, **(2016), IN 2014MU04249 A 20160701.**
 7. Green synthesis of vanadium nanoparticles using mixtures of three *herbal* plants leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA-MB-468), alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, K. J. Donde, M. K. Malve, V. R. Patil, **(2016), IN 2014MU03996 A 20160617.**
 8. Green synthesis of combined copper-nickel nanoparticles using mixtures of two *herbal* plants leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA-MB-468), alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, K. J. Donde, M. K. Malve, V. R. Patil, **(2016), IN 2014MU03995 A 20160617.**
 9. Green synthesis of silver nanoparticles using *Carica papaya* leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MCF-7) as well as alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, M. M. Jawale, J. M. Jawale, V. R. Patil, **(2016), IN 2014MU04095 A 20160624.**
 10. Green synthesis of palladium nanoparticles using *Carica papaya* leaves extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MCF-7) as well as alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, K. J. Donde, M. M. Jawale, J. M. Jawale, V. R. Patil, **(2016), IN 2014MU04247 A 20160701.**
 11. Green synthesis of selenium nanoparticles using *Trigonella foenum-graecum* extract and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA MB-435) as well as alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, K. J. Donde, M. M. Jawale, J. M. Jawale, V. R. Patil, **(2016), IN 2015MU00164 A 20160722.**
 12. Biosynthesis of palladium nanoparticles by a process of reduction using a fungal strain of *Aspergillus oryzae* and their in-vitro anticancer activity (Human Breast Cancer Cell Line MCF-7) as well as alteration of bovine serum albumin environment, A. V. Pansare, D. K. Kulal, K. J. Donde, M. M. Jawale, J. M. Jawale, V. R. Patil, **(2016), IN 2014MU04248 A 20160701.**
 13. Biosynthesis of platinum nanoparticles by a process of reduction using a fungal strain of *Aspergillus oryzae* and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA-MB-468), alteration of bovine serum albumin environment, D. K. Kulal, A. V. Pansare, K. J. Donde, M. K. Malve, M. M. Jawale, V. R. Patil, **(2016), IN 2014MU03994 A 20160617.**
 14. Process of Preparing Fluorene Based Co-Polymers Containing Polyphenylene Substituted Dendronised Moiety, Rupashri K. Kadu, Pramod Thakur, Vishwanath R. Patil, **(2016), 201621016768**
 15. Process for The Synthesis of Polyphenylene Substituted Dendronised Framework Containing Fluorene Unit, Rupashri K. Kadu, Pramod Thakur, Vishwanath R. Patil, **(2016), 201621016769.**
 16. Biosynthesis of selenium nanoparticles by a process of reduction using a fungal strain of *Aspergillus oryzae* and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA MB-435) as well as alteration of bovine serum albumin environment, D. K. Kulal, A. V. Pansare,

