

Prof. (Dr.) Anil Vithal Ghule, M.Sc., Ph. D., L.L.B., L.L.M.

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Male, born on August 6, 1973, married
Languages known: English, Marathi, Hindi, Chinese-Mandarin, German

CAREER OBJECTIVE

Present objective is to establish a group and alliances to work at the interface of chemistry, nanoscience, and biotechnology. To utilize knowledge, analytical skills, and experience to explore multidisciplinary research to create novel materials, advance technologies, and provide technical support to groups with common interests. Interested in developing room temperature operated efficient gas sensors, energy generation and storage, green solar cells, supercapacitors, electrocatalyst for water splitting (HER and OER), battery materials for energy, environmental, technological and biomedical applications (antibacterials suites, bioactive glasses and artificial bone materials), most in which he probes for greener elements.

HIGHLIGHTS

Career motivated, good adaptability, a self-starter, and a good team player with a keen eye for details. Seventeen years of multidisciplinary research experience. Good experience of working on academic and industrial research projects. Hands-on experiences with modern material characterization and analytical tools. Developed coupled TGA-thermo-Raman spectroscopy for *in situ* monitoring of the thermal processes. A simple green chemistry approach of ultrasound assisted coating of thermolabile substrate (paper) with metal oxide nanoparticles (ZnO, TiO₂) without the aid of binders is also developed (Patent pending). Developed a green and energy economic process to coat and/or impregnate nanomaterials into wood imparting it antibacterial, anti-termite and fire retardancy property (Patent pending). Presently working on dye/quantum dots sensitized Solar Cells as clean alternative energy generation and storage devices. Capable of independent research and also have experience of supervising Ph.D. and master students projects. Have excellent English language skills to compile scientific proposals and research papers. Sound knowledge of computer applications in research activities. **Present research *h-index* is 43 and *i-10 index* is 123 with 170+ scientific publications, 7 under review/under preparation and 183+ invited talk. Present citation index is 5684 (times cited).**

RESEARCH/ADMINISTRATIVE EXPERIENCE

1. Nov 2025-Oct 2026, **Brain Pool Fellow, National Research Foundation, South Korea** (Chonnam National University)
2. Sept 2024-Present, **Senior Professor of Analytical Chemistry**, Department of Chemistry, Shivaji University, Kolhapur, Maharashtra, India.
3. Sept 2014-Sept 2024, **Professor of Analytical Chemistry**, Department of Chemistry, Shivaji University, Kolhapur, Maharashtra, India.

President, NTHU Alumni Association India Chapter

Chairman, BOS, Chemistry and Chemical Engineering, Shivaji University, Kolhapur

Member, BOS, Chemistry and Chemical Engineering, Shivaji University, Kolhapur

Member, BOS, Chemistry, Bagalkot University, Jamkhandi, Karnataka

Board of Research Recognition Committee, Savitribai Phule Pune University (SPPU), Pune

Board of National and International Linkages Member of Shivaji University, Kolhapur

Board of Examination Member of M.Sc. Chemistry, Rani Channamma University, Belgaum, Karnataka

Board of Examination Member of M.Sc. Industrial Chemistry, Kuvempu University, Shimoga, Karnataka

Board of Technical Development Member, Shivaji University, Kolhapur.

Board of Studies Member, Bagalkot University, Karnataka

Board of Studies Member, PDEA Prof. Ramkrishna More Arts, Commerce and Science College, Akurdi Pune

Board of Studies Member, TKET, Warananagar

Board of Studies Member, DKET, Ichalkaranji

Board of Studies Member, Walchand College of Engineering, Sangli.

Board of Studies Member, SGM, Karad

Academic Council Member, Yashwantrao Chavan Institute of Science, Satara

Board of Studies Member, Vivekanand College, Kolhapur

4. April 2016-Oct 2022, **Director, International Affairs Cell**, Shivaji University, Kolhapur, Maharashtra, India
5. Oct 2016-Dec 2021, **Director, Intellectual Property Rights (IPR)**, Shivaji University, Kolhapur, Maharashtra, India
6. March 2016- Oct 2022, **Task Force Member** representing Shivaji University, Kolhapur, **Globalization of Higher Education**, Govt. of Maharashtra, India.
7. June 2013-Sept 2014, **Co-ordinator, Intellectual Property Rights (IPR)**, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, India
 - ❖ Creating awareness about IPR among the faculties and students of the University and affiliated colleges of the University through awareness camps.
 - ❖ Encourage quality multidisciplinary research by inculcating collaborative research projects.
8. Sept 2009-Sept 2014, **Assistant Professor**, Department of Nanotechnology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, India
 - ❖ Green Nanotechnology for various technological applications (e.g. Develop Green Solar Cells and Green Gas Sensors, Nanobiotechnology, Nano in Agriculture).
9. Sept 2008-Sept 2009, **Brain Korea 21 Fellow**, Department of Chemistry, Hanyang University, Sung-Dong-Ku, Haengdang-dong 17, Seoul, Korea
 - ❖ Design, fabrication and investigating the solar-to-electrical power conversion efficiency of dye/quantum dots sensitized solar cells.
 - ❖ Developing novel synthetic approaches for synthesis of nanostructured solar cell electrodes and materials for improved efficiency and performance.
 - ❖ Nanogreen Solar Cell: Exploring “Green chemistry” approach in designing and fabrication of solar cell
10. April 2008-Sept 2008, **Research Associate**, Department of Chemistry, Hanyang University, Sung-Dong-Ku, Haengdang-dong 17, Seoul, Korea.
 - ❖ ZnO based dye sensitized solar cells and its hybrid combination for improved conversion efficiency.
11. May 2007-March 2008, **Postdoctoral Research Scholar**, Nevada Nanotechnology Center, University of Nevada, Las Vegas, USA.
 - ❖ Setting Nanomaterials Chemical Synthesis Laboratory
 - ❖ Electrochemical process for synthesizing porous alumina templates and growing metal/semiconducting materials (ZnO, CdTe) into the porous alumina templates.
 - ❖ Developed a green and energy economic power ultrasound based treatment process to coat and/or impregnate nanomaterials into wood imparting it antibacterial, anti-termite and fire retardancy property. This work has potential significance considering the increased emphasis on “Green” chemistry and the fact that wood is most reliable and widely used construction material in the US.
12. Jan. 2004-Apr. 2007, **Postdoctoral Research Associate**, Dept. of Chemistry, National Tsing Hua University, Taiwan. Green chemistry and biomimetic synthesis of nanoparticles for analytical and biomedical applications.
 - ❖ Biological synthesis of metal (silver and gold nanoparticles, nanoprisms and nanorods) and magnetic nanoparticles intended for analytical and biomedical applications (disease diagnosis and hyperthermia of cancer cells). Surface-modification of magnetic nanoparticles with semiconductor based photocatalyst and adsorbents for dechlorination of wastewater and analytical separation, respectively.
 - ❖ Design and development of photoreactor (capable of working day and night) and semiconductor based photocatalysts for CO₂ reduction (artificial photosynthesis).
 - ❖ Developed for the first time a simple green chemistry approach of ultrasound assisted coating of paper/cotton fibers with metal (silver) and metal oxide nanoparticles (ZnO, TiO₂) without the aid of binders (Patent pending). Nanoscale coatings or thin films of ZnO and TiO₂ are viewed with great interest for their potential applications as substrates for functional coatings, optical communications (security-papers), portable energy, sensors, and photocatalytic wallpaper with antibacterial activity. Paper and cotton fibers coated with ZnO, TiO₂, and silver nanoparticles were found to possess antibacterial activity and might find potential applications in suites for 21st century to combat bioterrorism.
 - ❖ Use of combined effect of supercritical CO₂ and sonication in improved photoresist stripping process.
 - ❖ Handled and resolved the analytical problem put forth by Taiwan salt company on investigation of the contaminants in salt obtained as byproduct during polymer synthesis process.

13. Sept. 2000-Dec. 2003, **Ph. D. Research Scholar**, Dept. of Chemistry, National Tsing Hua University, Taiwan.
 - ❖ Synthesis of metal and metal oxide nanoparticles of industrial and technological importance, their characterization using analytical and material characterization techniques.
 - ❖ *In situ* monitoring of thermal processes during the synthesis of metal oxide nanoparticles using coupled TGA-thermo-Raman spectroscopy and thermo-TOF-SIMS.
 - ❖ Processing of CNTs and synthesis of metal nanoparticles in supercritical water.
 - ❖ Synthesis and processing of CNTs, protein-CNT interactions, and prevention of protein aggregation. The role of CNTs in preventing TFE induced aggregation of protein (h-FGF) was investigated with the intention of developing artificial molecular chaperones. This has potential implications against amyloid diseases and in nanoparticle-based drug design.
 - ❖ Separation and analysis of carbohydrates and proteins from seeds obtained at different maturation stages using electrospray ionization (ESI-MS) and MALDI-TOF mass spectrometry.
 - ❖ ESI-MS based methodology for analysis of carbohydrates. Using alkali metal salts for stable adduct ion formation. Effect of acidic, basic, and neutral pH of the sample on ionization and detection was also investigated.
 - ❖ Contributed in development of analytical methodologies using chemical ionization GC-MS (introduced novel tetrahydrofuran and furan as new CI reagents).
 - ❖ Developed thermogravimetric analysis based simple method for estimation of stickiness in raw unprocessed cotton used in textile mills to get first hand information of the quality of cotton.
14. Oct. 1998-Aug. 2000, **Research Assistant**, Dept. of Chemistry, National Tsing Hua University, Taiwan.
 - ❖ Monitoring of structural, compositional changes, and phase transformations using thermo-Raman spectroscopy. Further, simultaneous measurement of electrical properties and structural information was also successfully achieved.
 - ❖ Investigated phase transition and dielectric properties of pure and doped BaTiO₃ having potentials applications in DRAM.
 - ❖ Investigated thermal and laser induced structural transformations in MoO₃ using thermo-Raman spectroscopy.
 - ❖ Investigated *in situ* monitoring of structural, compositional changes, phase transformations and dielectric properties of different sodium phosphate salts in dynamic thermal process using thermo-Raman spectroscopy.
15. Jun. 1997-May 1998, **M. Sc. projects** under the guidance of Dr. D. G. Naik in Agarkar Research Institute, Pune, India.
 - ❖ Synthesis and characterization of martius yellow and its derivatives.
 - ❖ Developed analytical method for quantitative analysis of dyes in effluent water. This work was supported by Dia-ichi Karkaria Chemical Industry Ltd., Pune, India.
16. Jan. 1996-May 1996, **Chemist in Central Pigment Testing Laboratory (CPTL)** of Sudarshan Pigments and Chemical Industry Ltd., Pune, India.
 - ❖ Work involved analysis and testing of physical and photochromic properties of pigments used in oil paints, textiles, plastics, rubber, oil bond, distempers etc.

EXPERIMENTAL TECHNIQUES /INSTRUMENTS HANDLED

- ❖ Ultraviolet-vis spectrophotometer (Hitachi U-3010, MeterTech T6), UV-vis/NIR (Jasco V-570)
- ❖ Photoluminescence Spectroscopy, Fluorescence Spectroscopy (Hitachi F-2500), Circular Dichroism (CD) (JASCO)
- ❖ Infrared Spectroscopy (FTIR- Bomem Hartmann and ATR-FTIR-Perkin Elmer)
- ❖ Raman Spectroscopy (Spex), Thermo-Raman spectroscopy (TRS) (Home built)
- ❖ NMR Spectroscopy (Unity 400), Atomic absorption (Perkin Elmer)
- ❖ Supercritical fluid systems (CO₂ and H₂O) (ISCO, Inc. homebuilt system)
- ❖ Ion chromatography (Metrohm 761 Compact IC)
- ❖ Conventional and modern extraction techniques like sonic extraction, accelerated solvent extraction (ASE), microwave extraction, solid phase extraction (SPE), solid phase micro extraction (SPME)
- ❖ Cyclic Voltametry (CHI 440), Keithly Source meter 2400
- ❖ Gas chromatography and mass spectroscopy (GC-MS) EI and CI ionization (Varian 3400CX-Saturn 2000)
- ❖ High performance liquid chromatography (HPLC)
- ❖ ESI and APCI mass spectroscopy (ESI/APCI-MS, LCQTM DUO, ThermoFinnigan)
- ❖ MALDI-TOF mass spectroscopy (Hewlett Packard)
- ❖ Time of Flight Secondary Ionization Mass Spectrometry (TOF-SIMS, ION-TOF)
- ❖ Powder X-ray diffraction (P-XRD- MAC, Rigaku), X-ray photoelectron spectroscopy (XPS-Perkin Elmer PHI-1600)
- ❖ Scanning Electron Microscopy (FE-SEM-Hitachi S-4700)
- ❖ Transmission Electron Microscopy (TEM) (Familiar with Philip Tecnai 20)
- ❖ Electron diffraction X-ray Spectroscopy (EDS), Electron Energy Loss Spectroscopy (EELS)

- ❖ Thermogravimetry Analysis (Perkin Elmer TGA6, Seiko), Differential Scanning Calorimeter, Differential Thermal Analysis (Seiko)
- ❖ LCR meter (Stanford Research Systems-SR720), α -step surface profile meter (Dektak 3030)
- ❖ Atomic Force Microscopy (AFM, PSIA, XE-100)
- ❖ Water contact angle analyzer (Surface Electro-Optics, Phoenix 150)
- ❖ Home built DC arc discharge and hydrothermal system for synthesis of multiwall carbon nanotubes (MW-CNTs).
- ❖ Dynamic light scattering (Zetasizer Nano series, Malvern instruments)
- ❖ Sonochemistry for nanomaterial synthesis
- ❖ Photocurrent analyzer (Thermo Oriel)
- ❖ High Vacuum Deposition (HindVac)
- ❖ Gas Sensing Unit (Home built system)
- ❖ Planetary ball milling unit (Retsch, Germany)

EDUCATION

- ❖ 2025, **German Certificate Course, (Distinction)** Department of Foreign Languages, Shivaji University, Kolhapur.
- ❖ 2025, **The Goethe-Zertifikat German A1 Exam, Geotho Institute, Germany** conducted by **Geotho Institute, Pune**
- ❖ 2015, **L.L.M. (Business Law)**- pursued since 2014 and **completed successfully with special interest in Intellectual Property Rights (IPR).**
- ❖ 2013, **L.L.B. (First Class)**, pursued since 2010 to explore the field of **Patents and Intellectual Property Rights (IPR)** as core interest. Successfully completed L.L.B Final.
- ❖ 2003, **Ph.D.**, Department of Chemistry, National Tsing Hua University, Hsinchu, Taiwan.
Thesis entitled “**Synthesis, characterization, and technological applications of carbon nanotubes and metal oxide nanomaterials.**” (Advisor: Prof. Y. C. Ling)
- ❖ 1998, **M. Sc. Chemistry (First Class)**, Department of Chemistry, University of Pune, Maharashtra, Pune, India.
- ❖ 1996, **Post Graduate Diploma in Industrial & Analytical Chemistry, (First Class)** S.P.College, University of Pune, Maharashtra, Pune, India.
- ❖ 1996, **B.Sc., Botany (First)**, Department of Botany, B. G. College, University of Pune, Maharashtra, Pune, India.
- ❖ 1995, **B.Sc., Chemistry (Distinction)**, Department of Chemistry, B. G. College, University of Pune, Maharashtra, Pune, India.

TEACHING EXPERIENCE

- ❖ Senior Professor, Department of Chemistry, Shivaji University, Kolhapur (Sept 2024- present)
- ❖ Professor, Department of Chemistry, Shivaji University, Kolhapur (Sept 2014- Sept 2024)
- ❖ Assistant Professor, Department of Nanotechnology, Dr. B.A.M.U., Aurangabad (Sept 2009- Sept 2014).
- ❖ Contributory teaching, Department of Chemistry, Dr. B.A.M.U., Aurangabad (Sept. 2009- Sept 2014).
- ❖ Lecturer of Chemistry, YM College, Bharati Vidyapeeth, Pune, India (Jun. 1998-Sept. 1998)
- ❖ Teaching assistant, National Tsing Hua University (Sep. 2002-Jun. 2003).
- ❖ Experience of teaching in academic coaching classes (part time since 1989-1995).

COMPUTER SKILLS

- ❖ Operating System: DOS, Windows, and Linux.
- ❖ Software: Basic programming, graphics, and most of the chemistry related softwares.

AWARD/HONOURS

- ❖ **Brain Pool Fellow, National Research Foundation, South Korea (Chonnam National University)**
- ❖ **President, NTHU Alumni Association, India Chapter**
- ❖ **Chairman, Board of Studies**, Chemistry and Chemical Engineering, Shivaji University, Kolhapur
- ❖ **Board of Studies Member**, Chemistry and Chemical Engineering, Shivaji University, Kolhapur
- ❖ **Board of Research Recognition Committee**, Savitribai Phule Pune University (SPPU), Pune
- ❖ **Board of National and International Linkages Member** of Shivaji University, Kolhapur
- ❖ **Board of Examination Member of M.Sc. Chemistry**, Rani Channamma University, Belgaum, Karnataka
- ❖ **Board of Examination Member of M.Sc. Industrial Chemistry**, Kuvempu University, Shimoga, Karnataka
- ❖ **Board of Technical Development Member**, Shivaji University, Kolhapur.
- ❖ **Board of Studies Member**, Bagalkot University, Karnataka
- ❖ **Board of Studies Member**, PDEA Prof. Ramkrishna More Arts, Commerce and Science College, Akurdi Pune

- ❖ **Board of Studies Member**, TKET, Warananagar
- ❖ **Board of Studies Member**, DKET, Ichalkaranji
- ❖ **Board of Studies Member**, Vivekanand College, Kolhapur
- ❖ **Board of Studies Member**, Walchand College of Engineering, Sangli.
- ❖ **Academic Council Member**, Yashwantrao Chavan Institute of Science, Satara
- ❖ **Indian National Science Academy (INSA) Fellowship to visit Israel (2 weeks)** under International Bilateral Collaboration/Exchange Programme during 2018.
- ❖ Guest of Honour for inauguration of the workshop “**Review of Progress in Nanoscience**” **February 13, 2015**, organized by **New Arts, Commerce and Science College, Ahmednagar.**
- ❖ **Chief-Guest for Valedictory Function**, National Seminar on “**Emerging Trends and Challenges in Chemical Sciences**” January 23-24, 2014, **Arts Commerce and Science College, Kille-Dharur, Beed, January 24, 2014.**
- ❖ **Chief-Guest for Valedictory Function**, Workshop on Nanotechnology-2013, September 15-17, 2013, Marathwada Institute of Technology (MIT), Aurangabad, Sept. 17, 2013
- ❖ **Co-ordinator, Intellectual Property Rights (IPR)**, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, India
- ❖ **Shikshak Pratibha Puraskar 2010**
- ❖ Was selected as faculty of Applied Chemistry, **Defense Institute of Advanced Technologies (DIAT), Government of India**, Girinagar, Pune
- ❖ **Brain Korea 21 (BK-21) Fellow**, South Korea (Hanyang University)
- ❖ **Postdoctoral fellowship** by University of Nevada, Las Vegas, (May 2007- March 2008).
- ❖ **Postdoctoral fellowship** by National Science Council, Taiwan, R.O.C. (Jan. 2004- April 2007).
- ❖ **Ph.D. fellowship** funded by National Science Council, Taiwan, R.O.C. (Sept. 2000-Dec. 2003).
- ❖ Scholarship of merit for foreign students **Scholarship by Ministry of Education**, Taiwan (Aug. 2002-Jul. 2003).
- ❖ President of **Foreign Students Association**, National Tsing Hua University, Taiwan (Aug. 2001- Dec. 2003).
- ❖ State government **Eklavya** Scholarship for M.Sc. (Jun. 1996-May 1998).
- ❖ Best student award in school (Vidya Bhavan High School, Pune), 1988.

PATENTS

- ❖ Bioactive Glass-Turmeric Composite Coated Cellulose-based Flexible Scaffold Prepared from Recycled Biowaste for Bone Tissue Engineering Application and the Method of Preparation for the same (**Indian Patent-Appl. No 202421013872**)
- ❖ Process for Fabricating Bio-Mediated Synthesized Zinc Oxide Coated Cotton Fabric for Antibacterial and Wound Healing Application (**Indian Patent-Appl. No 202421029801**)
- ❖ Coating and impregnation of ZnO nanoparticles using power ultrasound to impart fire retardancy, antitermite and antibacterial properties to wood samples. (Pending)
- ❖ Ultrasound Assisted Simple “Green” Chemistry Approach for Coating ZnO and TiO₂ Nanoparticles on Paper/Cotton/Cellulose based Material Surface and its Applications. Taiwan Patent (Others Pending)
- ❖ Simple and green biogenic approach for extracellular and intracellular synthesis of silver and gold nanoparticles using seeds from *Leguminosae* family. (Pending)
- ❖ Pyridine intercalative sonochemical synthesis of α -Bi₂Mo₃O₁₂ phase nanorods. (Pending)
- ❖ Novel *p*-Cu₂S/*n*-CdS semiconducting thin-film phototransistor prepared by wet chemical route (Pending)
- ❖ Economic approach towards fabrication of Nano-Green Solar Cell (under preparation)

JOURNAL EDITORSHIP/EDITORIAL BOARD MEMBER

- ❖ Editor of “**International Journal of Nanoscience and Technology**”.
- ❖ Editorial Board Member “**Journal of Chemistry and Applied Biochemistry**”.
- ❖ Editorial Board Member “**Journal of Advanced Nano Research**”.
- ❖ Editorial Board Member “**Nanotechnology and Materials Science**”.

JOURNAL REFEREE

❖ ACS Applied Electronic Materials	❖ ACS Applied Energy Materials
❖ ACS Applied Materials & Interfaces	❖ Chinese Chemical Letters
❖ ACS Sustainable Chemistry and Engineering	❖ Advance Materials Processing Technology
❖ Acta Pharmacologica Sinica	❖ Applied Physics Letters
❖ Advanced Nano Research	❖ Advanced Energy Materials
❖ Applied Organometallic Chemistry	❖ Advanced Nano Research
❖ Applied Physics A	❖ Frontiers in Chemistry

❖ Carbon	❖ Thermochimica Acta
❖ Chemistry of Materials	❖ Inorganic Chemistry Communications
❖ Colloids Surfaces B	❖ Material Chemistry and Physics
❖ Electrochimica Acta	❖ Chem Sus Chem
❖ Energy and Fuels	❖ Intl Journal of Hydrogen Energy
❖ Fuel	❖ Journal of Energy Storage
❖ Green Chemistry Letters	❖ ChemistrySelect
❖ J. Asso. Arab Univ. for Basic and Applied Sciences (JAAUBAS)	❖ Polymers
❖ Journal of American Society for Mass Spectrometry	❖ Journal of Material Science
❖ Journal of Chromatography A	❖ RSC Advances
❖ Journal of ElectroAnalytical Chemistry	❖ Applied Surface Science
❖ Journal of Material Science	❖ Indian Journal of Materials Science
❖ Journal of Materials Science: Materials in Electronics	❖ Solar Energy
❖ Journal of Petroleum and Gas Engineering (JPGE)	❖ Journal of Luminescence
❖ Journal of Solid State Chemistry	❖ Industrial & Engineering Chemistry Research
❖ Journal of the American Chemical Society	❖ Advanced Materials
❖ Langmuir	❖ Journal of Nanoparticle Research
❖ Materials Research Bulletin	❖ Materials Letters
❖ Materials Science in Semiconductor Processing	❖ Rare Metals
❖ Nanotechnology	❖ Journal of Applied Physics
❖ Process Biotechnology	❖ Chemical Engineering Journal
❖ Rapid Communications in Mass Spectrometry	❖ Surface Coating Technology
❖ Sensor Letters	❖ Journal of Alloys and Compounds
❖ Surface and Interfaces	❖ Material Science and Engineering
❖ Sustainable Energy Technologies and Assessments	❖ Vacuum
❖ ES Energy and Environment	❖ ES Materials and Manufacturing
❖ Green Chem Letts	❖ Journal of Colloids and Interfaces
❖ Journal of Power Sources	❖ Material Science and Engineering
❖ Materials Research Express	❖ Nanoscale
❖ New Journal of Chemistry	❖ Journal of Material Chemistry A & B

RESEARCH GUIDE

1. Department of **Chemistry**, Shivaji University, Kolhapur.
2. Department of **Nanotechnology/Multidisciplinary Guideship**, Dr. BAMU, Aurangabad.
3. Department of **Chemistry**, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
4. Department of **Chemical Technology**, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

PUBLICATIONS

Papers under preparation/communicated

1. **Anil Vithal Ghule**, Coating and impregnation of ZnO nanoparticles using power ultrasound to impart fire retardancy, antitermite and antibacterial properties to wood samples: A green chemistry approach (under preparation).
2. **Anil Vithal Ghule**, Kalyani Ghule, Bo-Jung Chen and Yong-Chien Ling, Ultrasound assisted “Green” chemistry approach for nanoscale coating of TiO₂ nanoparticles on paper surface: A step forward for its application as antibacterial wall papers, **Advanced Functional Materials** (communicated).
3. **Anil Vithal Ghule**, Ramphal Sharma, Abhay Sagade, Kalyani Ghule, Arindam Ghosh, Byung-Ho Kil, T. Ganesh, Rajaram S. Mane, N. N. Maldar, Yong-Chien Ling and Sung-Hwan Han, Room Temperature Gas-Sensing Properties of ZnO Nanoparticle Coated Paper: A Step toward Nano-Green Gas Sensors **Advanced Materials** (under preparation)
4. **Anil Vithal Ghule**, Byung-Ho Kil, Ramphal Sharma, Rajaram S. Mane, N. N. Maldar, Gangri Cai and Sung-Hwan Han, Economic approach towards fabrication of Nano-Green Solar Cell, **Advanced Functional Materials** (Communicated)
5. Shital S. Shendage and **Anil Vithal Ghule**, A Bioactive Glass/Polymer Composite and their Preparation Methods for Bone Tissue Engineering Application: A Review (**Under Preparation**)

Papers published

6. Shital S. Shendage, Gokul Kamble, Rutuja Chavan, Namdeo R. Jadav, and **Anil Vithal Ghule**, Engineering of artificial bone and its parameters using biomaterials, **Biomaterials Science (Submitted) (IF-7.5)**

7. Shital S. Shendage, and **Anil Vithal Ghule**, Nanohydroxyapatite for Bone Tissue Engineering Application. **Colloids and Surfaces B: Biointerfaces (Submitted)**
8. Kranti S. Kachare, Shital S. Shendage, Shirishkumar B. Vhanbatte, **Anil Vithal Ghule**, **2025**, Sustainable Antibacterial Fabrics: Zinc Oxide/Starch Coated Cotton for Biomedical Textile Applications, **Polymer**, (Submitted) **(IF-4.4)**
9. Rutuja A. Chavan, Gokul P. Kamble, Akash S. Rasal, Sanjay S. Kolekar, Jia-Yaw Chang, and **Anil Vithal Ghule**, **2025**, Rotational Chemical Bath Deposited Flexible MnO₂/MXene Thin Film as an Electrode for All Solid State Asymmetric Supercapacitor, **Nanotechnology (ASAP) (IF-3.953) (ISSN 1361-6528)**
10. Desta M Ulisso, Pooja K Bhoj, Sanjay S Kolekar, Jaeyeong Heo, **Anil Vithal Ghule**, **2025**, A core-shell heterostructured nickel manganese layered double hydroxide@ZnCo₂O₄ nanocomposite electrode for enhanced asymmetric supercapacitor applications, **Sustainable Energy & Fuels, (ASAP), (IF-4.1) (ISSN: 2398-4902).**
11. Kranti Kachare, Shital S. Shendage, Nikita Shinde, Shivaji B. Kashte, Shirishkumar Vhanbatte, Ruey-an Doong, and **Anil Vithal Ghule**, **2025**, Surfactants Increase the Durability and Antibacterial Performance of ZnO-Coated Cotton, **ACS Applied Nano Materials**, **8**, (26), 13563-13572, **(IF-5.5)(ISSN :2574-0970).**
12. S Kizhepat, AS Rasal, GG Demissie, V Gurav, **Anil Vithal Ghule**, and JY Chang, **2025**, Unveiling the impact of Mott-Schottky nn junction in NiCo₂O₄/Co(OH)₂ FeOOH heterostructure for enhanced supercapacitor performance, **Journal of Power Sources**, 649, 237435. **(IF-7.9)(ISSN :0378-7753).**
13. DM Ulisso, PK Bhoj, BD Potadar, SS Kolekar, JY Chang, J Heo, and **Anil Vithal Ghule**, **2025**, Morphological engineering of core-shell hetero-structured zinc cobalt layered double hydroxide@ CuCo₂O₄ for enhanced supercapacitor applications, **Journal of Power Sources**, 648, 237431. **(IF-7.9)(ISSN :0378-7753).**
14. Pooja K. Bhoj, Desta M. Ulisso, Jyotiprakash B. Yadav, Jyotiprakash B. Yadav, Bhaskar R. Sathe, Hyojung Bae, Pratik Mane, Jun-Seok Ha, I-Wen Peter Chen, Jaeyeong Heo, Jia-Yaw Chang, and **Anil Vithal Ghule** **2025**, Vertically aligned 3D core-shell CuO/ZnCO₂O₄ on flexible support for efficient and scalable electrochemical water splitting, **Journal of Materials Chemistry A**, **13** (22), 16981-16994 **(IF-10.7)(ISSN :2050-7496).**
15. Akash S Rasal, TM Subrahmanya, Shamsa Kizhepat, Girum Getachew, **Anil Vithal Ghule**, Rupesh S Devan, Wei-Song Hung, Mochamad Z Fahmi, Aswandi Wibrianto, Jia-Yaw Chang, **2025**, Carbon quantum dots: Classification-structure-property-application relationship for biomedical and environment remediation, **Coordination Chemistry Reviews**, 533, 216510. **(IF-20.3) (ISSN: 0095-8972)**
16. Kranti S. Kachare, Shital S. Shendage, Shirishkumar B. Vhanbatte, Fu-Der Mai, **Anil Vithal Ghule**, **2025**, Comparative Assessment of the Antibacterial Property of Cotton Fabric Coated with the Zinc Oxide Nanoparticles Synthesized Using Chemical and Green Approach, **ChemistrySelect** 10 (3), e202404511 **(IF-2.7) (ISSN: 2365-6549)**
17. Shital S. Shendage, Kranti Kachare, Kajal Gaikwad, Shivaji Kashte, Anil Vithal Ghule, **2025**, Cellulose-Based Bioactive Material and Turmeric Impregnated Flexible and Biocompatible Scaffold for Bone Tissue Engineering Application, **Journal of Material Chemistry-B**, **13**, 4570-4581, **(IF-7.2) (ISSN 2161-6221)**
18. Kranti S. Kachare, Shital S. Shendage, Shirishkumar B. Vhanbatte, **Anil Vithal Ghule**, **2024**, Synthesis, characterization, and antibacterial study of chitosan-zinc oxide nanocomposite coated superhydrophobic cotton fabric, **RSC Advances**, 14 (46), 33774-33783 **(IF-3.9) (ISSN 2046-2069)**
19. Pooja K. Bhoj, Rutuja A Chavan, Seema A. Mane, Desta M. Ulisso, Jaeyeong Heo, IWP Chen, Jyotiprakash B. Yadav, Tukaram D. Dongale, Bhaskar R. Sathe, **Anil Vithal Ghule**, **2024**, Binder-free synthesis of nickel-iron-cobalt-oxide electrode for large-scale and durable oxygen evolution reaction, **International Journal of Hydrogen Energy**, 88, 604-616 **(IF-8.1) (ISSN 0360-3199)**
20. Desta M. Ulisso, Rutuja A. Chavan, Seema A. Mane, Pooja K. Bhoj, Sanjay S. Kolekar and **Anil Vithal Ghule**, **2024**, Binder-free core-shell zinc cobalt layered double hydroxide@NiCo₂O₄ flexible composite electrodes for high-performance supercapacitor, **Energy and Fuels**, 38 (19), 19064-19075. **(IF-5.3) (ISSN 0887-0624)**
21. Shital S. Shendage, Kranti Kachare, Kajal Gaikwad, Shivaji Kashte, **Anil Vithal Ghule**, **2024**, Porous calcium silicate bioactive material-alginate composite for bone regeneration application, **RSC Advances**, 14, 25740-25749. **(IF-3.9) (ISSN 2046-2069)**
22. Kranti S. Kachare, Shital S. Shendage, Sirinbanu R. Matwal, Madhuri V. Walvekar, Shirishkumar B. Vhanbatte, **Anil Vithal Ghule**, **2024**, Bio-mediated synthesized zinc oxide coated on cotton fabric for antibacterial and wound healing application, **Surface & Coatings Technology**, 491, 131171 **(IF-5.3) (ISSN 0257-8972)**
23. Heng-Huei Zeng, Akash S. Rasal, Mulu Alemayehu Abate, **Anil Vithal Ghule**, Jia-Yaw Chang, **2024**, Surface and interfacial engineering for aqueous-processed quantum dots-sensitized solar cell with efficiency approaching 11 %, **Chemical Engineering Journal**, 495, 153702. **(IF-13.3) (ISSN 0375-8699)**
24. Shital S. Shendage, Kajal Gaikwad, Shivaji Kashte, and **Anil Vithal Ghule**, **2024**, Bioactive material-sodium alginate-polyvinyl alcohol composite film scaffold for bone tissue engineering application. **International Journal of Biological Macromolecules**, 276, 133860. **(IF-8.2) (ISSN 0141-8130)**
25. S C Dhawale, R V Digraskar, **Anil Vithal Ghule**, BR Sathe, **2024**, Noble metal-free CZTS electrocatalysis: synergetic characteristics and emerging applications towards water splitting reactions, **Frontiers in Chemistry** 12, 1394191. **(IF-3.8) (ISSN 0097-3173)**
26. Worku Batu Dirersa, Tzu-Chun Kan, Jungshan Chang, Girum Getachew, Sonjid Ochirbat, Shamsa Kizhepat, Aswandi Wibrianto, Akash Rasal, Hung-An Chen, **Anil Vithal Ghule**, Tzung-Han Chou, Jia-Yaw Chang, **2024**, Engineering

- H₂O₂ Self-Supplying Platform for Xdynamic Therapies via Ru–Cu Peroxide Nanocarrier: Tumor Microenvironment-Mediated Synergistic Therapy, **ACS Applied Materials & Interfaces** 16 (19), 24172-24190 (IF-10.38) (ISSN 1944-8252)
27. Seema A Mane, Pooja K. Bhoj, Desta M. Uliiso, Annasaheb V Moholkar, and **Anil Vithal Ghule**, 2024, Effect of annealing environment on the electrochemical performance of biosynthesized V₂O₅@C thin films, **Journal of Energy Storage** 80, 110356. (IF-8.9) (ISSN 2352-152X)
 28. Seema A. Mane, Pooja K. Bhoj, Annasaheb V. Moholkar, and **Anil Vithal Ghule**, 2024, Green and Facile Synthesis of Zn₃V₂O₈-Ag@C Composite as an Efficient Electrode for Supercapacitor Application, **ChemistrySelect**, 9, 9, e202305175 (IF-2.109) (ISSN: 2365-6549)
 29. Desta M. Uliiso, Seema A. Mane, Rutuja A. Chavan, Gokul P. Kamble, Sanjay S. Kolekar and **Anil Vithal Ghule**, 2024, Multilayered Core-Shell NiCo-Layered Double Hydroxide@NiCo₂O₄ Composite Electrode for High-performance Supercapacitor, **Journal of Alloys and Compounds**, 980, 173563. (IF-6.37) (ISSN 0925-8388)
 30. Shital S. Shendage, Kajal Gaikwad, Kranti Kachare, Shivaji Kashte, Jia-Yaw Chang, and **Anil Vithal Ghule**, 2024, In-situ Silver Doped Antibacterial Bioactive Glass for Bone Regeneration Application, **Journal of Materials Science**, 1-19 (IF-4.7) (ISSN 0022-2461)
 31. Shital S. Shendage, Kajal Gaikwad, Kranti Kachare, Shivaji Kashte, and **Anil Vithal Ghule**, 2024, *In vitro* and *In vivo* study of Copper-doped Bioactive Glass for Bone Regeneration Application, **Materials Chemistry and Physics** 313, 128789 (IF-4.6) (ISSN 0254-0584)
 32. Shital S. Shendage, Vijay Ingole, Akash Rasal, Jia-Yaw Chang, Nagesh Birajdar, Arpita Pandey-Tiwari, Shivaji Kashte, Tomaz Vuherer, Gertrud Schmitt, Magali Cucchiarini, and **Anil Vithal Ghule**, 2024, Sustainable Development of Bioactive Glass from Recycled Rice Husk and Eggshell for Bone Regeneration Application, **ACS Sustainable Chemistry & Engineering** 12, 7, 2598-2610. (IF-8.4) (ISSN 2168-0485)
 33. Pooja K. Bhoj, Gokul P. Kamble, Jyotiprakash B. Yadav, Tukaram D. Dongale, Bhaskar R. Sathe, and **Anil Vithal Ghule**, 2024, Economic and binder-free synthesis of NiCo₂O₄ nanosheets on a Flexible stainless steel mesh as a bifunctional electrode for water splitting, **Applied Surface Science**, 648, 159083. (IF-7.4) (ISSN 0169-4332)
 34. Seema A Mane, Annasaheb V Moholkar, and **Anil Vithal Ghule**, 2023, A green approach for synthesis of an efficient nano pebbles-like BiVO₄@ C electrode for supercapacitor application, **Next Materials**, 1(4) 100045. (IF-3.1) (ISSN 2949-8228)
 35. Rutuja A. Chavan, Gokul Kamble, Pooja K. Bhoj, Shital Shendage, Desta Uliiso, Rushikesh Thamake, Shuaib Gajbar, and **Anil Vithal Ghule**, 2023, Metal Phosphates: Emerging Materials for Energy Storage (Review Article), **Nanomedicine and Nanotechnology**, Midwin Publisher, USA (IF-1.845) (ISSN 2574-187X)
 36. Jidnyasa Pantwalawalkar, Prachi Mhetar, Sopan Nangare, Rushikesh Mali, **Anil Vithal Ghule**, Pravin Patil, Suhas Mohite, Harinath More, and Namdeo Jadhav, 2023, Stimuli-Responsive Design of Metal-Organic Frameworks for Cancer Theranostics: Current Challenges and Future Perspective, **ACS Biomaterials: Science and Engineering**, 9(8), 4497-4526 (IF-5.8) (ISSN 2373-9878)
 37. Rutuja Chavan, and **Anil Vithal Ghule**, 2023, Influence of Binder and Solvents on the Electrochemical Performance of Screen-printed MXene Electrodes, **Nanotechnology**, 34, 375401 (IF-3.953) (ISSN 1361-6528)
 38. Rutuja Chavan, Desta Uliiso, Akash Rasal, Jia-Yaw Chang, and **Anil Vithal Ghule**, 2023, Facile synthesis of ternary MXene nanocomposites as an electrode for supercapacitive applications, **Materials Advances**, 4 (12), 2659-2666 (IF-3.953) (ISSN 2633-5409)
 39. Seema A Mane, Desta Uliiso, Anil A Kashale, Suprimkumar D Dhas, Annasaheb V Moholkar, and **Anil Vithal Ghule**, 2023, Polyethylene glycol assisted synthesis of V₂O₅ nanofibers as an efficient electrode material for symmetric supercapacitors, **Journal of Materials Science: Materials in Electronics**, 34 (8), 719 (IF-2.478) (ISSN 0957-4522)
 40. Rutuja Chavan, Gokul Kamble, Sarita Dhavale, Akash Rasal, Sanjay Kolekar, Jia-Yaw Chang, and **Anil Vithal Ghule**, 2023, NiO@MXene Nanocomposite as an Anode with Enhanced Energy Density for Asymmetric Supercapacitors, **Energy and Fuels**, 37(6), 4658-4670 (IF-5.3) (ISSN 0887-0624)
 41. Rutuja Chavan, Gokul Kamble, Anil Kashale, Sanjay Kolekar, Bhaskar Sathe, and **Anil Vithal Ghule**, 2022, Facile, Cost Effective and Eco-friendly Approach to Synthesize of Bio-MnO₂ Nanosphered Thin Film for Solid-State Flexible Asymmetric Supercapacitor, **ChemistrySelect**, 7(33), e202202166 (IF-2.109) (ISSN: 2365-6549)
 42. Seema A Mane, Anil A Kashale, Gokul P Kamble, Sanjay S Kolekar, Suprimkumar D Dhas, Meenal D Patil, Annasaheb V Moholkar, Bhaskar R Sathe, **Anil Vithal Ghule**, 2022, Facile Synthesis of Flower-like Bi₂O₃ as an Efficient Electrode for High Performance Asymmetric Supercapacitor, **Journal of Alloys and Compounds**, 926, 166722 (IF-5.316) (ISSN 0925-8388)
 43. Akash S Rasal, Ting-Ying Lee, Pei-Yun Kao, Girum Gatechew, Aswandi Wibrianto, Worku Batu Dirersa, **Anil Vithal Ghule** Jia-Yaw Chang, 2022, Composition, Morphology, and Interface Engineering of 3D Cauliflower-Like Porous Carbon-Wrapped Metal Chalcogenides as Advanced Electrocatalysts for Quantum Dot-Sensitized Solar Cell, **Small**, 18 (32) 2202133 (IF-15.15) (ISSN 1613-6829)
 44. Ganesh Gollavelli, **Anil Vithal Ghule**, Yong-Chien Ling, 2022, Multimodal Imaging and Phototherapy of Cancer and Bacterial Infection by Graphene and Related Nanocomposites, **Molecules**, 27, 5588. (IF-4.927) (ISSN 1420-3049)