- K. J. Donde, M. M. Jawale, J. M. Jawale, V. R. Patil, Indian Pat. Appl. (2017), **IN 2015MU03822 A 20170414.**
17. Biosynthesis of chromium nanoparticles by a process of reduction using a fungal strain of *Aspergillusoryzae* and their in-vitro anticancer activity (Human Breast Cancer Cell Line MDA MB-435) as well as alteration of bovine serum albumin environment, D. K. Kulal, A. V. Pansare, J. M. Jawale, K. R. Bhotkar, K. J. Donde, V. R. Patil, Indian Pat. Appl. (2017), **IN 2015MU03823 A 20170414.**
 18. In-Vitro Anticancer Activity and Probing the Interaction Between BSA With Ultrasonically Synthesized Curcumin-Zr Nanocomposites, A. V. Pansare, Amol A. Shedge, V. R. Patil, (2017), **201721003507.**
 19. Synthesis of Curcumin-Ni nanocomposites for In-Vitro Anticancer Activity on Human Breast Cancer Cell Line MCF-7 and its Binding Studies With BSA, Amol A. Shedge, A. V. Pansare, J. M. Jawale, V. R. Patil, (2017), **201721003510.**
 20. Ultrasonically modified synthesis of Curcumin-Al nanocomposites and its binding studies with BSA and in-vitro anticancer activity on Human Breast Cancer Cell Line MCF-7, Amol A. Shedge, A. V. Pansare, J. M. Jawale, V. R. Patil, , (2017), **201721003509.**
 21. Method for preparing fluorine based polymers by microwave irradiation assisted polymerisation, Rupashri K. Kadu, Pramod B. Thakur, Vishwanath R. Patil, (2017), **201721032014.**
 22. Synthesis of new fluorine based co-polymers containing polyphenylene substituted dendronised framework, Rupashri K. Kadu, Pramod B. Thakur, Vishwanath R. Patil, (2017), **201721032015.**
 23. Process for preparation of fluorene based polymers Via Nickel(0) mediated, microwave assisted polymerisation, Pramod B. Thakur, Vishwanath R. Patil, (2017), **201721032016.**
 24. Preparation of Curcumin-Fe nanocomposites using simple ultrasonication method and its binding behavior studies with BSA and In-vitro anticancer activity on Human Breast Cancer Cell Line MCF-7, Amol A. Shedge, A. V. Pansare, K. J. Donde, V. R. Patil, (2018), **IN 201721003516 A 20180803.**
 25. In-Vitro Anticancer Activity on Human Breast Cancer Cell Line MCF-7 by Ultrasonically Synthesized Curcumin-Vanadium Nanocomposites and its Binding Behavior with BSA, Amol A. Shedge, A. V. Pansare, K. J. Donde, V. R. Patil, (2018), **IN 201721003506 A 20180803.**
 26. Synthesis of Curcumin-Cu Nanocomposites by Simple Ultrasonication Method and its Evaluation of In-Vitro Anticancer, Binding With BSA, A. V. Pansare, A. A. Shedge, Muthurajan H., V. A. Bambole, R. N. Kamble, V. R. Patil, (2018), **IN 201721003517 A 20180803.**
 27. Ultrasonically synthesized Curcumin-La nanocomposites and its application for In-vitro anticancer activity on Human Breast Cancer Cell Line MCF-7 and its binding interaction with BSA, A. V. Pansare, A. A. Shedge, V. A. Bambole, R. N. Kamble, V. R. Patil, (2018), **IN 201721003515 A 20180803.**
 28. In-vitro anticancer activity on Human Breast Cancer Cell Line MCF-7 by ultrasonically synthesized Curcumin-selenium nanocomposites and its interaction with BSA, Amol A. Shedge, A. V. Pansare, J. M. Jawale, V. R. Patil, (2018), **IN 201721003513 A 20180803.**

29. Ultrasonic-assisted synthesis of Curcumin-Au nanocomposites for binding behavior with BSA and their in-vitro anticancer activity, Amol A. Shedge, A. V. Pansare, J. M. Jawale, V. R. Patil, **(2018), IN 201721003514 A 20180803.**
30. Curcumin- Nanotitanium Composites Synthesis by Ultrasonic Method and Their Binding Behavior with BSA as well as In-Vitro Anticancer Activity on MCF-7 Cancer Cell Line, A. A. Shedge, A. V. Pansare, V. A. Bambole, R. N. Kamble, V. R. Patil, **(2018), IN 201721003511 A 20180803.**
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32. Ultrasonic-assisted synthesis of Curcumin-Ag nanocomposites for In-vitro anticancer activity on Human Breast Cancer Cell Line MCF-7 and their binding behavior with BSA, Amol A. Shedge, A. V. Pansare, V. R. Patil, **(2018), IN 201721003508 A 20180803.**
33. Ultrasonic Synthesis of Curcumin-Co Nanocomposites for In-Vitro Anticancer Activity and Their Interaction with BSA, A. V. Pansare, A. A. Shedge, Muthurajan H., V. A. Bambole, R. N. Kamble, V. R. Patil, **(2018), IN 201721003505 A 20180803.**