45. Akash S Rasal, Meng-Hsun Wu, **Anil Vithal Ghule**, Girum Gatechew, Anil A Kashale, I-Wen Peter Chen, Jia-Yaw Chang, **2022**, Advancing the Stability and Efficiency of Quantum Dot-Sensitized Solar Cells Through a Novel, Green, and Water-based Thixotropic Biopolymer/Ordered Nanopores Silica Designed Quasi-Solid-State Gel Electrolytes, **Chemical Engineering Journal**, 137293 (IF-13.273) (ISSN 1385-8947)
46. Gokul P Kamble, Akash Rasal, Jia-Yaw Chang, Sanjay S Kolekar, Shivaji N Tayade, **Anil Vithal Ghule**, **2022**, Structure-engineering of core-shell $\text{ZnCo}_2\text{O}_4@ \text{NiO}$ composites for high-performance asymmetric supercapacitors, **Nanoscale Advances**, 4(3), 814 (IF-5.113). (ISSN 2516-0230)
47. Vijay H Ingole, Shubham S Ghule, Tomaž Vuherer, Vanja Kokol, Anil V Ghule, **2021**, Mechanical Properties of Differently Nanostructured and High-Pressure Compressed Hydroxyapatite-Based Materials for Bone Tissue Regeneration, **Minerals**, 11(12), 1390. (IF-2.818) (ISSN 2075-163X)
48. Gokul Kamble, Akash Rasal, Samadhan Gaikwad, Vivek Gurav, Jia-Yaw Chang, Sanjay S. Kolekar, Yong-Chien Ling, **Anil Vithal Ghule**, **2021**, CuCo_2O_4 Nanorods Coated with CuO Nanoneedles for Supercapacitor Applications, **ACS Applied Nano Materials**, 4(11), 12702-12711. (IF-5.097) (ISSN 2574-0970)
49. Akash S Rasal, Chiranjeevi Korupalli, Girum Getachew, Tzung-Han Chou, Ting-Ying Lee, **Anil Vithal Ghule**, Jia-Yaw Chang, **2021**, Towards Green, Efficient and Stable Quantum-Dot-Sensitized Solar Cells through Nature-Inspired Biopolymer Modified Electrolyte, **Electrochimica Acta**, 391, 138972 (IF-6.901) (ISSN 0013-4686)
50. Archana Yadav, Pradeep Patil, Dattatray Chandam, Sushilkumar Jadhav, **Anil Vithal Ghule**, Shankar Hangirgekar, Sandeep Sankpal, **2021**, $\text{Fe}_3\text{O}_4@ \text{SiO}_2\text{-SO}_3\text{H-DABCO}$: A novel magnetically retrievable bifunctional catalyst for eco-friendly synthesis of diheteroarylmethanes, **Journal of Molecular Structure**, 1245, 130960 (IF-3.84) (ISSN 0022-2860)
51. Akash Rasal, Khalilallah Dehvari, Girum Getachew, Chiranjeevi Korupalli, **Anil Vithal Ghule** and Jia-Yaw Chang, **2021**, Efficient Quantum Dot-Sensitized Solar Cells through Sulfur-rich Carbon Nitride Modified Electrolyte, **Nanoscale**, 13 (11), 5730-5743. (IF-8.30). (ISSN 2040-3372)
52. Gokul P. Kamble, Anil A. Kashale, Akash S. Rasal, Suraj Dengale, Sanjay S. Kolekar, Sung-Hwan Han, Jia Yaw Chang, and **Anil Vithal Ghule**, **2021**, Investigating the Influence of Reflux Condensation Reaction Temperature on the Growth of FeCo_2O_4 Thin Film for Flexible Supercapacitor, **ChemistrySelect**, 6 (8), 1838-1844. (IF-2.307) (ISSN: 2365-6549)
53. Gokul Kamble, Anil Kashale, Sanjay Kolekar, I-Wen Peter Chen, Bhaskar R. Sathe, and **Anil Vithal Ghule**, **2021**, Reflux temperature-dependent zinc cobaltite nanostructures for asymmetric supercapacitors **Journal of Materials Science: Materials in Electronics**, 32 (5), 5859-5869. (IF-2.47). (ISSN 0957-4522)
54. Gokul P. Kamble, Anil A. Kashale, Akash S. Rasal, Seema A. Mane, Rutuja A. Chavan, Jia-Yaw Chang, Yong-Chien Ling, Sanjay S. Kolekar, and **Anil Vithal Ghule**, **2021**, Marigold micro-flower like NiCo_2O_4 grown on flexible stainless-steel mesh as an electrode for supercapacitors, **RSC Advances**, 11, 3666. (IF- 4.036) (ISSN 2046-2069)
55. Renuka V.Digraskar, Vijay S.Sapner, **Anil Vithal Ghule**, Bhaskar Sathe, **2020**, CZTS/ MoS_2 -rGO Heterostructures: An efficient and highly stable electrocatalyst for enhanced hydrogen generation reactions, **Journal of Electroanalytical Chemistry** 882, 114983. (IF- 4.46) (ISSN 1572-6657)
56. Anil A Kashale, **Anil Vithal Ghule**, I-Wen Peter Chen, **2020**, Active Edge Site Exposed $\beta\text{-Ni(OH)}_2$ Nanosheets on Stainless Steel Mesh as a Versatile Electrocatalyst for the Oxidation of Urea, Hydrazine, and Water, **ChemCatChem**, 13 (4), 1165-1174. (IF- 5.497) (ISSN 1867-3880)
57. Vijay H Ingole, Tomaž Vuherer, Uroš Maver, Aruna Vinchurkar, **Anil Vithal Ghule**, Vanja Kokol, **2020**, Mechanical Properties and Cytotoxicity of Differently Structured Nanocellulose-hydroxyapatite Based Composites for Bone Regeneration Application, **Nanomaterials**, 10(1), 25 (IF- 4.92) (ISSN 2079-4991)
58. Aniruddha K Kulkarni, Mohaseen S Tamboli, Digambar Y Nadargi, Yogesh A Sethi, Sharad S Suryavanshi, **Anil Vithal Ghule**, Bharat B Kale, **2020**, Bismuth molybdate ($\alpha\text{-Bi}_2\text{Mo}_3\text{O}_{12}$) nanoplates *via* facile hydrothermal and its gas sensing study, **Journal of Solid State Chemistry**, 281, 121043. (IF- 3.49) (ISSN 0022-4596)
59. Renuka V Digraskar, Vijay S Sapner, **Anil Vithal Ghule**, Bhaskar R Sathe, **2019**, Enhanced Overall Water-Splitting Performance: Oleylamine-Functionalized $\text{GO/Cu}_2\text{ZnSnS}_4$ Composite as a Noble Metal-Free and NonPrecious Electrocatalyst, **ACS Omega**, 4(21), 18969-18977. (IF- 4.13) (ISSN 2470-1343)
60. Madagonda M Vadiyar, Shubhangi B Bandgar, Sanjay S Kolekar, Jia-Yaw Chang, Yong-Chien Ling, Zhibin Ye, **Anil Vithal Ghule**, **2019**, Holey $\text{C@ZnFe}_2\text{O}_4$ Nanoflakes by Carbon Soot Layer Blasting Approach for High Performance Supercapacitors, **ACS Applied Energy Materials**, 2(9), 6693-6704. (IF-6.02) (ISSN 2574-0962)
61. Renuka V Digraskar, Vijay S Sapner, Shivsharan M Mali, Shankar S Narwade, **Anil Vithal Ghule**, Bhaskar R Sathe, **2019**, CZTS Decorated on Graphene Oxide as an Efficient Electrocatalyst for High-Performance Hydrogen Evolution Reaction, **ACS Omega**, 4 (4), 7650-7657. (IF- 4.132) (ISSN 2470-1343)
62. GP Kamble, AA Kashale, SS Dhanayat, SS Kolekar, **Anil Vithal Ghule**, **2019**, Binder-free synthesis of high-quality nanocrystalline ZnCo_2O_4 thin film electrodes for supercapacitor application, **Bulletin of Materials Science**, 42(6), 272. (IF- 1.78) (ISSN 0250-4707)
63. Anil A. Kashale, Akash S. Rasal, Gokul P. Kamble, Vijay H. Ingole, Pravin K. Dwivedi, Swapnil J. Rajoba, Lata D. Jadhav, Yong-Chien Ling, Jia-Yaw Chang and **Anil Vithal Ghule**, **2019**, Biosynthesized Co-Doped TiO_2 Nanoparticles based Anode for Lithium-Ion Battery Application and Investigating the Influence of Dopant Concentrations on its Performance, **Composites Part B: Engineering**, 167, 44-50. (IF- 9.07) (ISSN 1359-8368)

64. Si-Han Chen, Wan-Wen Huang, Khalilallah Dehvari, Yong-Chien Ling, **Anil Vithal Ghule**, Shen-Long Tsai, Jia-Yaw Chang, **2019**, Photosensitizer–conjugated Cu-In-S heterostructured nanorods for cancer targeted photothermal/photodynamic synergistic therapy, **Materials Science and Engineering: C**, 97, 793-802. (IF- 7.32) (ISSN 0928-4931)
65. Renuka V Digraskar, Shivsharan M Mali, Sakthar B Tayade, **Anil Vithal Ghule**, Bhaskar R Sathe, **2019**, Overall noble metal free Ni and Fe doped $\text{Cu}_2\text{ZnSnS}_4$ (CZTS) bifunctional electrocatalytic systems for enhanced water splitting reactions, **International Journal of Hydrogen Energy**, 44(16) 8144-8155. (IF- 7.13) (ISSN 0360-3199)
66. Aniruddha K Kulkarni, Rajendra P Panmand, Yogesh A Sethi, Sunil R Kadam, Shashikant P Tekale, G-H Baeg, **Anil Vithal Ghule**, Bharat B Kale, **2018**, In Situ Preparation of N Doped Orthorhombic Nb_2O_5 Nanoplates/RGO Composites for Photocatalytic Hydrogen Generation under Sunlight, **International Journal of Hydrogen Energy**, 43(43), 19873-19884. (IF- 7.13) (ISSN 0360-3199)
67. Anil A. Kashale, Pravin K. Dwivedi, Bhaskar R. Sathe, Manjusha V. Shelke, Jia-Yaw Chang, **Anil Vithal Ghule**, **2018**, Biomass-Mediated Synthesis of Cu-Doped TiO_2 Nanoparticles for Improved-Performance Lithium-Ion Batteries, **ACS Omega**, 3 (10), 13676-13684. (IF- 4.13) (ISSN 2470-1343)
68. Rohit R. Koli, Manisha R. Phadatare, Bhavesh B. Sinha, Deepak M. Sakate, **Anil Vithal Ghule**, Gajanan S. Ghodake, Nishad G. Deshpande, Vijay J. Fulari, **2019**, Gram Bean Extract-Mediated Synthesis of Fe_3O_4 Nanoparticles for Tuning the Magneto-structural Properties that Influence the Hyperthermia Performance, **Journal of the Taiwan Institute of Chemical Engineers**, 95, 357-368 (IF-5.87) (ISSN 1876-1070)
69. Aniruddha K. Kulkarni, Rajendra P. Panmand, Yogesh A. Sethi, Sunil R. Kadam, Deepak R. Patil, Anil Vithal Ghule, Bharat B. Kale, **2018**, 3D Hierarchical Heterostructures of $\text{Bi}_2\text{W}_{1-x}\text{Mo}_x\text{O}_6$ with Enhanced Oxygen Evolution Reaction from Water under Natural Sunlight, **New Journal of Chemistry**, 42(21), 17597-17605 (IF-3.591) (ISSN 1144-0546)
70. S. C. Bhise, D. V. Awale, M. M. Vadiyar, S. K. Patil, B. N. Kokare, **Anil Vithal Ghule**, Sanjay S. Kolekar, **2018**, Controlled Synthesis of Nanostructured Nickel Oxide Thin Film for Supercapacitor Application, **Advanced Science Letters**, 24 (8), 5587-5592. (IF-1.253) (ISSN 1936-6612)
71. R.V. Digraskar, V. S. Sapner, S. S. Narwade, S. M. Mali, **Anil Vithal Ghule**, B. R. Sathe, **2018**, Enhanced electrocatalytic hydrogen generation from water via cobalt-doped $\text{Cu}_2\text{ZnSnS}_4$ nanoparticles, **RSC Advances** 8 (36), 20341-20346 (IF-4.03) (ISSN 2046-2069)
72. S. Bandgar, M. M. Vadiyar, Y. C. Ling, J. Y. Chang, S. H. Han, **Anil Vithal Ghule**, Sanjay S. Kolekar, **2018**, Metal Precursor Dependent Synthesis of NiFe_2O_4 Thin films for High Performance Flexible Symmetric Supercapacitor, **ACS Applied Energy Materials**, 1 (2) 638-648. (IF-6.02) (ISSN 2574-0962)
73. S. B. Tarwate, S. S. Wahule, K. P. Gattu, **Anil Vithal Ghule**, R Sharma, **2018**, Hydrothermal synthesis of MnO_2 thin film for supercapacitor application, **AIP Conference Proceedings** 1953 (1), 03005. (ISSN 0094-243X)
74. Aniruddha K. Kulkarni, C. S. Praveen, Yogesh A. Sethi, Rajendra P. Panmand, Sudhir S. Arbuj, Sonali D. Naik, **Anil Vithal Ghule**, Bharat B. Kale, **2017**, Nanostructured N-doped orthorhombic Nb_2O_5 as an efficient stable photocatalyst for hydrogen generation under visible light, **Dalton Transactions**, 46(43), 14859-14868 (IF-4.39) (ISSN 1477-9234)
75. Gedda Gangaraju, Yeuh-Yun Yao, Si-Han Chen, **Anil Vithal Ghule**, Yong-Chien Ling, Jia-Yaw Chang, **2017**, Facile synthesis of gold/gadolinium-doped carbon quantum dot nanocomposite for magnetic resonance imaging and photothermal ablation therapy, **Journal of Materials Chemistry B**, 5(31), 6282-6291 (IF-6.33) (ISSN 2161-6221)
76. Anil A. Kashale, Madagonda M. Vadiyar, Sanjay S. Kolekar, Bhaskar R. Sathe, Jia-Yaw Chang, Hom N. Dhakal, and **Anil Vithal Ghule**, **2017**, Binder Free 2D Aligned Efficient MnO_2 Micro Flower as Stable Electrodes for Symmetric Supercapacitor Application, **RSC Advances**, 7 (59), 36886-36894. (IF-4.03) (ISSN 2046-2069)
77. Madagonda M. Vadiyar, Sanjay S. Kolekar, Jia-Yaw Chang, Zhibin Ye, and **Anil Vithal Ghule**, **2017** Anchoring Ultrafine $\text{ZnFe}_2\text{O}_4/\text{C}$ nanoparticles on 3D ZnFe_2O_4 nano-flakes for Boosting Cycle Stability and Energy Density of Flexible Asymmetric Supercapacitor, **ACS Applied Materials & Interfaces**, 9(31)26016-26028. (IF-10.38). (ISSN 1944-8252)
78. Vijay H. Ingole, Kamal Hany Hussein, Anil A. Kashale, Kalyani Ghule, Tomaž Vuherer, Vanja Kokol, Jia-Yaw Chang, Yong-Chien Ling, Aruna Vinchurkar, Hom N. Dhakal and **Anil Vithal Ghule**, **2017**, Ultrasound assisted green economic synthesis of hydroxyapatite nanoparticles using eggshell bio-waste and study of mechanical and biological properties for orthopaedic applications, **Journal of Biomedical Materials Research: Part A**, 105 (11), 2935-2947 (IF-4.85) (ISSN 1552-4965)
79. Ketan P. Gattu, Kalyani A. Ghule, Nanasheeb P. Huse, Avinash Dive, Sagar B. Bagul, Renuka Digraskar, Ramphal Sharma and **Anil Vithal Ghule**, **2017**, Bio-green synthesis of Fe doped SnO_2 nanoparticle thin film, **AIP Conference Proceedings**, 1832, 050162. (ISSN 0094-243X)
80. Ketan P. Gattu, Anil A. Kashale, Kalyani A. Ghule, Vijay H. Ingole, Ramphal Sharma, Nishad G. Deshpande, **Anil Vithal Ghule**, **2017**, NO_2 sensing studies of bio-green synthesized Au-doped SnO_2 , **Journal of Materials Science: Materials in Electronics**, 28(17), 13209-13216 (IF-2.47). (ISSN 0957-4522)
81. Sandip K. Patil, Madagonda M. Vadiyar, Sagar C. Bhise, Suryakant A. Patil, Deepak V. Awale, Uma V. Ghorpade, Jin H. Kim, **Anil Vithal Ghule**, Sanjay S. Kolekar, **2017**, Hydroxy Functionalized Ionic Liquids as Promising Electrolytes for Supercapacitor Study of $\alpha\text{-Fe}_2\text{O}_3$ Thin Films, **Journal of Materials Science: Materials in Electronics**, 28(16), 11738-11748. (IF-2.47). (ISSN 0957-4522)

82. Renuka V. Digraskar, Balaji B. Mulik, Pravin S. Walke, **Anil Vithal Ghule**, Bhaskar R. Sathe, **2017**, Enhanced hydrogen evolution reactions on nanostructured $\text{Cu}_2\text{ZnSnS}_4$ (CZTS) electrocatalyst, **Applied Surface Science**, 412, 475-481. (IF-7.39) (ISSN 0169-4332)
83. Y. N. Rane, D. A. Shende, M. G. Raghuwanshi, **Anil Vithal Ghule**, V. L. Patil, P. S. Patil, S. R. Gosavi, N. G. Deshpande, **2017**, Synthesis of flower shaped ZnO thin films for resistive sensing of NO_2 gas, **Microchimica Acta**, 184 (7), 2455-2463. (IF-6.23) (ISSN 0026-3672)
84. Pei-Ni Li, **Anil Vithal Ghule**, Jia-Yaw Chang, **2017**, Direct aqueous synthesis of quantum dots for high-performance AgInSe_2 quantum-dot-sensitized solar cell, **Journal of Power Sources**, 354, 100-107. (IF-9.71) (ISSN 0378-7753)
85. Aniruddha K. Kulkarni, Yogesh A. Sethi, Rajendra P. Panmand, Latesh K. Nikam, Jin-Ook Baeg, N. R. Munirathnam, **Anil Vithal Ghule**, Bharat B. Kale, **2017**, Mesoporous cadmium bismuth Niobate ($\text{CdBi}_2\text{Nb}_2\text{O}_9$) nanospheres for hydrogen generation under visible light, **Journal of Energy Chemistry**, 26(3), 433-439. (IF-9.67) (ISSN 2095-4956)
86. Madagonda M. Vadiyar, Sanjay S. Kolekar, Nishad G. Deshpande, Jia-Yaw Chang, Anil A. Kashale, **Anil Vithal Ghule**, **2017**, Binder-free chemical synthesis of ZnFe_2O_4 thin films for asymmetric supercapacitor with improved performance, **Ionics**, 23(3), 741-749. (IF- 3.78) (ISSN 1862-0760)
87. Ganesh S. Kamble, Sunil S. Joshi, Arjun N. Kokare, Sunil B. Zanje, Sanjay S. Kolekar, **Anil Vithal Ghule**, Shashikant H. Gaikwad and Mansing A. Anuse, **2017**, A sensing behavior synergistic liquidliquid extraction and spectrophotometric determination of nickel(II) by using 1-(2',4'-dinitro aminophenyl)-4,4,6-trimethyl-1,4-dihydropyrimidine-2-thiol: Analysis of foundry and electroless nickel plating waste water, **Separation Science and Technology**, 52 (14), 2238-2251 (IF-2.47) (ISSN 0149-6395)
88. Anil A. Kashale, Kalyani Ghule, Ketan P. Gattu, Vijay H. Ingole, Swapnali Dhanayat, Ramphal Sharma, Yong-Chien Ling, Jia-Yaw Chang, Madagonda M. Vadiyar and **Anil Vithal Ghule**, **2017**, Annealing Atmosphere Dependant Properties of Biosynthesized TiO_2 Anode for Lithium Ion Battery Application, **Journal of Materials Science: Materials in Electronics**, 28(2), 1472-1479. (IF-2.47) (ISSN 0957-4522)
89. Madagonda M. Vadiyar, Sanjay S. Kolekar, Jia-Yaw Chang, Anil A. Kashale and **Anil Vithal Ghule**, **2016**, Reflux Condensation Mediated Deposition of Co_3O_4 Nanosheets and ZnFe_2O_4 Nanoflakes Electrodes for Flexible Asymmetric Supercapacitor, **Electrochimica Acta**, 222, 1604-1615. (IF-6.90) (ISSN 0013-4686)
90. A. R. Shelke, **Anil Vithal Ghule**, Y. P. Lee, C. D. Lokhande and N. G. Deshpande, **2017**, Investigations on magnetic properties and magnetocaloric effects in electron-doped $\text{La}_{1-x}\text{Zr}_x\text{MnO}_3$, **Journal of Alloys and Compounds**, 692, 522-528 (IF-5.31) (ISSN 0925-8388)
91. Sheng-Hui Chiu, Gangaraju Gedda, Wubshet Mekonnen Girma, Jem-Kun Chen, Yong-Chien Ling, **Anil Vithal Ghule**, Keng-Liang Ou, Jia-Yaw Chang, **2016**, Rapid fabrication of carbon quantum dots as multifunctional nanovehicles for dual-modal targeted imaging and chemotherapy, **Acta Biomaterialia**, 46, 151-164. (IF-8.94) (ISSN 1742-7061)
92. Anil A. Kashale, Ketan P. Gattu, Kalyani Ghule, Vijay H. Ingole, Swapnali Dhanayat, Ramphal Sharma, Jia-Yaw Chang, and **Anil Vithal Ghule**, **2016**, Biomediated Green Synthesis of TiO_2 Nanoparticles for Lithium Ion Battery Application, **Composite Part B Engineering** 99, 297-304. (IF-10.91) (ISSN 1359-8368)
93. Vijay H. Ingole, Kamal Hany Hussein, Anil A. Kashale, Ketan P. Gattu, Swapnali Dhanayat, Aruna Vinchurkar, Jia-Yaw Chang and **Anil Vithal Ghule**, **2016**, Invitro Bioactivity and Osteogenic Activity Study of Solid State Synthesized Nano-Hydroxyapatite using Recycled Eggshell Bio-waste, **ChemistrySelect**, 1, 3901-3908. (IF-2.30) (ISSN: 2365-6549)
94. A. R. Shelke, G. S. Ghodake, D. -Y. Kim, **Anil V. Ghule**, S. D. Kaushik, C. D. Lokhande and N. G. Deshpande, **2016**, Correlation of structural, transport and magnetic properties in $\text{La}_{1-x}\text{Zr}_x\text{MnO}_3$ manganite samples, **Ceramics International** 42, 12038-12045. (IF-4.52) (ISSN 1873-3956)
95. A. R. Shelke, M. S. Seo, **Anil V. Ghule**, Y. P. Lee, C. D. Lokhande, N. G. Deshpande, **2016**, Magnetic phase transition and magnetocaloric effect study of electron-doped $\text{La}_{1-x}\text{Zr}_x\text{MnO}_3$, **Materials and Design**, 692, 522-528. (IF-7.91) (ISSN 1873-4197)
96. Renuka Digraskar, Ketan Gattu, Bhaskar Sathe, **Anil V. Ghule**, and Ramphal Sharma, **2016**, Temperature Dependent Fabrication of cost-effective and Nontoxic $\text{Cu}_2\text{ZnSnS}_4$ (CZTS) Thin Films for Solar Cell, **AIP Conf. Proc.** 1728, 020326-1-020326-5. (ISSN 0094-243X)
97. Madagonda M. Vadiyar, Sagar C. Bhise, Sandip K. Patil, Sanjay S. Kolekar, Jia-Yaw Chang and **Anil V. Ghule**, **2016**, Comparative Study of Individual and Mixed Aqueous Electrolytes with ZnFe_2O_4 Nano-flakes Thin Film as an Electrode for Supercapacitor Application, **ChemistrySelect** 5, 959-966 (IF-2.30) (ISSN: 2365-6549)
98. Madagonda M. Vadiyar, Sagar C. Bhise, Sanjay S. Kolekar, Jia-Yaw Chang, Kaustubh S. Ghule and **Anil Vithal Ghule**, **2016**, Low Cost Flexible 3-D Aligned and Cross-linked Efficient ZnFe_2O_4 Nano-flakes Electrode on Stainless Steel Mesh for Asymmetric Supercapacitor, **Journal of Materials Chemistry-A**, 4, 3504-3512 (IF-12.73) (ISSN 2050-7488)
99. Madagonda M. Vadiyar, Sagar C. Bhise, Sandip K. Patil, Sanjay S. Kolekar, Abhijeet R. Shelke, Nishad G. Deshpande, Jia-Yaw Chang, Kaustubh S. Ghule and **Anil Vithal Ghule**, **2016**, Contact Angle Measurement: A Preliminary Diagnostic Tool for Evaluating the Performance of ZnFe_2O_4 Nano-flake based Supercapacitors, **Chemical Communications**, 52, 2557-2560 (IF-6.06) (ISSN 1359-7345)
100. Madagonda M. Vadiyar, Sandip K. Patil, Sagar C. Bhise, **Anil Vithal Ghule**, Sung-Hwan Han and Sanjay S Kolekar, **2015**, Improvement in electrochemical performance of ZnFe_2O_4 nano-flakes electrode based supercapacitor using

- thiocyanate functionalized ionic liquids electrolyte, **European Journal of Inorganic Chemistry**, 5832-5838 (IF-2.55) (ISSN 1099-0682)
101. Ketan P. Gattu, Kalyani Ghule, Anil A. Kashale, V. B. Patil, D. M. Phase, R. S. Mane, S. H. Han, Ramphal Sharma, **Anil Vithal Ghule**, 2015, Bio-Green synthesis of Ni doped tin oxide nanoparticles and its influence on gas sensing properties, **RSC Advances**, 5, 72849-72856. (IF-4.03) (ISSN 2046-2069)
 102. M. M. Vadiyar, S. C. Bhise, S. K. Patil, D. K. Pawar, **Anil Vithal Ghule**, P.S. Patil, S. S. Kolekar, 2015, Mechanochemical growth of a porous ZnFe_2O_4 nano-flake thin film as an electrode for supercapacitor application, **RSC Advances**, 5, 45935-45942. (IF-4.03) (ISSN 2046-2069)
 103. Shaheed U. Shaikh, Farha Y. Siddiqui, Deepali J. Desale, **Anil Vithal Ghule**, Fouran Singh, Pawan K. Kulriya, Ramphal Sharma, 2015, Effect of swift heavy ion irradiation on structural and opto-electrical properties of bi-layer $\text{CdS-Bi}_2\text{S}_3$ thin films prepared by solution growth technique at room temperature, **Radiation Physics and Chemistry**, 106, 193-198. (IF-2.85) (ISSN 0969-806X)
 104. G. D. Kore, S. A. Patil, S.B. Zanje, **Anil Vithal Ghule**, S. S. Kolekar, M. A. Anuse, 2015, An Extractive Studies on Behavior of Th(IV) from malonate media by 2-octyl amino pyridine: A green approach, Proceedngs of the twelfth DAE-BRNS National Symposium on Nuclear and Radiochemistry, 46(33), 46089531; RN-46089617 (IF- NA) (ISSN 0732-7102)
 105. Harishchandra K. Sadekar, **Anil Vithal Ghule**, Ramphal Sharma, 2015, Fabrication of CdSe Thin Film for Photosensor Applications, **International Journal of innovations in Engineering and Technology**, 5(1), 35-41. (IF-7.92) (ISSN 2319-1058)
 106. Ketan P. Gattu, Kalyani Ghule, Anil A. Kashale, R. S. Mane, Ramphal Sharma, D. M. Phase, S.H. Han and **Anil Vithal Ghule**, 2015, Room temperature ammonia gas sensing properties of biosynthesized tin oxide nanoparticle thin films, **Current Nanoscience**, 11, 253-260. (IF-1.35) (ISSN 1573-4137)
 107. Farha Y. Siddiqui, Shaheed U. Shaikh, Deepali J. Desale, Deepak S. Upadhye, Sandeep V. Mahajan, **Anil Vithal Ghule**, Pankaj Varshney, Sung-Hwan Han, Ramphal Sharma, 2014, Bandgap engineering by substitution of S by Se in nanostructured $\text{CdS}_{1-x}\text{CdS}_x\text{Se}_x$ thin films grown by soft chemical route for photosensor applications, **Materials Science in Semiconductor Processing**, 27, 404-411. (IF-3.92) (ISSN 1369-8001)
 108. Ramphal Sharma, Cai Gangri, Dipak Vijaykumar Shinde, Supriya Ankush Patil, Shaheed Shaikh, **Anil Vithal Ghule**, Rajaram Mane and Sung Hwan Han, 2014, Polyelectrolyte multilayer-assisted fabrication of $p\text{-Cu}_2\text{S}/n\text{-CdS}$ heterostructure thin films phototransistor, **Journal of Materials Chemistry C**, 2, 8012-8017. (IF-8.03) (ISSN 2050-7526)
 109. Sandeep Mahajan, Deepak Upadhye, Shahid Shaikh, Ravikiran Birajadar, Farah Siddiqui, **Anil Vithal Ghule**, Ramphal Sharma, 2013, Mn doped nanostucture ZnO thin film for photo sensor and gas sensor application. **AIP Conference Proceedings**, 1512 (1), 652-653. (ISSN 0094-243X)
 110. Yogesh Jadhav, Ketan Gattu, **Anil Vithal Ghule**, Ramphal Sharma, 2013, Structural morphological and optoelectronic study of titania and gold doped titania nanoparticles grown by sol-gel technique. **AIP Conference Proceedings**, 1512 (1), 332-333. (ISSN 0094-243X)
 111. Renuka Digraskar, Swapnali Dhanayat, Ketan Gattu, Sandeep Mahajan, Deepak Upadhye, **Anil Vithal Ghule**, Ramphal Sharma, 2013, Economic approach for fabricating nontoxic $\text{Cu}_2\text{ZnSnS}_4$ (CZTS) thin films for solar cell applications. **AIP Conference Proceedings** 1512 (1), 236-237. (ISSN 0094-243X)
 112. Swapnali Dhanayat, Renuka Digraskar, Ketan Gattu, Deepak Upadhye, Sandeep Mahajan, Ramphal Sharma and **Anil Vithal Ghule**, 2013, Ultrasonically Assisted Intercalation of Ni in Al_2O_3 Thin Film Prepared by SILAR Technique, **AIP Conference Proceedings**, 1536, 453-454, International Conference on Nanomaterials, Bikaner. (ISSN 0094-243X)
 113. Dipalee J. Desale, Shaeed Shaikh, Farha Siddiqui, Ravikiran Birajdar, **Anil Vithal Ghule**, Ramphal Sharma, 2013, Enhancement of photosensitivity by annealing in Bi_2S_3 thin films grown using SILAR method, **Composites Part B: Engineering**, 46, 1-6. (IF-10.91) (ISSN 1359-8368)
 114. Harishchandra K. Sadekar, **Anil Vithal Ghule**, Ramphal Sharma, 2013, Nanocrystalline ZnSe Thin Films Prepared by Solution Growth Technique for Photosensor Application, **Composite Part B: Engineering**, 44, 553-557. (IF-10.91) (ISSN 1359-8368)
 115. Shaheed U. Shaikh, Deepali J. Desale, Farha Y. Siddiqui, Arindam Ghosh, Ravikiran B. Birajadar, **Anil Vithal Ghule** and Ramphal Sharma, 2012, Effects of air annealing on CdS quantum dots thin film grown at room temperature by CBD technique intended for photosensor applications, **Material Research Bulletin**, 47 (11), 3440-3444. (IF-4.64) (ISSN 0025-5408)
 116. Sambhaji S. Bhande, Gauri A. Taur, Arif V. Shaikh, Oh-Shim Joo, Myung-Mo Sung, Rajaram S. Mane, **Anil Vithal Ghule**, and Sung-Hwan Han, 2012, Structural analysis and dye-sensitized solar cell application of electrodeposited tin oxide nanoparticles, **Materials Letters**, 79, 29-31. (IF-3.42) (ISSN 1873-4979)
 117. Arindam Ghosh, **Anil Vithal Ghule**, Ramphal Sharma, 2012, Effect of Cu doping on LPG sensing properties of soft chemically grown nano-structured ZnO thin film, **Journal of Physics: Conference series**, 365, 12022. (IF-0.48) (ISSN 1742-6596)
 118. Dipalee J. Desale, Shaeed Shaikh, Arindam Ghosh, Ravikiran Birajadar, Farha Siddiqui, **Anil Vithal Ghule**, Ramphal Sharma, 2012, Preparation and characterization of $\text{CdS-Bi}_2\text{S}_3$ nanocomposite thin film by successive ionic layer adsorption and reaction (SILAR) method, **Composite Part B: Engineering**, 43(3), 1095-1100. (IF-10.91) (ISSN 1359-8368)

119. Vidya S. Taur, Rajesh A. Joshi, **Anil Vithal Ghule**, Ramphal Sharma, **2012**, Effect of annealing on photovoltaic characteristics of nanostructured p -Cu₂S/ n -CdS thin film, **Renewable Energy**, 38 (1), 219-223. (IF-8.63) (ISSN 2515-3773)
120. Sambhaji S. Bhande, Rajaram S. Mane, **Anil Vithal Ghule**, Sung-Hwan Han, **2011**, A bismuth oxide nanoplate-based carbon dioxide gas sensor, **Scripta Materialia**, 65 (12), 1081-1084. (IF-5.61) (ISSN 1359-6462)
121. Ravikiran B. Birajadar, Arindam Ghosh, **Anil Vithal Ghule**, Fouran Singh, Ramphal Sharma, **2011**, Enhancement in sensitivity of nanocrystalline zinc oxide thin film LPG sensor by high electronic excitation **Sensors and Actuators B** 160 (1), 1050-1055. (IF-7.36) (ISSN 0925-4005)
122. Dipalee J. Desale, Shaeed Shaikh, Farh Siddiqui, Arindam Ghosh, Ravikiran Birajdar, **Anil Vithal Ghule**, Ramphal Sharma, **2011**, Effect of annealing on structural and optoelectronic properties of CdS thin film by SILAR method, **Advances in Applied Science Research**, 2011, 2 (4):417-425. (IF-3.52) (ISSN 0976-8610)
123. Rajesh A. Joshi, Vidya S. Taur, **Anil Vithal Ghule**, Ramphal Sharma, **2011**, Stoichiometry controlled conversion efficiency in nanostructured heterojunction solar cell of CdS/CuInS_xSe_{2-x} grown by chemical ion exchange method at room temperature, **Solar Energy**, 85(7), 1316-1321. (IF-5.74) (ISSN 0038-092X)
124. Rajesh A. Joshi, Vidya S. Taur, **Anil Vithal Ghule**, Ramphal Sharma, **2011**, SHI Induced Modifications in CdS/CuInSe₂ Thin Film: XRD Analysis, **Solid State Physics**, AIP Conference Proceedings of the 55th DAE Solid State Physics Symposium, **2010**, 1349, 647-648. (ISSN 0081-1947)
125. Rajesh A. Joshi, Arindam Ghosh, Vidya S. Taur, Shaheed U. Shaikh, Farha Y. Siddiqui, Ravikiran B. Birajadar, **Anil Vithal Ghule**, Ramphal Sharma, **2011**, Nanostructured p -CuIn₃Se₅/ n -CdS heterojunction engineered using simple wet chemical approach at room temperature for photovoltaic application, **Materials Chemistry and Physics** 127, 191-196. (IF-4.09) (ISSN 0254-0584)
126. Harishchandra K. Sadekar, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Bandgap engineering by substitution of S by Se in nanostructured ZnS_{1-x}Se_x thin films grown by soft chemical route for nontoxic optoelectronic device applications, **Journal of Alloys and Compounds** 509(18), 5525-5531. (IF-5.31) (ISSN 0925-8388)
127. Swapnil B. Ambade, Rajaram S. Mane, **Anil Vithal Ghule**, Go-Woon Lee, Ramphal Sharma, Oh-shim Joo, Rohan B. Ambade, Soo-Hyoung Lee, Sung-Hwan Han, **2011**, A simple CdS nanoparticles cascading approach for boosting N3 dye/ZnO nanoplates DSSCs overall performance, **Journal of Photochemistry and Photobiology A: Chemistry** 217, 267-270. (IF-3.26) (ISSN 1873-2666)
128. Ketan Gattu, Arindam Ghosh, Ramphal Sharma and **Anil Vithal Ghule**, **2011**, Optoelectronic Study of CdS Thin Films Ultrasonically Intercalated By Silver Nanoparticles, **56th DAE-SSPS Conference Proceedings -2011, Chennai**. (ISSN 0081-1947)
129. Deepali J. Desale, S. Shaikh, F. Siddiqui, R. Birajadar, **Anil Vithal Ghule**, R. Sharma, **2011**, Synthesis and Characterization Of CdS-Polyelectrolyte-Bi₂S₃ Thin Film by SILAR **56th DAE-SSPS Conference Proceedings -2011, Chennai**. (ISSN 0081-1947)
130. Ravikiran B. Birajadar, Arindam. Ghosh, Rajesh. A. Joshi, Vidya. S. Taur, Shaheed U. Shaikh, **Anil Vithal Ghule**, and Ramphal Sharma, **2010**, Engineering of wet chemically grown nanostructured zinc oxide thin film by high electronic excitation, **55th DAE-SSPS, Manipal, AIP Conference Proceedings-2011**, 1349. 653-654. (ISSN 0094-243X)
131. Rajesh A. Joshi, Vidya S. Taur, **Anil Vithal Ghule** and Ramphal Sharma, **2010**, SHI Induced Modifications in CdS/CuInSe₂Thin Film: XRD Analysis **Solid State Physics 55th DAE-SSPS Conference Proceedings-2010, Manipal**. (ISSN 0081-1947)
132. Arindam Ghosh, Ramphal Sharma, **Anil Vithal Ghule**, Vidya Taur, Rajesh Joshi, Dipalee Desale, Yuvraj Gudage, K.M. Jadhav and Sung-Hwan Han, **2010**, Low temperature LPG sensing properties of wet chemically grown zinc oxide nanoparticle thin film, **Sensors and Actuators B** 146, 69-74. (IF-7.33) (ISSN 0925-4005)
133. Wen-Yin Chen, **Anil Vithal Ghule**, Jia-Yaw Chang, Bo-Jung Chen, Jen-Yu Liu, Shin-Hwa Tzing and Yong-Chien Ling, **2010**, Synthesis, characterization, photo and physicochemical properties of 11-mercaptoundecanoic acid and tetraaniline capped CdS quantum dots **Materials Chemistry and Physics** 123, 742-746. (IF-4.09) (ISSN 0254-0584)
134. Wen-Yin Chen, **Anil Vithal Ghule**, Jia-Yaw Chang and Yong-Chien Ling, **2010**, Morphology and Dopant Influences Electrical Properties and Stability of Multiwalled Carbon Nanotube-Polyaniline Composites, **Current Nanoscience** 6(1), 59-68. (IF-4.09) (ISSN 1573-4137)
135. **Anil Vithal Ghule**, Kalyani Ghule, Tushar Punde, Jen-Yu Liu, Shin-Hwa Tzing, Jia-Yaw Chang, Hua Chang and Yong-Chien Ling, **2010**, In-situ monitoring of NiO-Al₂O₃ nanoparticles synthesis by thermo-Raman spectroscopy, **Materials Chemistry and Physics**, 119(1-2), 86-92. (IF-4.09) (ISSN 0254-0584)
136. **Anil Vithal Ghule**, Kalyani Ghule, Shin-Hwa Tzing, Tushar Punde, Hua Chang and Yong-Chien Ling, **2009**, Thermo-Raman spectroscopy in-situ monitoring study of solid-state synthesis of NiO-Al₂O₃ nanoparticles and its characterization, **Journal of Solid State Chemistry** 182(12), 3406-3411. (IF-3.49) (ISSN 0022-4596)
137. Ramphal Sharma, Abhay A. Sagade, J. C. Vyas, P. K. Nema, **Anil Vithal Ghule** and Sung-Hwan Han, **2009**, Surface morphology dependent copper sulphide ammonia gas sensor working at room temperature: Effect of SHI irradiation, **Sensors & Transducers Journal**, 101(2), 90-95. (IF-0.45) (ISSN 2306-8515)

138. Swapnil B. Ambade, Rajaram S. Mane, **Anil Vithal Ghule**, M. G. Takwale and Sung-Hwan Han, 2009, Contact angle measurement: A preliminary diagnostic method for evaluating the performance of ZnO platelet based DSSCs, **Scripta Materialia**, 61, 12-15. (IF-5.61) (ISSN 1359-6462)
 139. Ramphal Sharma, Suyeon Shim, Rajaram Mane, T. Ganesh, **Anil Vithal Ghule**, Gangri Cai, Duk-Ho Ham, Sun-Ki Min, Wonjoo Lee and Sung-Hwan Han, 2009, Optimization of growth of ternary CuInS₂ thin films by ionic reactions in alkaline chemical bath as n-type photoabsorber layer, **Materials Chemistry and Physics**, 116, 28-33. (IF-4.09) (ISSN 0254-0584)
 140. Ramphal Sharma, Rajaram Mane, Gangri Cai, **Anil Vithal Ghule**, Dukho Ham, Sun-Ki Min, Seung-Eon Lee and Sung-Hwan Han, 2009, Room temperature synthesis of nanostructured mixed-ordered-vacancy compounds (OVCs) and chalcopyrite CuInSe₂ (CIS) thin films in alkaline chemical bath, **Journal of Physics D: Applied Physics**, 42, 055313 (8pp). (IF-2.07) (ISSN 0022-3727)
 141. Ramphal Sharma, **Anil Vithal Ghule**, Vidya Taur, R. Joshi, Rajaram Mane, J.C Vyas, Gangri Cai, T. Ganesh, Sun-Ki Min, Wonjoo Lee and Sung-Hwan Han, 2009, Growth of nanocrystalline CuIn₃Se₅ (OVC) thin films by ion exchange reactions at room temperature and their characterization as photo-absorbing layers, **Applied Surface Science** 255, 8158-8163. (IF-7.39) (ISSN 0169-4332)
 142. Bhagwat Pawar, Gangri Cai, Dukho Ham, Rajaram S. Mane, T. Ganesh, **Anil Vithal Ghule**, Ramphal Sharma, K. D. Jadhav and Sung-Hwan Han, 2009, Preparation of transparent and conducting boron-doped ZnO electrode for its application in dye-sensitized solar cells, **Solar Energy Materials & Solar Cells** 93, 524-527. (IF-7.23) (ISSN 0927-0248)
 143. Nina Perkas, Galina Amirian, Guy Applerot, Eldar Efendiev, Yuri Kaganovskii, **Anil Vithal Ghule**, Bo-Jung Chen, Yong-Chien Ling, Aharon Gedanken, 2008, Depositing silver nanoparticles on/in a glass slide by the sonochemical method, **Nanotechnology**, 19, 435604. (IF-3.87) (ISSN 0957-4484)
 144. **Anil Vithal Ghule**, Kalyani Ghule, Shin-Hwa Tzing and Yong-Chien Ling, 2007, Synthesis and characterization of silver nanoparticles deposited α -Bi₂Mo₃O₁₂ nanorods, **European Journal of Inorganic Chemistry**, 21, 3342-3349. (IF-5.02) (ISSN 1099-0682)
 145. **Anil Vithal Ghule**, Karuppanan Muthusamy Kathir, T.K.S. Kumar, Shin-Hwa Tzing, Jia-Yaw Chang, Chin-Yu and Yong-Chien Ling, 2007, Carbon nanotubes prevent TFE induced aggregation of protein, **Carbon**, 45, 1586-1589. (IF-9.59) (ISSN 0008-6223)
 146. Liraz Hadad, Nina Perkas, Yosef Gofer, Jose Calderon-Moreno, **Anil Vithal Ghule**, Aharon Gedanken, 2007, Sonochemical deposition of silver nanoparticles on wool fibers, **Journal of Applied Polymer Science**, 104, 1732-1737. (IF-3.12) (ISSN 0021-8995)
 147. Kalyani Ghule, **Anil Vithal Ghule**, Bo-Jung Chen and Yong-Chien Ling, 2006, Preparation and characterization of ZnO nanoparticles coated paper and its antibacterial activity study, **Green Chemistry**, 8, 1034-1041. (IF-10.11) (ISSN 1463-9262)
- This research work has been highlighted in
- a. Chemical Technology <http://www.rsc.org/Publishing/ChemTech/Volume/2006/11/antibacterialwallpaper.asp>
 - b. National Tsing Hua University webpage (front page as hot news) <http://www.nthu.edu.tw/newsphoto/news/hotnews-1213.html>
 - c. Chemistry World <http://www.rsc.org/ChemistryWorld/>
 - d. Nanowerk.com a news portal as news article in <http://www.nanowerk.com/spotlight/spotid=1036.php>
 - e. USA Chemical and Biological Information Analysis Center Defense magazine newsletter, vol 8(1) 2007, page 16 http://www.cbrniac.apgea.army.mil/products/newsletter_pdfs/vol8_num1.pdf
 - f. Among top 10 articles and most accessed article in Green Chemistry as of Dec 2006 <http://www.rsc.org/Publishing/Journals/gc/Top10.asp>
 - g. Nanotechnology.com as a news article <http://www.nanotechnology.com/news/?id=9457>
 - h. Newswiretoday.com as a news article <http://www.newswiretoday.com/news/10722/>
 - i. Nanotech-now.com as a news article http://www.nanotech-now.com/news.cgi?story_id=18583
 - j. Emerging Technology resources in scenta.co.uk as news article <http://www.scenta.co.uk/scenta/news>
 - k. Nanoquebec.ca as news article http://www.nanoquebec.ca/nanoquebec_w/site/fiche/7917
 - l. Science Quick picks: A Chemist's selection of Science News and Resources http://www.pontotriplo.org/quickpicks/2006/11/zinc_oxide_zno.html
 - m. NanoTechnology discussions <http://ragingbull.quote.com/mboard/boards.cgi?board=NANOTECH&read=3871>
 - n. War on Terrorism as news article http://terrorism-online.blogspot.com/2006/10/cbr-weapons-and-wmd-terrorism-news_27.html
 - o. Nanoforum.org (European Nanotechnology Gateway) <http://www.nanoforum.org/>
 - p. BioNanoTech: Newswire Today <http://bionanotech.wikidot.com/newswiretoday2006>
 - q. The Chemical Forum <http://www.chemicalforum.eu/viewtopic.php?p=1038>
 - r. Nanogallery.info-nano-news <http://www.nanogallery.info/nanonews/?id=7019&slid=news&type=nanonews>
 - s. Police Technology: CBR Weapons and WMD Terrorism News <http://police-technology.spaces.live.com/blog/cns!C91EC985B9612867!752.entry>
 - t. All business: Science and Technology <http://www.allbusiness.com/manufacturing/chemical-manufacturing/4107900-1.html>
 - u. Highlighted in Asia Technology Information program: Asia Nanotech Digest December 2006
 - v. Royal Society of Chemistry press release 2006
 - w. Also featured in Nanomaterials News.
148. Kalyani Ghule, **Anil Vithal Ghule**, Jen-Yu Liu and Yong Chien Ling, 2006, Microscale size triangular gold prisms synthesized using Bengal gram beans (*Cicer arietinum* L.) extract and HAuCl₄.3H₂O: A green biogenic approach, **Journal of Nanoscience and Nanotechnology**, 6, 3746-3751. (IF-1.35) (ISSN 1004-2997)
 149. Yong-Chien Ling, Bo-Jung Chen and **Anil Vithal Ghule**, 2006, Time of Flight Secondary Ion Mass Spectrometry, **Journal of Chinese Mass Spectrometry**, 27, 204-204 (IF-0.976)