Collaborations

Sr. No.	Collaboration	Year
1	Harvard University, USA	2017 till date
2.	Swiss Federal Laboratory, Switzerland	2019 till date
3.	Shenzhen University, China	2018 till date
4.	Huazhong University, China	2018 till date
5.	IIT Bombay	2018 till date
6.	NCL, Pune	2017 till date
7.	National Centre for Nanosciences and Nanotechnology, University of Mumbai	2017 till date
8.	Department of Biotechnology, University of Mumbai	2017 till date
9.	Ramnarain Ruia Autonomous College, Mumbai	2004 till date

Foreign Universities Visited

No.	Name of University	Purpose of visit
1.	University of Mauritius	Conference (12 th May, 2017-16 th May, 2017)
2.	Harvard University	Collaborative Research Project (9 th May, 2018-23 rd May, 2018)

Book published

Name of the text book	Year	ISBN	Publisher
Concise graduate Chemistry -IV, University text book of Chemistry, F.Y.B.Sc. Semester II, Paper II	April 2021	ISBN: 978-81-942249-6-9	University of Mumbai

Member of various committees

- Chairman, Board of Studies in Chemistry, University of Mumbai.
- Member, Board of Innovation, Incubation, and Linkages, University of Mumbai.
- Member, Board of Science and Technology, University of Mumbai.
- Member, Academic Council, University of Mumbai.
- Member, Research and Recognition Committee, University of Mumbai.
- Member, Board of Studies in Chemistry, at Pratap College, Amalner, Affiliated to North Maharashtra University, Jalgaon.
- Member, Board of Studies in Chemistry, at CKT College, Panvel, Affiliated to University of Mumbai.
- Member, Board of Studies in Chemistry, at Kirti College, Affiliated to University of Mumbai.

Conferences organized

1. International Conference in Emerging Trends in Chemical Sciences, 23rd –25th January, 2007 (**Worked as organizing committee member**).
2. National Seminar on Nanomaterials, 28–29 March 2008 (**Worked as organizing committee member**).
3. National Conference on Chemistry of Materials (NCCM-2009), 20–21 February 2009 (**Worked as organizing committee member**).
4. National Conference on Synthesis and Applications of Novel Materials (NCSANM-2010), 4–5 March, 2010 (**Worked as organizing committee member**).
5. International Conference on Supramolecular Chemistry and Nanomaterials (ICSN-2011), 14–16 February, 2011 (**Worked as organizing committee member**).
6. National Conference on Advances in Synthetic and Materials Chemistry (NCASMC-2014), 10–11 March 2014 (**Worked as a Secretary**).
7. National Conference on **Advances and Innovations in Chemical Sciences, (NCAICS-2015), February 12-13, 2015 (Worked as organizing committee member)**.
8. National Conference on Recent Developments in Chemical Sciences (RDCS-2018) (on the eve of 50 Years Golden Jubilee Year Celebration of Department), 8th - 9th March 2018 (**Worked as organizing committee member**).

Our Research Related News Links

On Antiviral Coatings

<https://timesofindia.indiatimes.com/city/mumbai/mumbai-doctors-may-soon-be-dressed-to-kill-virus-thanks-to-nanotech-research-at-varsity/articleshow/75592031.cms>

https://maharashtratimes.com/maharashtra/mumbai-news/the-doctor-will-be-safer/articleshow/75581160.cms?utm_source=Whatsapp_Wap_stickyAS&utm_campaign=mtmobile&utm_medium=referral

<https://www.lokmat.com/mumbai/university-mumbai-develops-antiviral-nano-coatings/>

<https://www.marathiebatmya.com/covid-19-university-of-mumbai/>

<https://youtu.be/RiIT631R0h0>

https://twitter.com/uni_mumbai/status/1257988453536600064?s=12

On Invisible Barcoding

<https://youtu.be/4aRxHIisjZw>

<https://youtu.be/aozxnEcVka0>