150. Shin-Hwa Tzing, **Anil Vithal Ghule**, Jen-Yu Liu and Yong-Chien Ling, 2006, On-line derivatization gas chromatography with furan chemical ionization mass spectrometry for screening of amphetamines in urine, **Journal of Chromatography A**, 1137, 76-83. (IF-4.75) (ISSN 0021-9673)
151. Bertrand Lo, Jia-Yaw Chang, **Anil Vithal Ghule**, Shin-Hwa Tzing and Yong-Chien Ling, 2006, Seed-mediated fabrication of ZnO nanorods with controllable morphology and photoluminescence properties, **Scripta Materialia**, 54, 411-415. (IF-5.61) (ISSN 1359-6462)
152. **Anil Vithal Ghule**, Kalyani Ghule, Ching Yuan Chen, Wen-Yin Chen, Shin-Hwa Tzing, Hua Chang and Yong-Chien Ling, 2004, *In situ* thermo-TOF-SIMS study of thermal decomposition of zinc acetate dihydrate, **Journal of Mass Spectrometry**, 39, 1202-1208. (IF-1.98) (ISSN 1076-5174)
153. Chin-Yuan Chen, **Anil Vithal Ghule**, Wen-Yin Chen, Chung-Chi Wang, Yi-Shing Chiang and Yong-Chien Ling, 2004, Rapid identification of phthalates in blood bags and food packaging using TOF-SIMS, **Applied Surface Science**, 231-232, 447-451. (IF-6.70) (ISSN 0169-4332)
154. **Anil Vithal Ghule**, Chin-Yuan Chen, Fu-Der Mai and Yong-Chien Ling, 2004, TOF-SIMS study of pyridine intercalated nanorods of bismuth molybdate, **Applied Surface Science**, 231-232, 840-844. (IF-6.70) (ISSN 0169-4332)
155. **Anil Vithal Ghule**, Shin-Hwa Tzing, Jia-Yaw Chang, Kalyani Ghule, Hua Chang and Yong-Chien Ling, 2004, Synthesis and monitoring of α - $\text{Bi}_2\text{Mo}_3\text{O}_{12}$ catalyst formation using thermo-Raman spectroscopy, **European Journal of Inorganic Chemistry**, 1753-1762. (IF-5.02) (ISSN 1099-0682)
156. Hua Chang and **Anil Vithal Ghule**, 2004, The advantages of Raman spectroscopy in thermodynamic processes: Thermo-Raman spectroscopy, **Trends in Applied Spectroscopy**, 5, 1-18 (IF-2.38) (ISSN 0972-4516)
157. **Anil Vithal Ghule**, Kalyani Ghule, Shin-Hwa Tzing, Jia-Yaw Chang, Hua Chang and Yong-Chien Ling, 2004, Pyridine intercalative sonochemical synthesis and characterization of α - $\text{Bi}_2\text{Mo}_3\text{O}_{12}$ phase nanorods, **Chemical Physics Letters**, 383, 208-213. (IF-2.32) (ISSN 0009-2614)
158. **Anil Vithal Ghule**, Ren-Kun Chen, Shin-Hwa Tzing, Jim Lo, and Yong-Chien Ling, 2004, A simple and rapid method for evaluating stickiness in cotton using thermogravimetric analysis, **Analytica Chimica Acta**, 502, 251-256. (IF-6.55) (ISSN 0003-2670)
159. **Anil Vithal Ghule**, Bertrand Lo, Shin-Hwa Tzing, Kalyani Ghule, Hua Chang and Yong-Chien Ling, 2003, Simultaneous thermogravimetric analysis and *in situ* thermo-Raman spectroscopic investigation of thermal decomposition of zinc acetate dihydrate forming zinc oxide nanoparticles, **Chemical Physics Letters**, 381, 262-270. (IF-2.32) (ISSN 0009-2614)
160. Jia-Yaw Chang, Fu-Der Mai, Bertrand Lo, Jia-Jiu Chang, Shin-Hwa Tzing, **Anil Vithal Ghule** and Yong-Chien Ling, 2003, Transportation of silver nanoparticles in nanochannels of carbon nanotubes with supercritical water, **Chemical Communication**, 2362-2363. (IF-6.22) (ISSN 1359-7345)
161. Shin-Hwa Tzing, Jia-Yaw Chang, **Anil Vithal Ghule**, Jia-Jiu Chang, Bertrand Lo, and Yong-Chien Ling, 2003, A simple and rapid method for identifying the source of spilled oil using an electronic nose: confirmation by gas chromatography with mass spectrometry, **Rapid Communications in Mass Spectrometry**, 17, 1873-1880. (IF-2.41) (ISSN 0951-4198)
162. Shin-Hwa Tzing, **Anil Vithal Ghule**, Jia-Yaw Chang and Yong-Chien Ling, 2003, Selective adduct formation by furan chemical ionization reagent in gas chromatography ion trap mass spectrometry, **Journal of Mass Spectrometry**, 38, 401-408. (IF-1.98) (ISSN 1076-5174)
163. Shin-Hwa Tzing, **Anil Vithal Ghule**, Jia-Yaw Chang and Yong-Chien Ling, 2003, Chemical ionization of substituted naphthalenes using tetrahydrofuran as a reagent in gas chromatography with ion trap mass spectrometry, **Rapid Communications in Mass Spectrometry**, 17, 811-815. (IF-2.41) (ISSN 0951-4198)
164. **Anil Vithal Ghule**, Chetan Bhongale and Hua Chang, 2003, Monitoring dehydration and condensation processes of $\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$ by thermo-Raman spectroscopy, **Spectrochimica Acta A**, 59, 1529-1539. (IF-4.09) (ISSN 1386-1425)
165. **Anil Vithal Ghule**, Nateshan Baskaran, Chetan Bhongale, Ramaswamy Murugan and Hua Chang, 2003, Thermo-Raman and conductivity studies on phase transformations of Na_3PO_4 . **Solid State Ionics**, 161, 291-299. (IF-3.79) (ISSN 0167-2738)
166. Jia-Yaw Chang, **Anil Vithal Ghule**, Jia-Ju Chang, Shin-Hwa Tzing, and Yong-Chien Ling, 2002, Opening and thinning of multiwall carbon nanotubes in supercritical water, **Chemical Physics Letters**, 363, 583-590. (IF-2.32) (ISSN 0009-2614)
167. Arumugasamy Jeevanandam, **Anil Vithal Ghule**, Yong-Chien Ling, 2002, Palladium catalyzed transformation of acyclic units to furans, **Current Organic Chemistry**, 6, 841-864. (IF-1.93) (ISSN 1385-2728)
168. Nateshan Baskaran, **Anil Vithal Ghule**, Chetan Bhongale, Ramaswamy Murugan and Hua Chang, 2002, Phase transition studies of ceramic BaTiO_3 using Thermo-Raman and dielectric constant measurements, **Journal of Applied Physics**, 91, 10038-10043. (IF-5.29) (ISSN 0021-8979)
169. Ramaswamy Murugan, **Anil Vithal Ghule**, Chetan Bhongale and Hua Chang, 2002, Laser induced structural transformations in hydrated MoO_3 investigated by Raman spectroscopy, **Laser Chemistry**, 20, 33-42. (IF-1.32) (ISSN 0278-6273)
170. Chetan Bhongale, **Anil Vithal Ghule**, Ramaswamy Murugan and Hua Chang, Thermo-Raman studies on $\text{Na}_4\text{P}_2\text{O}_7 \cdot 10\text{H}_2\text{O}$ for dehydration and phase transformations, 2001, **Journal of Thermal Analysis and Calorimetry**, 65, 891-905. (IF-4.62) (ISSN 1588-2926)

171. Hua Chang, Ramaswamy Murugan and **Anil Vithal Ghule**, Coupling of Thermogravimetric analysis and thermo-Raman spectroscopy for *in situ* dynamic thermal analysis, 2001, **Thermochimica Acta**, 374, 45-49. (IF-3.11) (ISSN 0040-6031)
172. **Anil Vithal Ghule**, Ramaswamy Murugan and Hua Chang, 2001, Thermo-Raman studies on $\text{NaH}_2\text{PO}_4 \cdot 2\text{H}_2\text{O}$ for dehydration and condensation, **Inorganic Chemistry**, 40, 5917-5923. (IF-5.16) (ISSN 0020-1669)
173. **Anil Vithal Ghule**, Ramaswamy Murugan and Hua Chang, 2001, Thermo-Raman studies on dehydration of $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$, **Thermochimica Acta**, 371, 127-135. (IF-3.11) (ISSN 0040-6031)
174. Ramaswamy Murugan, **Anil Vithal Ghule**, Chetan Bhongale and Hua Chang, 2000, Thermo-Raman investigations on structural transformation in hydrated MoO_3 , **Journal of Material Chemistry**, 10, 2157-2162. (IF-12.73) (ISSN 2050-750X) (1364-5501)
175. Ramaswamy Murugan, Pei Jane Huang, **Anil Vithal Ghule** and Hua Chang, 2000, Studies on thermal hysteresis of KNO_3 by Thermo-Raman spectroscopy, **Thermochimica Acta**, 346, 83-90. (IF-3.11) (ISSN 0040-6031)
176. Ramaswamy Murugan, **Anil Vithal Ghule** and Hua Chang, 2000, Thermo-Raman spectroscopic studies on polymorphism in Na_2SO_4 , **Journal of Physics: Condensed Matter**, 12, 677-700. (IF-2.74) (ISSN 0953-8984)
177. Ramaswamy Murugan, **Anil Vithal Ghule** and Hua Chang, 1999, Raman studies on ferroelectric phase (phase III) of KNO_3 , **Journal of Applied Physics**, 86, 6779-6788. (IF-2.87) (ISSN 0021-8979)

PUBLICATION OF BOOK/BOOK CHAPTER

1. Biodegradable Nanocomposites for Energy Harvesting, Self-healing and Shape Memory, Deepu Thomas, John-John Cabibihan, Sasi Kumar, SK Khadheer Pasha, Dipankar Mandal, Meena Laad, Bal Chandra Yadav, SI Patil, **Anil Ghule**, Payal Mazumdar, Sunita Rattan, Kishor Kumar Sadasivuni, 2017, **Smart Polymer Nanocomposites**, 2017, 377-397, **Springer International Publishing**. ISBN-13: 978-3319504230; ISBN-10: 3319504231
2. Bioactive ceramic composite material stability, characterization and bonding to bone, 2018, Vijay H. Ingole, Bhaskar Sathe and **Anil Vithal Ghule**, **Fundamental Biomaterials: Ceramics**, 2018, 273, **Woodhead Publishing**, 1st Edition. (498 pages) ISBN-13: 978-0081022030; ISBN-10: 0081022034
3. Metal oxides and their role in pseudocapacitors (Chapter 7), 2023, Rutuja Anil Chavan a and **Anil Vithal Ghule**, **Handbook of Energy Materials in Supercapacitor and Storage Devices**, **Scrivener Publishers**
4. Hybrid Supercapacitors: Bridging the Gap between Batteries and Capacitors (Chapter 17), KP Gattu, DV Dake, ND Raskar, BR Sathe, **Anil Vithal Ghule**, 2025, **Materials Science for Future Applications**, **CRC Press, Taylor and Francis Group**, 1st Edition, 2025, Boca Raton, (16 pages) eBook ISBN: 9781003491439. <https://doi.org/10.1201/9781003491439>
5. 1D/2D Heterostructured Photocatalysts for Energy and Environmental Applications (Chapter 14), Ketan P Gattu, Shraddha M Rajore, Bhaskar R Sathe, **Anil Vithal Ghule**, Nita D Raskar, Dnyaneshwar V Dake, 2025, One- and Two-Dimensional Nanomaterials, **Academic Press, Elsevier**, 325-347, ISBN: 978-0-443-23703-4 <https://doi.org/10.1016/B978-0-443-23703-4.00014-5>
6. Shital S. Shendage and **Anil Vithal Ghule**, Nanohydroxyapatite for bone tissue engineering application. (Book Chapter invited by Nova Science Publishers- Under preparation)

PRESENTATIONS IN INTERNATIONAL CONFERENCES

1. Ravikumar M. Borade, Satish U. Deshmukh, Rupali L. Magar, Swati B. Kale, Rajendra P. Pawar, **Anil Vithal Ghule**, 2015, Biosynthesized Tin Oxide Nanoparticles (SnO_2 Nps): A Facile Catalyst for One Pot Synthesis of 2-Amino-4H-Chromene Derivatives, **International Conference of Green Chemistry: Catalysis, Energy and Environment, Department of Chemistry, Goa University, Goa 22-24 January, 2015**.
2. Anil A. Kashale, Ketan P. Gattu, Vijay H. Ingole, Ganesh V. More, Swapnali S. Dhanayat, Aniruddha K. Kulkarni, Ramphal Sharma and **Anil Vithal Ghule**, 2015, Effect of Pyridine Treatment on Spinel LiMn_2O_4 Synthesized by Sol-Gel Method for Lithium Ion Battery Application, **5th Asia-Oceania Conference on Green and Sustainable Chemistry (AOC 5-GSC) on January 15-17, 2015** at India Habitat Centre, Lodhi Road, New Delhi, India.
3. Ketan P. Gattu, Anil A. Kashale, Kalyani Ghule, Vijay H. Ingole, Ganesh V. More, Swapnali S. Dhanayat, Yong-Chien Ling, Ramphal Sharma, **Anil Vithal Ghule**, 2015, Comparative Study of Pure and Ni Doped Biosynthesized SnO_2 Nanoparticles for Room Temperature Gas Sensing, **5th Asia-Oceania Conference on Green and Sustainable Chemistry (AOC 5-GSC) on January 15-17, 2015** at India Habitat Centre, Lodhi Road, New Delhi, India.
4. Swapnali S. Dhanayat, Ketan P. Gattu, Kalyani Ghule, Anil A. Kashale, Vijay H. Ingole, Ganesh V. More, Ramphal Sharma, **Anil Vithal Ghule**, 2015, Biological Synthesis of NiAl_2O_4 Nanoparticles by using Gram Bean Extract for Environmental Application, **5th Asia-Oceania Conference on Green and Sustainable Chemistry (AOC 5-GSC) on January 15-17, 2015** at India Habitat Centre, Lodhi Road, New Delhi, India.
5. Vijay H. Ingole, Ketan P. Gattu, Anil A. Kashale, Ganesh V. More, Kalyani Ghule, Swapnali S. Dhanayat, Jia-Yaw Chang, Fu-Der Mai, Ramphal Sharma and **Anil Vithal Ghule**, 2015, Green-Synthesis of Nano-Hydroxyapatite using Eggshell

- Waste, **5th Asia-Oceania Conference on Green and Sustainable Chemistry (AOC 5-GSC) on January 15-17, 2015** at India Habitat Centre, Lodhi Road, New Delhi, India.
6. **Anil Vithal Ghule**, Anil A. Kashale, Ketan Gattu, Kalyani Ghule, Sung-Hwan Han, Ramphal Sharma and Yong-Chien Ling, **2013**, Green Nanotechnology Based Room Temperature Gas Sensors, **4th Asia-Oceania International Conference on Green and Sustainable Chemistry (AOC-4 GSC 2013)**, National Tsing Hua University, Hsinchu, Taiwan (3-6 November, 2013).
 7. Ketan Gattu, Anil A. Kashale, Kalyani Ghule, Ramphal Sharma, Yong-Chien Ling and **Anil Vithal Ghule**, **2013**, Effect of Doping on Biosynthesized SnO₂ Nanoparticles, **4th Asia-Oceania International Conference on Green and Sustainable Chemistry (AOC-4 GSC 2013)**, National Tsing Hua University, Hsinchu, Taiwan (3-6 November, 2013).
 8. Anil A. Kashale, Ketan Gattu, Kalyani Ghule, Sung-Hwan Han, Ramphal Sharma, Yong-Chien Ling and **Anil Vithal Ghule**, **2013**, Synthesis of Li₃V₂(PO₄)₃/C Nanoparticles by Ultrasonic-Assisted Sol-Gel Method for Application in Lithium Ion Batteries, **4th Asia-Oceania International Conference on Green and Sustainable Chemistry (AOC-4 GSC 2013)**, National Tsing Hua University, Hsinchu, Taiwan (3-6 November, 2013).
 9. Arindam Ghosh, Vidya S. Taur, Rajesh A. Joshi, Sunil R. Gosavi, Ravikiran B. Birajadar, Shaheed U. Shaikh, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Role of Cu dopant on LPG sensing properties of chemically grown nanostructured ZnO thin film, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 10. Harishchandra K. Sadekar, Rajesh A. Joshi, **Anil Vithal Ghule**, and Ramphal Sharma, **2011**, Structural and Optoelectronic Property Study of ZnS_{1-x}Se_x Thin Films as Alternative Non-Toxic Buffer Layer for Solar Cell Applications, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 11. Ravikiran B. Birajadar, Arindam Ghosh, Rajesh A. Joshi, Vidya S. Taur, Deepali J. Desale, Shaheed U. Shaikh, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Zinc oxide - intercalated polyaniline nanocomposite thin film for room temperature LPG sensor, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 12. Ghazi Mohd Qamaruddin, Jagruti V. Meshram, Ketan P. Gattu, Sandip V. Mahajan, Deepak S. Upadhye, Arindam A. Ghosh, Vidya S. Taur, Rajesh A. Joshi, Shaikh Shaheed Umar, Ravikiran B. Birajadar, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Effect of growth parameters and thermal treatment on the structure, morphology and optical properties of PbS thin films, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 13. S. U. Shaikh, D. J. Desale, **Anil Vithal Ghule**, Ramphal Sharma, **2011**, Effect of air annealing on wet chemically grown CdS nanodot structured thin film at room temperature, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 14. Deepali J. Desale, Arindam Ghosh, Rajesh A. Joshi, Vidya S. Taur, Shaheed U. Shaikh, Farah Siddiquee, Ravikiran B. Birajadar, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Growth and characterization of CdS-Bi₂S₃ nanocomposite thin film deposited by successive ionic layer adsorption and reaction method, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 15. Jagruti V. Meshram, Ketan P. Gattu, Ghazi Mohd Qamaruddin, Sandip V. Mahajan, Deepak S. Upadhye, Arindam Ghosh, Shaheed. U. Shaikh, Ravikiran B. Birajadar, Vidya S. Taur, Rajesh A. Joshi, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Fabrication of PbSe thin films for its optoelectronic devices applications, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 16. Ketan P. Gattu, Jagruti V. Meshram, Sandip V. Mahajan, Deepak S. Upadhye, Ghazi Mohd Qamaruddin, Rajesh A. Joshi, Arindam Ghosh, Vidya S. Taur, Shaheed. U. Shaikh, Ravikiran. B. Birajadar, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Study of optoelectronic properties of Ag/n-CdS heterojunction prepared by CBD technique, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 17. Sandip V. Mahajan, Ketan P. Gattu, Jagruti V. Meshram, Deepak S. Upadhye, Ghazi Mohd Qamaruddin, Arindam Ghosh, Vidya S. Taur, Rajesh A. Joshi, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Wet chemical synthesis of ZnO thin films for optoelectronic device application, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 18. Vidya S. Taur, Rajesh A. Joshi, Arindam Ghosh, **Anil Vithal Ghule**, Ramphal Sharma, **2011**, Effect of Ag doping on photovoltaic characteristics of CdS thin film, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 19. Deepak S. Upadhye, Sandip V. Mahajan, Ketan P. Gattu, Jagruti V. Meshram, Ghazi Mohd Qamaruddin, Arindam Ghosh, Vidya S. Taur, Rajesh A. Joshi, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Synthesis of ZnS thin film by CBD for photovoltaic solar cell applications, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 20. Jagannath B. Chaudhari, Arindam A. Ghosh, Vidya S. Taur, Rajesh A. Joshi, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Studies on structural and optical properties of CdS_{0.2}Se_{0.8}:Ag nanocomposite thin film for photosensor application, **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 21. Sunil R. Gosavi, Arindam A. Ghosh, Vidya S. Taur, Rajesh A. Joshi, Harishchandra K. Sadekar, **Anil Vithal Ghule** and Ramphal Sharma, **2011**, Study of annealing effects on Structural, Optical and Electrical properties of CuSe thin films grown by Solution Growth Technique (SGT), **ICRE-2011, University of Rajasthan, Jaipur (January 17-21, 2011)**.
 22. **Anil Vithal Ghule**, Kalyani Ghule and Yong-Chien Ling, 2007, Ultrasound Assisted Simple "Green" Chemistry Approach for Coating ZnO and TiO₂ Nanoparticles on Paper Surface for its Application as Antibacterial Wallpapers, **The 11th Annual Green Chemistry and Engineering Conference (June 26-29, 2007)**, Washington DC, USA.
 23. **Anil Vithal Ghule**, Kalyani Ghule, Bo-Jung Chen and Yong-Chien Ling, 2007, Ultrasound Assisted "Green" Chemistry Approach for Coating TiO₂ Nanoparticles on Paper Surface: A Step Forward for its Application as Antibacterial Wall

Papers, **GSC-AON 2007, Japan** (March 6-9, 2007)(*Accepted for poster competition and was offered financial support to attend conference and forum*)

24. Yong-Chien Ling, Bo-Jung Chen and **Anil Vithal Ghule**, 2006, Progress in Nanomaterial analysis using TOF-SIMS, **SIMS International Symposium 2006, Japan**.
25. Kalyani Ghule, **Anil Vithal Ghule**, Jen-Yu Liu, Yong-Chien Ling, 2005, Green Biogenic Synthesis of Silver and Gold Nanoparticles using Pigeon Peas (*Cajanus cajan* (L.) Millsp.), **Asianalysis 2005, Taipei. (Awarded as a best poster)**
26. **Anil Vithal Ghule**, Kalyani Ghule, Hua Chang, Yong-Chien Ling, 2005, Real-time Monitoring of ZnO Nanoparticles Synthesis Using Thermo-Raman Spectroscopy and Thermo-TOF-SIMS, **ICCES05, India**.
27. Yong-Chien Ling, Bertrand Lo, **Anil Vithal Ghule**, K. Y. Hsu, WY Chen, CC Tai, TC Kuo, PJ Lien, 2004, Supercritical CO₂ assisted photoresist stripping and wafer cleaning, **Super Green 2004, China**.
28. **Anil Vithal Ghule**, Bertrand Lo, Kalyani Ghule, Chin-Yuan Chen, Shin-Hwa Tzing, Hua Chang and Yong-Chien Ling 2004, Simultaneous thermogravimetric and *in situ* Raman spectroscopic investigation of decomposition of zinc acetate dihydrate towards zinc oxide nanoparticle formation under different atmosphere and characterization, **Pittcon 2004, USA**.
29. **Anil Vithal Ghule** and Yong-Chien Ling, 2003, Thermal decomposition of zinc acetate dihydrate and mechanism of zinc oxide nanoparticle formation investigated by TOF-SIMS, **ICCT 2003, Taipei: Analytical Chemistry, Taiwan**.
30. Chin-Yuan Chen, **Anil Ghule**, Wen-Yin Chen, Chiung-Chi Wang, Yi-Hshin Chiang and Yong-Chien Ling, 2003, Rapid identification of phthalates in blood bags and food packagings using TOF-SIMS, **SIMS XIV, San Diego, CA, USA**.
31. **Anil Vithal Ghule**, Chin-Yuan Chen and Yong-Chien Ling, 2003, TOF-SIMS study of pyridine intercalated nanorods of bismuth molybdate, **SIMS XIV, San Diego, CA, USA**.
32. Jia-Yaw Chang, **Anil Vithal Ghule**, Jia-Ju Chang, Shin-Hwa Tzing, and Yong-Chien Ling, 2002, Opening and thinning of multiwall carbon nanotubes in supercritical water, **Nanotechnology Conference 2002, National Taiwan University, Taipei, Taiwan**.
33. **Anil Vithal Ghule**, Ramaswamy Murugan and Hua Chang, 2000, Thermo-Raman studies on dehydration of Na₃PO₄.12H₂O, **Chinese Chemical Society Conference, Taichung, Taiwan**.
34. Ramaswamy Murugan, **Anil Vithal Ghule**, Chetan Bhongale and Hua Chang, 1999, Thermal and laser-induced structural transformation in hydrated MoO₃ investigated by Raman Spectroscopy, **The Eighth Asian Chemical Congress and Chemical Industry and Instrument Exhibition, Federation of Asian Chemical Society, Taipei, Taiwan**.

PRESENTATIONS IN NATIONAL CONFERENCES

1. Kaustubh Suresh Ghule, Swapnali Dhanayat, Chandrashekhar Gourshete, Ramphal Sharma, Sanjay S. Kolekar and **Anil Vithal Ghule**, 2015, Biosynthesized Al₂O₃ Nanoparticles based Nanofluid for Heat Transfer Engineering Application, National workshop on “**Review of Progress in Nanoscience**”, New Arts, Commerce and Science College, Ahmednagar, February 13-14, 2015. (**Received first prize for poster**)
2. Yogesh A. Jadhav, G. V. More, S. B. Bagul, **Anil Ghule**, R. S. Sonawane and R. B. Sharma, **2012**, Nanoparticles of Pure Titanium Dioxide and Gold Doped Titanium Dioxide Grown by Soft Chemical Route (Sol-Gel), National Workshop **NIPRpst-2012, Dr. BAMU**, Aurangabad. Feb 16-17, 2012.
3. A. A. Ghosh, R. B. Birajadar, S. U. Shaikh, D. J. Desale, F. Y. Siddiqui, K. P. Gattu, S. R. Gosavi, H. K. Sadekar, R. R. Ahire, R. R. Kasar, **Anil Ghule** and R. B. Sharma, **2012**, Studies of Swift Heavy Ion irradiation on Nano Crystalline ZnO Thin Film for LPG Sensing Properties National Workshop, **NIPRpst – 2012, Dr. BAMU**, Aurangabad. Feb 16-17, 2012
4. J. B. Chaudhari, R. A. Joshi, R. Late, S. Shaikh, **Anil Ghule** and R. B. Sharma, **2012**, Annealing Induced Modifications in Nanostructured CdS_{0.7}Se_{0.3} Thin Films National Workshop **NIPRpst-2012 Dr. BAMU**, Aurangabad. Feb 16-17, 2012.
5. H. K. Sadekar, **Anil Ghule** and R. B. Sharma, **2012**, Effect of S:Se on Photosensor Characteristics of Nanostructured n-ZnS_{1-x}Se_x/p-Cu₂S Thin Films National Workshop **NIPRpst-2012, Dr. BAMU**, Aurangabad. Feb 16-17, 2012
6. S. S. Dhanayat, R. V. Digraskar, S. V. Sevlikar, Y. A. Jadhav, G. V. More, S. B. Bagul, K. P. Gattu, **Anil Ghule**, and R. B. Sharma, **2012**, Silver Nanoparticle Intercalation in CdS Thin Films Synthesized by CBD National Workshop **NIPRpst-2012, Dr. BAMU**, Aurangabad. Feb 16-17, 2012.
7. D. J. Desale, S. Shaikh, F. Siddiqui, R. Birajadar, R. Late, **Anil Ghule**, R. B. Sharma, 2012, Growth and Characterization of CdS-Polyelectrolyte-Bi₂S₃ Thin Film by SILAR Method, National Workshop **NIPRpst-2012, Dr. BAMU**, Aurangabad. Feb 16-17, 2012.
8. S. B. Bagul, G. V. More, Y. Jadhav, H. Al Shaheen, D. S. Upadhye, K. P. Gattu, S. V. Mahajan, **Anil Ghule** and R. B. Sharma, **2012**, Optical and Electrical Properties of Pure Nanocrystalline ZnO Thin Film Prepared by SILAR Technique, National Workshop **NIPRpst-2012, Dr. BAMU**, Aurangabad. Feb 16-17, 2012.
9. Arindam Ghosh, Yuraj G. Gudage, Rajesh A. Joshi, Vidya S. Taur, Sunil R. Gosavi, Harishchandra K. Sadekar, Deepali J. Desale, Farha Y. Siddiqui, Shaheed U. Shaikh, Ravikiran B. Birajadar, M. Q. Ghazi, Sandip Mahajan, **Anil Ghule** and Ramphal Sharma, **2010**, Effect of irradiation on Cu doped ZnO thin films grown by SILAR technique, **ASATON-2010, Sakri**.
10. Farha.Y. Siddiqui, Arindam Ghosh, Rajesh A. Joshi, Deepali J. Desale, Vidya S. Taur, Sunil R. Gosavi, Shaheed U. Shaikh, Yuraj G. Gudage, Harishchandra K. Sadekar, Ravikiran B. Birajadar, M. Q. Ghazi, Sandeep V. Mahajan, **Anil Ghule** and

Ramphal Sharma, **2010**, Optical properties of CdSSe thin film deposited by chemical bath deposition method, **ASATON-2010, Sakri**.

11. Rajesh A. Joshi, Yuvraj G. Gudage, Arindam Ghosh, Vidya S. Taur, Sunil R. Gosavi, Deepali J. Desale, Farha Y. Siddiqui, Shaheed U. Shaikh, Ravikiran B. Birajadar, Jagruti Meshram, Ketan P. Gattu, **Anil Ghule** and Ramphal Sharma, **2010**, Vacancy induced structural modifications in CuInSe₂, **ASATON-2010, Sakri**.
12. Ravikiran B. Birajadar, Yuraj G. Gudage, Arindam Ghosh, Rajesh A. Joshi, Sunil R. Gosavi, Vidya S. Taur, Deepali J. Desale, Farha Y. Siddiqui, Shaheed U. Shaikh, **Anil Ghule** and Ramphal Sharma, **2010**, Effect of SHI irradiation on structural and opto-electronic properties of nanocrystalline ZnO thin film, **ASATON-2010, Sakri**.
13. Sunil R. Gosavi, Yuraj G. Gudage, Arindam Ghosh, Rajesh A. Joshi, Harishchandra K. Sadekar, Vidya S. Taur, Deepali J. Desale, Shaheed U. Shaikh, Farha Siddiquee, Ravikiran B. Birajadar, **Anil Ghule** and Ramphal Sharma, **2010**, Effect of annealing on the optoelectronic properties of CuSe thin film, **ASATON-2010, Sakri**.
14. Shaheed U. Shaikh, Yuraj G. Gudage, Arindam Ghosh, Rajesh A. Joshi, Sunil R. Gosavi, Vidya S. Taur, Deepali J. Desale, Farha Siddiqui, Ravikiran B. Birajadar, **Anil Ghule** and Ramphal Sharma, **2010**, Growth and characterization of CdS and Bi₂S₃ thin films deposited by wet chemical deposition technique, **ASATON-2010, Sakri**.
15. Vidya S. Taur, Yuvraj G. Gudage, Arindam Ghosh, Rajesh A. Joshi, Sunil R. Gosavi, Deepali J. Desale, Farha Y. Siddiqui, Shaheed U. Shaikh, Ravikiran B. Birajadar, Jagruti Meshram, Ketan P. Gattu, **Anil Ghule** and Ramphal Sharma, **2010**, Photosensor application of CdS-Cu₂S composite thin film by chemical route, **ASATON-2010, Sakri**.

INVITED TALK

1. **Anil Ghule**, Exploring Nanotechnology through Green Chemistry Perspectives, Army Academy R.O.C., Taoyuan, Taiwan, June 23, 2006.
2. **Anil Ghule**, Sustainable Growth of Nanotechnology, Institute of Microelectromechanical Systems, National Tsing Hua University, Hsinchu, Taiwan, November 21, 2006.
3. **Anil Ghule**, Future Perspectives of Nanotechnology, Department of Biomedical Engineering and Environmental Sciences, NTHU, Hsinchu, Taiwan, November 27, 2006.
4. **Anil Ghule**, Green Nanotechnology: Opportunities and Challenges, BG College Science Day, Pune, India, February 28, 2007.
5. **Anil Ghule**, Chemical Synthesis of Nanoparticles and their applications, Nanotechnology Workshop, University of Nevada, Las Vegas, US, July 10, 2007
6. **Anil Ghule**, Sonochemistry and its applications to Nanochemistry, Howard R. Hughes College of Engineering, University of Nevada, Las Vegas, US, August 11, 2007.
7. **Anil Ghule**, Opportunities and Challenges in Nanotechnology, Shivaji University, Kolhapur, India, June 14, 2009.
8. **Anil Ghule**, Advances in Green Nanotechnology, C-MET, Pune, India, June 15, 2009.
9. **Anil Ghule**, Green Nanotechnology, **NATCON NAMTECH-2009**, University of Lucknow, Lucknow, India, December 22, 2009.
10. **Anil Ghule**, Developments in Green Nanotechnology, **ETIC 2010**, University of Pune, Pune, India, January 6, 2009.
11. **Anil Ghule**, Advances in Mass Spectrometry, **ASMCS-2010**, New Arts, Commerce and Science College, Parner, Ahmednagar, Maharashtra, India, January 13, 2010.
12. **Anil Ghule**, Solar Energy: Ultimate Non-conventional Energy Resource, **RTMS-2010**, New Arts, Commerce and Science College, Parner, Ahmednagar, Maharashtra, India, February 22, 2010.
13. **Anil Ghule**, Sustainable Green Nanotechnology, **AISATON-2010**, S. G. Patil Arts, Science and Commerce College, Sakri, Dhule, Maharashtra, India, March 9, 2010.
14. **Anil Ghule**, What is Green Nanotechnology? **Nanomaterial Workshop**, Deogiri College of Engineering, Science, Commerce and Arts, Aurangabad, Maharashtra, India, April 3, 2010.
15. **Anil Ghule**, Recent Progress in Green Nanotechnology, **Nanotechnology Workshop**, Department of Chemical Technology, North Maharashtra University, Jalgaon, Maharashtra, India, April 10, 2010.
16. **Anil Ghule**, Biomedical Applications of Nanotechnology, **Nanotechnology Workshop**, Department of Chemical Technology, North Maharashtra University, Jalgaon, Maharashtra, India, April 10, 2010.
17. **Anil Ghule**, Significance of Green Nanotechnology, **The National Conference on Nanotechnology: Fundamentals & Applications**, Vinayakrao Patil Mahavidyalaya, Vaijapur, Maharashtra, India, December 29, 2011.
18. **Anil Ghule**, Introduction to Green Nanotechnology and its Applications, **INSPIRE Program funded by DST, Govt of India**, Shri Dhokeshwar Mahavidyalaya, Takali Dhokeshwar, Maharashtra, India, January 06, 2012.
19. **Anil Ghule**, Sustainable Green Nanotechnology, **Sustainable Chemistry: Challenges and Opportunities**, Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Sub-campus Osmanabad, Maharashtra, India, January 10, 2012.
20. **Anil Ghule**, Sustainable Green Nanotechnology, **Recent Trends in Materials Science**, C.T. Bora College, Shirur, Maharashtra, India, January 21, 2012.

21. **Anil Ghule**, Introduction to Nanotechnology, **Talent Search in Chemistry**, M. J. College, Jalgaon, Maharashtra, India, February 23, 2012.
22. **Anil Ghule**, Introduction and Advances in Sonochemistry for Nanomaterials Synthesis, **Recent Advances in Material Engineering and Technologies**, **Singhagad Institute, Lonavala**, Maharashtra, India, May 2-3, 2012.
23. **Anil Ghule**, Scope, Opportunities and Challenges in Analytical Chemistry and Research, **Shivaji University, Kolhapur**, India, July 21, 2012.
24. **Anil Ghule**, Introduction to Green Chemistry and Green Technology, **Resource Person in Refresher Course in Chemistry/Chemical Technology/Pharmacy**, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra UGC-Academic Staff College, August 17, 2012.
25. **Anil Ghule**, Nanotechnology: Technology with Potentials for the Modern Era, **Resource Person in National Conference on Nanotechnology-2012, September 7-8, 2012**, Maharashtra Mahavidyalaya, Nilanga, Latur.
26. **Anil Ghule**, Applications Driven Economic Approaches for Synthesis and Fabrication of Nanomaterials, **Resource Person in National Conference on Physics of Nanomaterials and Applications NCPNA-2012, December 14-15, 2012**, D. B. F. Dayanand College, Solapur.
27. **Anil Ghule**, Green Nanotechnology: Technology for the Modern Era, **Resource Person in National Conference on Role of Green Chemistry in Environmental Pollution-2012, December 21-22, 2012**, Anandrao Dhole Mahavidyalaya, Kada, Asthi, Maharashtra.
28. **Anil Ghule**, Green Nanotechnology, **Resource Person in INSPIRE Program funded by DST, Govt of India**, Dr. Patangrao Kadam Mahavidyalaya, Sangli, Maharashtra, India, January 10, 2013.
29. **Anil Ghule**, Advances in Sonochemistry for Synthesis of Nanomaterials, **Resource Person in National Conference on Nanomaterials: Applications and Properties**, Arts, Commerce and Science College, Sonai, Maharashtra, India, February 22-23, 2013.
30. **Anil Ghule**, IPR and its Significance from Advanced Technology Perspectives, **Invited Speaker in Workshop on Intellectual Property Rights 2013**, National Institute of Electronics and Information Technology, Aurangabad, Maharashtra, India, June 03, 2013.
31. **Anil Ghule**, Research Methodology-Art and Skill of Communicating Research Work, Information and Publications, **Resource Person in Chemistry Ph.D. Course**, Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, June 19, 2013.
32. **Anil Ghule**, Nanotechnology: A Fusion of Science and Technology, **Invited Speaker, JNEC-MGM College**, Aurangabad, Maharashtra, September 02, 2013.
33. **Anil Ghule**, Green Nanotechnology: Technology for the Modern Era, **Resource Person in Workshop on Nanotechnology-2013, September 15-17, 2013**, Marathwada Institute of Technology (MIT), Aurangabad, Sept. 16, 2013.
34. **Anil Ghule**, Applications Driven Economic Approaches for Synthesis and Fabrication of Nanomaterials, **Resource Person in Workshop on Nanotechnology-2013, September 15-17, 2013**, Marathwada Institute of Technology (MIT), Aurangabad, Sept. 17, 2013.
35. **Anil Ghule**, Green Nanotechnology, **RSC Lecture Series, December 17, 2013**, University of Delhi, Delhi.
36. **Anil Ghule**, Recent Progress in Polymer and Polymer Composites for technological Applications, **National Conference on The Polymer Chemistry for Mankind December 27-28, 2013**, Govt. College of Arts and Science, Aurangabad.
37. **Anil Ghule**, Research Methodology in Nanotechnology, **Research Methodology in Physical Sciences, February 15-16, 2014**, Balbhini Arts, Science and Commerce College, Beed.
38. **Anil Ghule**, Nanotechnology: A Fusion of Science and Technology for Modern Era, **Resource Person in National Seminar on "Nanoscience-A science of twenty first century", November 29, 2014**, Mahatma Phule Arts, Science and Commerce College, Panvel.
39. **Anil Ghule**, Career Opportunities in Science and Nanotechnology, **Resource Person for invited guest lecture by Science Association of C.T. Bora College Shirur, December 11, 2014**, C. T. Bora College, Shirur.
40. **Anil Ghule**, Sustainable Green Nanotechnology, Resource Person in the State conference on "Nanotechnology and Advanced Functional Materials" **December 12, 2014**, C. T. Bora College, Shirur.
41. **Anil Ghule**, Nanotechnology for Modern Era, **Resource Person in the National Conference on "Recent Trends in Interdisciplinary Research in Material Science" December 26-27, 2014**, Annasaheb Dange College of Engineering and Technology, Ashta, December 27, 2014.
42. **Anil Ghule**, Green Nanotechnology, Institute of Science, Bhadrawati, **January 07, 2015**, University of Kovempu, Shimoga, Karnataka.
43. **Anil Ghule**, Chalcogenides and their Technological Applications, **Resource Person in the National Conference on "Chemistry of Chalcogens and Related Topics-NC³-2015" January 12-13, 2015**, Defense Institute of Advanced Technology, Girinagar, Pune, January 12, 2015.
44. **Anil Ghule**, Career Opportunities in Science and Nanotechnology, **Resource Person for invited guest lecture by New Arts, Commerce and Science College, Parner, January 13, 2015**.
45. **Anil Ghule**, Green Chemistry Weds Nanotechnology, **Resource Person in the National Seminar on "Emerging Trends and Challenges in Chemical Sciences" January 23-24, 2015**, Arts Commerce and Science College, Kille-Dharur, Beed, January 24, 2015.

46. **Anil Ghule**, Chief Guest for valedictory function and Alumni meet during the **Hands on Instrumental Analysis** in Baburaoji Gholap College, Sangvi on February 5-6, 2015.
47. **Anil Ghule**, Introduction to Nanotechnology: Synthesis and Characterization, **Resource Person** for workshop “**Review of Progress in Nanoscience**” **February 13-14, 2015**, organized by **New Arts, Commerce and Science College, Ahmednagar**, February 13, 2015.
48. **Anil Ghule**, Green Nanotechnology, **Resource Person** in “**National Seminar on Green Chemistry and Crop Protection**” **NSGCCP-2015, March 26, 2015**, organized by **Dahiwadi College, Dahiwadi, Tal. Man, Satara**, March 26, 2015.
49. **Anil Ghule**, Green Chemistry Weds Nanotechnology, **Invited Speaker in Refresher Course in Chemistry during November 16-December 06, 2015**, organized by the **Department of Chemistry, Shivaji University, Kolhapur**, November 17, 2015.
50. **Anil Ghule**, Art of Scientific Writing, **Invited Speaker in Refresher Course in Chemistry during November 16-December 06, 2015**, organized by the **Department of Chemistry, Shivaji University, Kolhapur**, November 18, 2015.
51. **Anil Ghule**, Tools and Softwares for Advanced Scientific Research, **Invited Speaker in Refresher Course in Chemistry during November 16-December 06, 2015**, organized by the **Department of Chemistry, Shivaji University, Kolhapur**, December 04, 2015.
52. **Anil Ghule**, Recent Progress in TOF-SIMS Analysis, **Invited Speaker in 2nd International Conference on Advanced Techniques and Applications of Mass Spectrometry during November 19-20, 2015**, organized by the **SelectBio, UK** in Ramada Powai Hotel & Convention, Powai, Mumbai, November 19, 2015.
53. **Anil Ghule**, Nanotech Weds Biotech: Nanobiotechnology, **Invited Speaker in Biotechnology Day on December 15, 2015**, organized by the **Department of Biotechnology, Shivaji University, Kolhapur**.
54. **Anil Ghule**, University Level Avishkar 2015 (ULA-2015), **Invited Mentor and Examiner for ULA-2015 in Dr. Babasaheb Ambedkar Marathwada University, Aurangabad on December 22-23, 2015**, organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
55. **Anil Ghule**, Sustainable Nanotechnology for Energy Storage Systems, **Invited Speaker** in National Conference on New Trends and Developments in Physics (NTDP-2016), New Arts, Commerce and Science College, Parner, Ahmednagar, Maharashtra, India, January 08, 2016.
56. **Anil Ghule**, Green Nanotechnology, **Invited Speaker** in State Level Conference on **Green Approach in Material Chemistry**, BJS College Arts, Science and Commerce College, Wagholi, Pune, February 8-9, 2016.
57. **Anil Ghule**, Green Nanotechnology for Addressing Environmental Issues, **Invited Speaker** in International Conference on Impact of Chemical Research on Environment (**ICRE 2016**), New Arts, Commerce and Science College, Parner, Ahmednagar, Maharashtra, India, February 17-18, 2016.
58. **Anil Ghule**, Applications of Chemical and Materials Science for Sustainable Development, **2016**, Department of Chemistry, Shivaji University, Kolhapur, Maharashtra, India, February 20, 2016.
59. **Anil Ghule**, Research Opportunities in Chemistry, **Resource Person** in **Chemistry Fest 2016**, Department of Chemistry, Vivekanad College, Kolhapur, January 30, 2016.
60. **Anil Ghule**, Chairperson of the Session, **Recent Advances in Integrated Pest Management (RAIPM-2016)**, Department of Agrochemicals and Pest Management, Shivaji University, Kolhapur, March 1-2, 2016.
61. **Anil Ghule**, Instrumental Techniques in Chromatography, **Resource Person** in **Advanced Techniques in Chromatographic Analysis**, Sangola College, Sangola, February 06, 2016.
62. **Anil Ghule**, Advanced Functional Materials using Green Nanotechnology, **Invited Speaker** in International Conference on **Functional Ecofriendly Smart Emerging Materials (FESEM-2016)**, Baburaoji Gholap College, Sangvi, Pune, March 12, 2016.
63. **Anil Ghule**, Green Nanotechnology for Modern Era, **Invited Speaker** in One Week Short Term Training Programme on **Recent Trends in Chemical Science for Engineering and Technology under TEQIP**, Department of Chemistry and Physics, Government College of Engineering, Karad, May 23-27, 2016.
64. **Anil Ghule**, University Level Avishkar 2016 (ULA-2016), **Invited Mentor and Examiner for ULA-2016 in Dr. Babasaheb Ambedkar Marathwada University, Aurangabad on December 27-28, 2016**, organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
65. **Anil Ghule**, Green Chemistry Weds Nanotechnology, **Invited Speaker in Refresher Course in Basic Science during August 29, 2016-September 20, 2016** organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
66. **Anil Ghule**, Art of Scientific Writing, **Invited Speaker in Refresher Course in Basic Science during August 29, 2016-September 20, 2016** organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
67. **Anil Ghule**, Advanced Analytical Techniques, **Invited Speaker** in Baburaoji Gholap College, Sangvi, Pune, September 07, 2016.
68. **Anil Ghule**, New Education Policy 2016: Internationalisation of Higher Education, **Invitee** in program organized by Dept. of Higher and Technical Education, Govt. of Maharashtra and SNTD Women’s University, Mumbai on **September 24, 2016**.

69. **Anil Ghule**, Green Nanotechnology, **Invited Speaker** in Four Week Orientation Programme approved by UGC-HRD Centre Savitribai Phule Pune University, Pune and supported by TEQIP-II and organized by Department of Technology, Shivaji University, Kolhapur, **December 17, 2016**.
70. **Anil Ghule**, Introduction to IPR, **Invited Speaker** in Four Week Orientation Programme approved by UGC-HRD Centre Savitribai Phule Pune University, Pune and supported by TEQIP-II and organized by Department of Technology, Shivaji University, Kolhapur, **December 02, 2016**.
71. **Anil Ghule**, Research and Scientific Writing, **Invited Speaker** in Four Week Orientation Programme approved by UGC-HRD Centre Savitribai Phule Pune University, Pune and supported by TEQIP-II and organized by Department of Technology, Shivaji University, Kolhapur, **December 15, 2016**.
72. **Anil Ghule**, NanoBiotechnology for Modern Era, **Invited Speaker** in National Conference on **Recent Trends in Physical, Chemical and Nanosciences- 2017 (NCRT-PCNano-2017)**, Lal Bahadur Shastri College, Satara, **January 23, 2017**.
73. **Anil Ghule**, Chairperson of the Session, **Innovative Research in Chemical Sciences (IRCS-2017)**, Department of Chemistry, Shivaji University, Kolhapur, **February 1-2, 2017**.
74. **Anil Ghule**, Green Chemistry Weds Nanotechnology: Green Nanotechnology, **Invited Speaker in Research Colloquium**, organized by Shivaji University, Kolhapur, **February 04, 2017**.
75. **Anil Ghule**, Multidisciplinary Research at the Interface of Sciences, **Invited Speaker** in National Conference on **Emerging Trends in Chemical and Physical Sciences- 2017 (ETCPS-2017)**, Yashwantrao Chavan Wama Mahavidyalaya, Wamanagar, **February 14, 2017**.
76. **Anil Ghule**, Training on Research Methodology and API, **Invited Speaker** in Deshbhakt Anandrao Balwantrao Naik Arts & Science College, Chikhali, **February 21, 2017**.
77. **Anil Ghule**, Introduction to IPR and Patents, **Invited Speaker** in National Workshop on Intellectual Property Rights and Patent Drafting: Global Scenario, CSIBER, Kolhapur, **March 11, 2017**.
78. **Anil Ghule**, Research and Information, **Invited Speaker** in Deshbhakt Anandrao Balwantrao Naik Arts & Science College, Chikhali, **March 20, 2017**.
79. **Anil Ghule**, Introduction to IPR and Patents, **Invited Speaker** in Workshop on Avishkar 2017, Willingdon College, Sangli, **April 1, 2017**.
80. **Anil Ghule**, Introduction to IPR and Patents, **Invited Speaker** in Workshop on **Institutional Development through Research**, KIT College of Engineering, Kolhapur, **April 2, 2017**.
81. **Anil Ghule**, Green Chemistry Weds Nanotechnology: Green Nanotechnology, **Invited Speaker in National Conference** organized by **Government Science College, Chitradurg, Karnataka, April 22, 2017**.
82. **Anil Ghule**, Green Chemistry Weds Nanotechnology: Green Nanotechnology, **Invited Speaker in Refresher Course in Basic Science** organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, **July 12, 2017**.
83. **Anil Ghule**, SUK-RIL Joint Project on Energy Conversion and Storage Devices, **Invited Speaker at Reliance Industries Limited, Ghansoli, Mumbai, August 21, 2017**.
84. **Anil Ghule**, Intellectual Property Rights and Patent Filing, **Invited Speaker** in One Day Training program, Lal Bahadur Shastri (LBS) College of Arts, Commerce and Science, Satara, **October 12, 2017**.
85. **Anil Ghule**, Green Chemistry, **Invited Speaker in Refresher Course in Basic Science** organized by University of Goa, Goa, **December 11, 2017**.
86. **Anil Ghule**, Introduction and Overview of Intellectual Property Rights, **Invited Speaker in Refresher Course in Basic Science** organized by University of Goa, Goa, **December 11, 2017**.
87. **Anil Ghule**, TOF-SIMS: An Advanced Analytical Tool, **Invited Speaker in Second International Conference on Advances in Materials Science (ICAMS-2017)** Raje Ramrao Mahavidyalaya, Jath, **December 23, 2017**.
88. **Anil Ghule**, University Level Avishkar 2017 (ULA-2017), **Invited Mentor and Examiner for ULA-2017 in Dr. Babasaheb Ambedkar Marathwada University, Aurangabad** organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, **December 24-25, 2017**.
89. **Anil Ghule**, Intellectual Property Rights and Patent Filing, **Invited Speaker** in One Day Training program, Lal Bahadur Shastri (LBS) College of Arts, Commerce and Science, Satara, **October 12, 2017**.
90. **Anil Ghule**, Introduction to Intellectual Property Rights (Background, History, Types and Applications) One Day Training program, ShivChhatrapati College, Aurangabad, **December 05, 2017**.
91. **Anil Ghule**, Introduction to Intellectual Property Rights One Day Training program, SGM College of Engineering Gadhinglaj **March 03, 2018**.
92. **Anil Ghule**, Introduction to Intellectual Property Rights One Day Training program, Shahu College, Kolhapur **March 24, 2018**.
93. **Anil Ghule**, Green Chemistry Weds Nanotechnology: Green Nanotechnology, **Invited Speaker in National Conference on Materials for Energy-Environment and their Applications - NCMfEE-2018**, Department of Physics-Osmania University-April 29, 2018.
94. **Anil Ghule**, Convener and Resource person in **"Patents and Patent Drafting Workshop"** organized by the Intellectual Property Rights Cell and IQAC, Shivaji University, Kolhapur, **July 12-15, 2018**.

95. **Anil Ghule**, Resource person in “**Patents and Patent Drafting Workshop**” organized by the Intellectual Property Rights Cell and IQAC, Shivaji University, Kolhapur, **July 15, 2018**.
96. **Anil Ghule**, Resource Person for one day Teachers Workshop on **Revised Syllabus of M. Sc. I in Analytical Chemistry** organized by Jaysingpur College, Jaysingpur **August 16, 2018**.
97. **Anil Ghule**, Resource Person for one day Workshop on “**Patent Writing and Documentation**” organized by Annasaheb Dange College of Engineering and Technology (ADCET), Ashta **August 25, 2018**.
98. **Anil Ghule**, “**Research and Intellectual Property Rights**” One Day Workshop, Rajarshi Chhatrapati Shahu College, Kolhapur **September 11, 2018**.
99. **Anil Ghule**, Intellectual Property Rights and Patent Filing, **Invited Speaker** in One Day Workshop, Arts, Science and Commerce College, Ramanandnagar, Kirloskarwadi, Palus, **October 06, 2018**.
100. **Anil Ghule**, Green Nanotechnology, **Resource Person in Refresher Course in Science “Recent Innovative Trends of Nanomaterials in Chemical, Biological and Physical Sciences”** organized by Modern College of Arts, Science and Commerce, Pune 411005 **October 10, 2018**.
101. **Anil Ghule**, Introduction and Overview of Intellectual Property Rights, **Resource Person in Refresher Course in Science “Recent Innovative Trends of Nanomaterials in Chemical, Biological and Physical Sciences”** organized by Modern College of Arts, Science and Commerce, Pune 411005 **October 10, 2018**.
102. **Anil Ghule**, Intellectual Property Rights, **Resource Person** in One Day Workshop on IPR, DKASC College, Ichalkarnji, Hatkanangale, Kolhapur, **October 25, 2018**.
103. **Anil Ghule**, Significance of Thermal Analysis for Foundry Materials **Resource Person in One Day Workshop** organized by Kolhapur Foundry Association 2019.
104. **Anil Ghule**, Green Chemistry Weds Nanotechnology: Green Nanotechnology, **Invited Speaker in National Conference “Global Opportunities in Chemical, Biological and Material Sciences”** organized by K.K.H.A. Arts, S.M.G.L. Commerce & S.P.H.J. Science College, Neminagar, Chandwad, Nasik 423101, **December 28, 2018**.
105. **Anil Ghule**, Green Nanotechnology, **Resource Person in Refresher Course in Materials Science** organized by Osmania University, Hyderabad 411005 **January 05, 2019**.
106. **Anil Ghule**, Introduction and Overview of Intellectual Property Rights, **Resource Person in Refresher Course in Materials Science** organized by Osmania University, Hyderabad 411005 **January 05, 2019**.
107. **Anil Ghule**, Green Nanotechnology, **Invited Speaker** in “**Two Day International Conference on Advances in Pure and Applied Sciences (ICAPAS 2019 on Jan 5&6, 2019)**” organized by Balwant College, Vita, **January 06, 2019**.
108. **Anil Ghule**, National Workshop on Intellectual Property Rights, **Resource Person in Two Day Workshop on IPR 2019** organized by Hirachand Nemchand College of Commerce, Solapur, **February 1-2, 2019**.
109. **Anil Ghule**, Introduction to Intellectual Property Rights, **Resource Person** in One Day Workshop on IPR organized by **Vivekanand College, Kolhapur, February 19, 2019**.
110. **Anil Ghule**, Intellectual Property Rights-Concepts and Provisions, **Resource Person** in One Day Workshop on IPR organized by **Shahaji College, Kolhapur, February 20, 2019**.
111. **Anil Ghule**, Introduction to Intellectual Property Rights, **Resource Person** in One Day Workshop on IPR organized by **Dr. Patangrao Kadam Mahavidyalaya, Sangli, February 28, 2019**.
112. **Anil Ghule**, Chief Guest and Invited talk “**Science for People, People for Science**” to Celebrate National Science Day 2019 organized by Balwant College, Vita, **February 28, 2019**.
113. **Anil Ghule**, Introduction to Intellectual Property Rights, **Resource Person** in “**Research Promotion Initiative**” organized by **Dr. N. D. Patil Mahavidyalaya, Malkapur, March 09, 2019**.
114. **Anil Ghule**, Resume Writing, **Resource Person** in One Day Workshop on “**Advanced Interview Techniques & Resume Writing for UG and PG Students**” organized by **Centre for Skill & Entrepreneurship Development, March 12, 2019**.
115. **Anil Ghule**, RGSTC, Government of Maharashtra, **Training Program for IPR Cells in Universities of Maharashtra, June 11-12, 2019**.
116. **Anil Ghule**, Teachers Training Workshop on New Changed Syllabus of M.Sc. II in Analytical Chemistry Subject” organized by Dr. Patangrao Kadam Mahavidyalaya, Sangli, **September 03, 2019**.
117. **Anil Ghule**, Intellectual Property Rights, **Resource Person in One Day Workshop on IPR 2019** organized by Balwant College, Vita, **September 14, 2019**.
118. **Anil Ghule**, Analytical Chemistry, **Resource Person** for the Guest Lecture organized by SGM College, Karad, **September 20, 2019**.
119. **Anil Ghule**, Introduction to Intellectual Property Rights, **Resource Person in One Day Workshop on IPR under FDP 2019** organized by SGM College, Karad, **September 20, 2019**.
120. **Anil Ghule**, Progress in Green Nanotechnology, **Resource Person in National Conference on Green Chemistry for Better Sustainability**” organized by DM’s College, Goa **September 27, 2019**.
121. **Anil Ghule**, Green Nanotechnology, **Invited Speaker** in “**One Day National Seminar on Periodic Properties of Elements**” organized by Department of Chemistry and Physics, Rani Channama University, Belgavi, **October 05, 2019**.
122. **Anil Ghule**, Green Nanotechnology, **Resource Person in AICTE-ISTE approved one week FDP on “Industrial Revolution Through Green Technology”** organized by D Y Patil College of Engineering & Technology, Bawada, Kolhapur **December 12, 2019**.

123. **Anil Ghule**, Role of Nanotechnology in Pollution Abatement, **Resource Person** in Value Added Course on “**Recent Advances in Environmental and Safety**” organized by Department of Environmental Science, Shivaji University, Kolhapur **January 08, 2020**.
124. **Anil Ghule**, Recent Avenues for Research Promotion, **Resource Person** in **Research Promotion Activity** under **Lead College Scheme, Shivaji University, Kolhapur** organized by Bharati Vidyapeeth College of Pharmacy, Kolhapur **January 14, 2020**.
125. **Anil Ghule**, “Introduction to Intellectual Property Rights” One Day State Level Workshop IPR-2020, Rajarshi Chhatrapati Shahu College, Kolhapur **February 08, 2020**.
126. **Anil Ghule**, Green Chemistry Weds Nanotechnology: Green Nanotechnology, **Invited Speaker in National Conference on Recent Novel Approaches in Chemical Sciences** organized by Field Marshal K. M. Cariappa College, Madikeri, Mangalore, Karnataka, **February 12, 2020**.
127. **Anil Ghule**, Green Nanotechnology-I, **Resource Person in Refresher Course in Materials Science** organized by University of Mysore, Mysuru 570006, Karnataka **February 13, 2020**.
128. **Anil Ghule**, Green Nanotechnology-II, **Resource Person in Refresher Course in Materials Science** organized by University of Mysore, Mysuru 570006, Karnataka **February 13, 2020**.
129. **Anil Ghule**, Progress in Green Nanotechnology, **Invited Speaker in National Conference on Emerging Trends in Chemical and Materials Science** organized by Department of Chemistry, Shivaji University, Kolhapur, **March 6, 2020**.
130. **Anil Ghule**, IPR and Patent Filing as **Resource Person in Expert Lecture** organized by D Y Patil College of Engineering & Technology, Bawada, Kolhapur **March 12, 2020**.
131. **Anil Ghule**, Introduction to Intellectual Property Rights and Patents as **Resource Person in IPR and E-content Development** organized by Rajaram College, Kolhapur **June 9, 2020**.
132. **Anil Ghule**, Sustainable Technology from Green Perspectives as **Resource Person in Conference** organized by Department of Chemistry, Presidency College, Chennai. **August 7, 2020**.
133. **Anil Ghule**, Developing Green and Economic Approaches for Energy Storage Devices as **Resource Person in International e-Conference on Material Science and Nanotechnology (e-ICMSN-2020)** organized by Dayanand College, Latur **December 17-19, 2020**.
134. **Anil Ghule**, Preparing professional CV (academic/ industry), communication skills and tricks as **Resource Person in Workshop on “Research as Career: Opportunities Abroad and Associated Preparations”** organized by IAC and Dept of Chemistry, **February 13, 2021**.
135. **Anil Ghule**, Introduction to Intellectual Property Rights as **Resource Person in One Day State Level Workshop IPR-2021** organized by Krantisinh Nana Patil College, Walwa, **February 17, 2021**.
136. **Anil Ghule**, Future of Science and Technology and Innovation: Impact of Education, Skill and Work as **Resource Person- Invited Talk** organized by Jawahar Navodaya Vidyalaya, Kagal, **February 28, 2021**
137. **Anil Ghule**, SIU AIU Annual Conference on Internationalization of Higher Education as **Resource Person in International e-Conference SIU-AIU 2021** organized by Symbiosis Deemed University, Pune and AIU, New Delhi.
138. **Anil Ghule**, Scientific Writing: Communicating Research and Information, **Resource Person in National Seminar** organized by S. M. Joshi College, Hadapsar **July 03, 2021**.
139. **Anil Ghule**, IPR: Patent is the Key to Success, **Resource Person in National Seminar** organized by Devchand College, Arjun Nagar, Nipani **July 13, 2021**.
140. **Anil Ghule**, Career opportunities: Science and Technology as **Resource Person in National Conference** organized by SVKM's Mithibai College Mumbai, **July 26, 2021**.
141. **Anil Ghule**, Addressing Potential Challenges in Nanotechnology, **Resource Person in AICTE ATAL FDP Course in Nanotechnology** organized by Babasaheb Ambedkar Marathwada University, Aurangabad 431004 **November 10, 2021**.
142. **Anil Ghule**, Nanotechnology for Mankind, **Resource Person in Conference** organized by Muktanand College, Gangapur, Dr. BAMU, Aurangabad 431004 **December 30, 2021**.
143. **Anil Ghule**, Career Opportunities for Science Graduates, **Resource Person-Invited Talk** organized by Department of Chemistry, Shivaji University, Kolhapur **March 03, 2022**
144. **Anil Ghule**, Green Nanotechnology Approaches for Addressing Energy Challenges (2 Sessions), **Resource Person in UGC-MHRD Refresher Course** organized by Osmania University, Hyderabad **March 7, 2022**.
145. **Anil Ghule**, Career Opportunities Abroad and Preparation, **Resource Person-Invited Talk** organized by Bhogawati College, Kolhapur **April 23, 2022**.
146. **Anil Ghule**, Career Opportunities for English Graduates, **Resource Person-Invited Talk** organized by Department of English, Shivaji University, Kolhapur **June 01, 2022**
147. **Anil Ghule**, Addressing Present Energy Challenges (2 Sessions), **Resource Person in Polytechnique Faculty Training** organized by Osmania University, Hyderabad **June 18, 2022**.
148. **Anil Ghule**, Sustainable Nanotechnology for Advanced Applications, **Resource Person in UGC-MHRD Refresher Course** organized by Goa University, Goa **August 5, 2022**.
149. **Anil Ghule**, Sustainable Nanotechnology for Advanced Applications, **Resource Person-Invited Talk** organized by Jawahar Navodaya Vidyalaya, Kagal, **August 18, 2022**.

150. **Anil Ghule**, Advanced Thermal Techniques, **Resource Person in Online Refresher Course in Advance Instrumentation (MD)** organized by UGC-HRDC, Babasaheb Ambedkar Marathwada University, Aurangabad 431004 **September 13, 2022.**
151. **Anil Ghule**, Sustainable Green Approaches for Energy Technology, **Resource Person in National Seminar on Nanotechnology and its Applications** organized by Changu Kana Thakur ACS College, New Panvel, **Sept. 17, 2022.**
152. **Anil Ghule**, Analytical Chemistry and Revised Syllabus, **Resource Person in Faculty Development Program** organized by Yashwantrao Chavan Institute of Science, Satara, **Sept. 10, 2022.**
153. **Anil Ghule**, Sustainable Green Approaches for Energy Technology, **Resource Person in National Seminar on Recent Trends in Chemical Sciences** organized by Sangola College, Sangola, **Sept. 14, 2022.**
154. **Anil Ghule**, Advanced Thermal Techniques, **Resource Person in FDP-Research Methodology** organized by UGC-HRDC, Babasaheb Ambedkar Marathwada University, Aurangabad 431004 **December 6, 2022**
155. **Anil Ghule**, Advanced Thermal Techniques, **Resource Person in FDP-Research Methodology** organized by UGC-HRDC, Babasaheb Ambedkar Marathwada University, Aurangabad 431004 **December 28, 2022.**
156. **Anil Ghule**, Sustainable Green Approaches for Energy Technology, **Resource Person in National Conference of Chemical Sciences** organized by Rani Channama University Belgaon, **December 15, 2022.**
157. **Anil Ghule**, Advances in Thermal Analysis, **Resource Person in STUTI Workshop** organized by CFC-SAIF, Shivaji University, Kolhapur **December 6, 2022**
158. **Anil Ghule**, Developing Sustainable Technologies for Mankind, **Resource Person in International Conference on Emerging Trends in English Literature, Science and Technology** organized by SA Arts and K.C.P. Science College, Vijayapur **February 9, 2023.**
159. **Anil Ghule**, Modern Era of Science and Technology, **Resource Person in 50th Satara District Level Science Exhibition** organized by Yashwantrao Chavan College of Science, Karad in association with Maharashtra State Council of Educational Research and Training, Pune, Satara ZP Education Department, Karad, **January 19, 2023.**
160. **Anil Ghule**, Intellectual Property Rights-Copyrights and Trademark, **Resource Person in One Day Workshop on IPR 2023** organized by Raje Ramrao Mahavidyalaya, Jath, **February 4, 2023.**
161. **Anil Ghule**, Research Methodology, **Resource Person in One Day Workshop on Research Methodology** organized by Radhabai Kale Mahila Mahavidyalaya, Ahmednagar, **April 10, 2023.**
162. **Anil Ghule**, Intellectual Property Rights-Copyrights and Trademark, **Resource Person in One Day Workshop on IPR 2023** organized by Radhabai Kale Mahila Mahavidyalaya, Ahmednagar, **April 10, 2023.**
163. **Anil Ghule**, Green Sustainable Technologies, **Resource Person in National Conference on Impact of Chemistry and Biology on the Society and Industry** organized by Kuvempu University, Shivamoga, **May 20-21, 2023.**
164. **Anil Ghule**, Advances in Thermal Analysis Techniques, **Resource Person in Online Refresher Course in Advance Instrumentation (MD)** organized by UGC-HRDC, Babasaheb Ambedkar Marathwada University, Aurangabad 431004 **September 13, 2023.**
165. **Anil Ghule**, Recent Progress in TOF-SIMS Analysis, **Resource Person in Online Refresher Course in Advance Instrumentation (MD)** organized by UGC-HRDC, Babasaheb Ambedkar Marathwada University, Aurangabad 431004 **September 13, 2023.**
166. **Anil Ghule**, Green Nanotechnology for Sustainable Development, **Resource Person in One Day Workshop** organized by Jawahar Navodaya Vidyalaya in Department of Botany SUK, **September 14, 2023.**
167. **Anil Ghule**, Overseas Opportunities for Pharma Aspirants, **Resource Person/Invited Chief Guest Lecture in One Day Conference** organized by Krishna Institute of Medical Sciences, Karad, **December 02, 2023.**
168. **Anil Ghule**, Exploring Innovative Approaches for Sustainable Development Goals, **Resource Person in Three Day International Conference** organized by New College Kolhapur, **December 21-23, 2023.**
169. **Anil Ghule**, Green Nanotechnology Approaches in Biomedical Sciences, **Resource Person/Invited Talk** organized by Taipei Medical University, Taipei, Taiwan **October 30, 2023.**
170. **Anil Ghule**, Green Chemistry Weds Nanotechnology: Sustainable Green Nanotechnology, **Resource Person/Invited Talk** organized by National Dong Hua University, Hualian, Taiwan **November 01, 2023.**
171. **Anil Ghule**, Green Nanotechnology, Thermal Analysis, Scientific Communication, TOF-SIMS **Resource Person in Pre-Ph.D. Course Work** organized by Department of Chemistry, Shivaji University, Kolhapur **June 28, 2023.**
172. **Anil Ghule**, Introduction to IPR with Emphasis on Copyrights and Trademark, **Resource Person in One Day Workshop on IPR 2024** organized by DRK College, Kolhapur **January 31, 2024.**
173. **Anil Ghule**, Recent Progress in Sewage Treatment, Soil and Water Analysis, **Resource Person in One Day Workshop** organized by KBP College, Pandharpur, **March 24, 2024.**
174. **Anil Ghule**, Green Nanotechnology for Achieving Sustainable Development Goals **Resource Person in One Day National Conference on Emerging Trends in Science and Technology** organized by YC College, Halkarni, **January 20, 2024.**
175. **Anil Ghule**, Recent Trends and Opportunities in Chemical Science and Green Technology **Resource Person in National Workshop** organized by JNV, Kagal, **August 31, 2024.**
176. **Anil Ghule**, Introduction to IPR with Emphasis on Copyrights and Trademark, **Resource Person in One Day Workshop on IPR 2024** organized by Gokhale College, Kolhapur **October 01, 2024.**

177. **Anil Ghule**, Developing Sustainable Technologies for Mankind **Resource Person** talk organized by Department of Chemistry, Shivaji University, Kolhapur **October 09, 2024.**
178. **Anil Ghule**, Career Opportunities for Science Graduates, **Resource Person Workshop** organized by Department of Education, Shivaji University, Kolhapur, **October 22, 2024.**
179. **Anil Ghule**, Advances in Thermal Analysis Techniques, **Resource Person in Hands on Training Workshop** organized by USIC-CFC, Shivaji University, Kolhapur 416004 **December 18, 2024.**
180. **Anil Ghule**, Scientific Writing: Communicating Research and Information, **Resource Person in One Day Workshop** organized by **Raje Ramrao College, Jath, January 01, 2025**
181. **Anil Ghule**, Nanotechnology in Engineering Applications, **Resource Person in Faculty Development Program** organized by **BSiET, Kolhapur, January 02, 2025**
182. **Anil Ghule**, Green Nanotechnology based Sustainable Approaches for Biomedical Sciences **Resource Person in Faculty Development Program** organized by **Department of Biochemistry, Shivaji University, Kolhapur, January 29, 2025.**
183. **Anil Ghule**, Career Opportunities Abroad in Science and Nanotechnology, **Resource Person in One Day Workshop** organized by **KBP College, Pandharpur, February 13, 2025.**

- ❖ Member of *Mass Spectrometry Society of Taiwan*.
- ❖ Member of *Biophysical Society of Taiwan*.
- ❖ Life Member, *Materials Research Society of India (MRSI)* - Membership No. LMB 1662
- ❖ Life Member, *The Indian Science Congress Association (ISCA)* - Membership No. L18824
- ❖ Full Member of *American Nano Society*
- ❖ Life Member, of *Society for Biomaterials and Artificial Organs (India)* - Membership No. LM 598
- ❖ **Life Member, of *Society for Tissue Engineering & Regenerative Medicine (India)* - Membership No. LM 83**
- ❖ **Life Member, of *Indian Society for Electroanalytical Chemistry (ISEAC - India)* - Membership No. LM 205**
- ❖ **Member, American Chemical Society (ACS)- Membership No. 31648941**

- ❖ Serving as Board Member, Innovation and International Linkages, Shivaji University, Kolhapur
- ❖ Serving as Subject Expert, SARTHI, Pune and several Faculty Selection Committees.
- ❖ Serving as KAPILA Committee Member, IPR, Shivaji University, Kolhapur.
- ❖ Serving as Adhoc Board Member, Chemical, Life Sciences and Pharmacy Vocational Courses, SPPU, Pune.
- ❖ Serving as BOS Member, Nanotechnology, Mumbai University, Mumbai
- ❖ Serving as BOS Member, Bagalkot University, Jamkhandi, Karnataka
- ❖ Serving as BOS Member DKTE Engineering Institute, Ichalkaranji
- ❖ Serving as BOS Member TKTE Engineering Institute, Warnanagar
- ❖ Served as RRC (Chemistry) member, Savitribai Phule Pune University (SPPU), Pune.
- ❖ Served as Academic Council Member, Y.C. Satara
- ❖ Serving as examiner for Nanoscience and Analytical Chemistry.
- ❖ Serving as subject expert in Nanoscience and Chemistry for Ph.D. evaluation.
- ❖ Served as Joint Chief Superintendent in PET 2012, Dr. Babasaheb Ambedkar Marathwada University.
- ❖ Subject Expert for the Department of Forensic Science (Government Institute of Science, Aurangabad).
- ❖ Serving as Resource Person to encourage academic activities.
- ❖ Representative of Department of Nanotechnology for the Instrumentation Center of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- ❖ Designed syllabus for the Department of Nanotechnology, Dr. Babasaheb Ambedkar Marathwada University.
- ❖ Member of Adhoc Board (Board of Studies) Committee Member of Nanotechnology, Dr. Babasaheb Ambedkar Marathwada University.
- ❖ Serving as external examiner for Nanotechnology, Material Science, Chemistry etc. courses.
- ❖ Serving as external examiner for Industrial Chemistry, Kuvempu University, Karnataka (January 5-8, 2015)
- ❖ Served as paper setter i) Energy Management Science-University of Rajasthan, Jaipur.
 - ii) Forensic Sciences- Institute of Science, Government of Maharashtra.
 - iii) Department of Nanotechnology, Dr. Babasaheb Ambedkar Marathwada University.
 - iv) Analytical Chemistry, Dr. BAMU; Shivaji University, Kolhapur; RCU, Belgaum; Kuvempu University, Shivamoga; ADWU, Bijapur.
- ❖ Served as Chief Superintendent in SET 2015 Exams, Government of Maharashtra.
- ❖ Served as Observer for UGC-NET Exams, KBP Engineering College, Satara August 20-24, 2024.

CURRENT RESEARCH PROJECTS-PROFESSIONAL RESEARCH FELLOWSHIPS

- ❖ **PI- Project (3 years) entitled “Simple and Economic Biosynthesis of SnO₂ nanoparticles thin-films for gas sensor applications”** sanctioned by UGC-DAE-CSR, Indore worth Rs. 7,09,800+TA+ Access to Facilities at Indore.
- ❖ **PI- Project (3 years) entitled “Fabrication of Biosynthesized In₂O₃ Nanoparticles based Thin Films: A Simple and Economic Approach Towards the Development of Low Temperature Operated Gas Sensors”** sanctioned by UGC, New Delhi worth Rs. 14,00,800.
- ❖ **PI- Project (3 years) entitled “Engineering of Al₂O₃-NiO nanomaterial via Swift heavy ion (SHI) Ni⁺ irradiation on Al₂O₃ thin films prepared by SILAR for catalysis/gas sensor application”** sanctioned by IUAC, New Delhi.
- ❖ **Co-PI-Project (3 years) entitled “Growth and effect of SHI ions in structural and optoelectronic properties of nanocomposites CdS-Bi₂S₃ semiconductor thin-film for Photo sensor applications”** sanctioned by IUAC, Delhi worth Rs. 5,63,000.
- ❖ **Co-PI-BRNS project (3 years) entitled “Growth and Optoelectronic Properties of Pure and Doped Polyaniline Thin Films for the Gas Sensor Applications”** worth Rs. 17,19,000.
- ❖ **Co-PI-Project (3 years) entitled “Growth and Characterization of Nanostructured ZnS/Cu₂ZnSnS₄ Chalcogenides Non Toxic Large Area Thin Films for Solar Cell Applications”** sanctioned by DST, New Delhi worth Rs. 15,70,000.
- ❖ **PI- Project (2 years) entitled “Simple and Economic Green Strategy for Conservation of Wood and Forest”** sanctioned by RGST Commission, Mumbai, Govt of Maharashtra Rs. 7,54,000. (March 2016-March 2018)
- ❖ **PI- Project (2 Years) entitled “Synthesis of Zinc Cobaltite Thin Film by Chemical Methods and Evaluation of its Application for Supercapacitors”** sanctioned by Shivaji University, Kolhapur under Research Strengthening Scheme 2019 Rs. 2,00,000.

EXPERIENCE OF GUIDING RESEARCH SCHOLARS/Ph.D. STUDENTS M.Sc. RESEARCH PROJECTS

1. **Ketan Gattu**, Synthesis and ultrasonic intercalation of silver nanoparticles in CdS thin films for optoelectronic device application, **MS Student**, Dept of Nanotechnology, **2011**.
2. **Jagruiti V. Meshram**, Optoelectronic study of polyaniline thin film, **MS Student**, Dept of Nanotechnology, **2011**.
3. **Deepak S. Upadhye**, Optoelectrical study of ZnS thin film prepared by chemical bath deposition, **MS Student**, Dept of Nanotechnology, **2011**.
4. **Sandip V. Mahajan**, Wet chemical synthesis of Al doped ZnO thin films for optoelectronic device applications, **MS Student**, Dept of Nanotechnology, **2011**.
5. **Ghazi Mohd Qamaruddin**, Fabrication of tin dioxide thin film for optoelectronic studies, **MS Student**, Dept of Nanotechnology, **2011**.
6. **Bagul Sagar Baburao**, Structural and optoelectronic study of Li doped ZnO thin film by SILAR technique, **MS Student**, Dept of Nanotechnology, **2012**.
7. **Ahmed Jameel Hamad**, Optical and electrical properties of Zinc oxide thin film prepared by SILAR method, **MS Student**, Dept of Nanotechnology, **2012**.
8. **Jadhav Yogesh Ashokrao**, Structural morphological and optoelectronic study of titania and gold doped titania nanoparticles grown by Sol-Gel techniques, **MS Student**, Dept of Nanotechnology, **2012**.
9. **Kaje Vaishali Ashokrao**, Fabrication of ZnS and ZnSe thin films for solar cell applications, **MS Student**, Dept of Nanotechnology, **2012**.
10. **More Ganesh Vishwasrao**, Synthesis and characterization of cobalt oxide thin films for technological applications, **MS Student**, Dept of Nanotechnology, **2012**.
11. **Adel Sadoon Obaid**, ZnO thin film prepared by chemical bath deposition (CBD) and their characterization, **MS Student**, Dept of Nanotechnology, **2012**.
12. **Hayder Abdulrazzaq Saiwan Al-Shaheen**, Synthesis and charecterization of nanocrystalline Bi₂S₃ thin film by simple SILAR technique, **MS Student**, Dept of Nanotechnology, **2012**.
13. **Ali Khattab Shakir Al-Gburi**, Optical, electrical and structural properties of CdS thin film prepared by chemical bath deposition method, **MS Student**, Dept of Nanotechnology, **2012**.
14. **Swapnali Dhanyat**, Ultrasonically assisted intercalation of Ni in Al₂O₃ thin film prepared by SILAR technique for catalysis application, **MS Student**, Dept of Nanotechnology, **2013**.
15. **Renuka Digraskar**, Economic approach for fabricating nontoxic Cu₂ZnSnS₄(CZTS) thin films for solar cell applications, **MS Student**, Dept of Nanotechnology, **2013**.
16. **Ammar T. Salih**, Preparation and characterization of polyaniline nano fiber thin film deposited by oxidative polymerization technique on glass and ITO for ammonia gas sensor application, **MS Student**, Dept of Nanotechnology, **2013**.
17. **Ahmed Yahya Alem**, Biosynthesis of Indium Tin Oxide (ITO) nanoparticles for device grade applications, **MS Student**, Dept of Nanotechnology, **2013**.

18. **Dheyaa Jaber Yousif**, Synthesis of α -Bismuth Molybdate nano-powder by chemical precipitation for catalytic and petrochemical refining applications, **MS Student**, Dept of Nanotechnology, **2013**.
19. **Firas Abdulabbas Sukkar Sultan**, Synthesis and characterization nanostructured Mn doped ZnO thin film for photo-sensor application, **MS Student**, Dept of Nanotechnology, **2013**.
20. **Hamid Abd Zaid Fayyadh**, Growth and study of optoelectrical properties of copper doped CdSSe thin film for photosensor applications, **MS Student**, Dept of Nanotechnology, **2013**.
21. **Rowad Abdul-Ameer Lafta Nasir**, Study of structural and opto-electrical properties of Ag doped CdS thin film deposited by chemical bath deposition technique for photovoltaic applications, **MS Student**, Dept of Nanotechnology, **2013**.
22. **Sevlikar Shraddha Vijay**, Comparative study of HCl and H₂SO₄ doped polyaniline, **MS Student**, Dept of Nanotechnology, **2013**.
23. **Waleed Kamil Abdulkadhim**, Effect of Ag doping on grains size and optical properties of TiO₂ nanoparticles synthesized by Sol-Gel method, **MS Student**, Dept of Nanotechnology, **2013**.
24. **Ahmed Ismael Abdullah**, Synthesis and characterization of Fe₃O₄@PEG by chemical and biological method for biomedical applications. **MS Student**, Dept of Nanotechnology, **2014**.
25. **Ali Abed Jaber**, Preparation and characterization of CdS/Cu₂S nanostructure thin film deposited by chemical bath deposition for solar cell applications. **MS Student**, Dept of Nanotechnology, **2014**.
26. **Anahed Ahmed Abdul Jabbar**, Chemical synthesis and characterization of Fe₃O₄@PEG nanoparticles for environmental applications. **MS Student**, Dept of Nanotechnology, **2014**.
27. **Sandesh Sahebrao Ingle**, Simple, economic and room temperature synthesis of CuO for gas sensor applications. **MS Student**, Dept of Nanotechnology, **2014**.
28. **Maytham Qabel Hamzah Infeesh**, Synthesis and characterization of CdS/Cu₂ZnSnS₄ nanostructure thin film deposited by chemical bath deposition for solar cell applications. **MS Student**, Dept of Nanotechnology, **2014**.
29. **Mudher Hameed Ismail**, Comparison of biologically and chemically synthesized SnO₂ nanoparticles. **MS Student**, Dept of Nanotechnology, **2014**.
30. **Yogesh Eknath Pawar**, Biological synthesis and characterization of titanium oxide (TiO₂) and Ag-doped titanium oxide (Ag-TiO₂) nanoparticles. **MS Student**, Dept of Nanotechnology, **2014**.

CREDIANTIALS THROUGH M.Sc. NANOTECHNOLOGY STUDENTS ACTIVE PARTICIPATION

- ❖ **Ketan Gattu (M.Sc. Second Year Student)** - Participated and delivered a lecture on “Synthesis and ultrasonic intercalation of silver nanoparticles in CdS thin films for optoelectronic device application” in M. S. Wadia National Level Lecture Competition, **January 10, 2011**.
- ❖ **Renuka Digraskar (M.Sc. Second Year Student)**- Participated and delivered a lecture on “Economic approach for fabricating nontoxic Cu₂ZnSnS₄(CZTS) thin films for solar cell applications” in M. S. Wadia National Level Lecture Competition and won **Second Prize, January 10, 2013**.
- ❖ **Swapnali Dhanyat (M.Sc. Second Year Student)** - Participated and delivered a lecture on “Ultrasonically assisted intercalation of Ni in Al₂O₃ thin film prepared by SILAR technique for catalysis application” in M. S. Wadia National Level Lecture Competition and won **Consolation Prize, January 10, 2013**.
- ❖ **Renuka Digraskar (M.Sc. Second Year Student)** - Participated in **Avishkar 2012-13** and was among **top 5** in category.
- ❖ **Swapnali Dhanyat (M.Sc. Second Year Student)** – Participated and contributed in **Avishkar 2012-13** competition.

Ph.D. RESEARCH STUDENTS

- ❖ **Ketan Gattu- (Research Scholar-Project Fellow)**- Bio-synthesis of Tin Oxide Nanoparticles Thin Film and its Engineering for Technological Application (*Research on biosynthesis of metal oxide semiconductors for developing simple and economic room temperature gas sensing devices*)-Awarded **Ph.D. Degree on April 29, 2017**.
- ❖ **Anil Kashale-(JRF-CSIR-NET student and MOST Fellowship, Taiwan)**- Developing Economic Approach for Fabricating Efficient Lithium Battery Based Storage Devices (*Research on development of efficient lithium batteries*). Awarded **Ph.D. Degree on January 01, 2019**
- ❖ **Vijay Ingole- (Research Scholar-Recipient of Rajeev Gandhi National Fellowship and EU-Erasmus Mundus Fellowshipat University of Maribor, Slovenia)**- Design and Development of Nanocomposites for their Applications as Artificial Bone and for Bone Grafting (*Research on development of artificial bone bionanomaterials and bone grafts*) Awarded **Ph.D. Degree on April 02, 2019**
- ❖ **Aniruddha Keshav Kulkarni -(CSIR-NET Student)** Synthesis of Hierarchical Nanostructured Visible Light active materials and its photo catalytic application. Awarded **Ph.D. Degree on November 29, 2019**
- ❖ **Gokul Kamble- (Research Scholar-Recipient of Rajeev Gandhi National Fellowship)**-Synthesis of Zinc Cobaltite Thin Film by Chemical Methods and Evaluation of their Properties. Awarded **Ph.D. Degree on February 10, 2022**
- ❖ **Rutuja Chavan- (SARTHI Fellow)** Synthesis of MXenes-Metaloxide Nanocomposites for Energy Application (*Supercapacitor applications*) Awarded **Ph.D. Degree on June 16, 2023**
- ❖ **Seema Mane- (SARTHI Fellow)** Synthesis and Engineering of Vanadium Oxide based Electrodes for Supercapacitor Application (*Supercapacitor and Energy Storage*) Awarded **Ph.D. Degree on December 26, 2023**

- ❖ **Sheetal Shendage-(MahaJYOTI Fellow)** Fabrication and Characterisation of Bioactive Glasses and their Polymer Nanocomposites for Bone Tissue Engineering Application (*Biomedical applications through Green Nanotechnology*) **Awarded Ph.D. Degree on August 27, 2024**
- ❖ **Pooja Bhoj-(MahaJYOTI Fellow)** Synthesis and Characterization of Transition Metal Oxides Catalysts for Hydrogen Generation (*Hydrogen Energy applications*)
- ❖ **Kranti Kachare-(SARTHI Fellow)** Synthesis and Characterization of Nanoparticles Coated Fabric for Healthcare Applications (*Biomedical applications through Green Nanotechnology*)
- ❖ **Desta Mekebo Ulliso (Ethopia)- (ICCR Fellow)** Synthesis of Layered Double Hydroxide Thin Film by Chemical Methods for Supercapacitor (*Supercapacitor and Energy Storage*)
- ❖ **Vijaykumar Dhanaji Kandesar**, Development of Analytical Method(s) for Analysis of Active Pharmaceutical Ingredients and their Validation and Stability Study using Modern Analytical Techniques (*Pharmaceutical Analysis*)
- ❖ **Samdhan Gaikwad-(SARTHI Fellow)** Design and Development of Bioactive Glass-Polymer based Nanocomposite Hydrogels for Biomedical Application (*Biomedical applications through Green Nanotechnology*)

RESEARCH SCHOLARS

- ❖ **Ketan Gattu**, Simple and Economic Biosynthesis of SnO₂ nanoparticles thin-films for gas sensor applications, **Project Fellow**, UGC-DAE-CSR, Indore (June 2011-May 2014).
- ❖ **Seema Mane**, Simple and Economic Green Strategy for Conservation of Wood and Forest, **Project Fellow** project sanctioned by RGST Commission, Mumbai, Govt of Maharashtra (March 2016-March 2018).

CONFERENCES ATTENDED

- ❖ International Conference on Renewable Energy (ICRE-2011), University of Rajasthan, Jaipur, India, 2011.
- ❖ International Symposium on Future Green Energy and Global warming, Hanyang Institute of Technology, Seoul, South Korea, 2009.
- ❖ Asian Research Network Symposium, Hanyang University, Seoul, South Korea, 2009.
- ❖ 2nd Texas-Korea Nanotech Workshop, Hanyang University, Seoul, South Korea, 2009.
- ❖ ICCT 2003 Pre-symposium, NCTU, 2003.
- ❖ Frontiers in Nanotechnology, NTHU, 2002.
- ❖ Biophysical Society Conference, Academia Sinica, 2002.
- ❖ Biophysical Society Conference, Yang Ming University 2001.
- ❖ Chinese Chemical Society Conference, NCKU, Taiwan, 2001.
- ❖ Frontiers in Mass Spectroscopy, Tamkang University, Taiwan, 2001.

ORGANIZED/PARTICIPATED IN WORKSHOPS

- ❖ International Joint Research and Training Workshop on “**Environmentally Green Technology for Sustainable Development Goals and Net Zero Emission**” organized jointly by National Tsing Hua University, Hsinchu, Taiwan and National Science and Technology Council (NSTC), Taiwan **October 17-28, 2023**.
- ❖ Convener and Director, IPRC of “**Patents and Patent Drafting Workshop**” organized by the Intellectual Property Rights Cell and IQAC, Shivaji University, Kolhapur, **July 12-15, 2018**
- ❖ Convener and Director, IPRC of “**Workshop on Intellectual Property Rights**” organized by the Intellectual Property Rights Cell, Shivaji University, Kolhapur, **March 10, 2018**
- ❖ Convener of “**International Conference on Advances in Chemical Sciences 2018 (IC ACS-2018)**” organized by the Department of Chemistry, Shivaji University, Kolhapur, **February 1-3, 2018**.
- ❖ Rashtriya Uchchatar Shiksha Abhiyan (RUSA) in Collaboration with Rajiv Gandhi National Institute of Intellectual Property Management (RGNIPM) organized one week workshop/Training programme on “**Patent Filing, Search and Drafting**” during **October 03-07, 2016**, RGNIPM, Nagpur.
- ❖ **The Electrochemical Society (USA)-India Section- Electrochemical Energy Storage and Conversion: Materials, Processes and Applications** organized by the India Section of the Electrochemical Society, Hotel Shevaroy's, Yercaud, **August 20-23, 2016**.
- ❖ **Environmental Protection and Green Technology (2013 EPGT) Workshop**, organized by National Tsing Hua University, Hsinchu, Taiwan, **November 01 – November 08, 2013**.
- ❖ **UGC sponsored “Special Winter School Program 2013”** Academic Staff College, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, **January 15-February 05, 2013**
- ❖ **AICTE sponsored short term course on “Renewable Energy Materials and their Industrial Applications”** scheduled from November 05-16, 2012 at IIT, Kharagpur, India.
- ❖ Workshop on “**Instrumental Methods of Chemical Analysis**”, Department of Chemistry, Sub-Centre, Dr. Babasaheb Ambedkar Marathwada University, Osmanabad, Maharashtra, **February 25-26, 2012**
- ❖ Convener of “**Workshop on Nanotechnology and Intellectual Property Rights and Patents in Science and Technology from Nanotechnology Perspectives**” organized by the Department of Nanotechnology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, **February 16-17, 2012**.

- ❖ International Workshop and Symposium on the Synthesis and Characterisation of Glass/Glass-ceramics (IWSSCGGC-2010), C-MET, Pune, 2010.
- ❖ Workshop on “**Probing Molecular Electronics for Device Applications**”, Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India, 2010.
- ❖ Workshop on **Advances in Nanoscience** at NCL, Pune, July 8-11, 2009.
- ❖ Contributed in organization of Nanotechnology workshop for high school teachers as a scheme to encourage students at their tender age, Las Vegas, USA, 2007.
- ❖ The **First India-Taiwan Workshop on Nanoscience**, National Taiwan University, 2005.
- ❖ Organized workshop on **Applications of TOF-SIMS**, Department of Chemistry, NTHU, 2003
- ❖ **International Workshop on High Resolution TEM and GIF investigation of nanomaterials (IWHRTM)**, Material Science and Engineering Department, NTHU, December 12, 2003.

REFERENCES

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