

Prof. Dr. Kolekar Sanjay Subrao

Senior Professor

Department of Chemistry

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**ACADEMIC EXPERIENCE: 32 years****Present Academic Position:**

- **Department of Chemistry, Shivaji University, Kolhapur, India**
Senior Professor 2020 (since October)

Previous Academic Positions held:

- **Department of Chemistry, Shivaji University, Kolhapur, India**
Professor 2009-2020
Associate Professor 2005-2009
- **Chonnam National University, Gwangju, South Korea**
Visiting Scientist 2018-2019
- **Department of Chemistry, Hanyang University, Seoul, South Korea**
Visiting Professor 2013
Visiting Professor 2012
Visiting Professor 2010
- **Department of Chemistry, Sangola College, Sangola (PAH Solapur University, India)**
Reader 2003-2005
Lecturer (Sr. Scale) 1998-2003
Lecturer 1992-1998

ADMINISTRATIVE EXPERIENCE:**Shivaji University, Kolhapur**

- Member, Academic Council, 2017, 2023
- Chairman, Board of Studies in Chemistry and Chemical Engineering, 2023
- Member, Research and Recognition Committee, Chemistry and Chemical Engineering 2023
- Member, Central Research Committee, All Engineering Subjects, 2022-2024
- Coordinator, University Industry Interaction Centre, 2007-2018, 2020-2022
- Coordinator, Department of Applied Chemistry, 2019-2023
- Member, Standing Committee (Special Cell), 2010-2012
- Rector, Boys Hostel, 2005-2009
- Coordinator, Certificate Course in Analytical Instrumentation, 2007- 2008

Administrative Experience at Other Universities / Colleges

- Member, Board of Studies in Chemistry, Goa University, Goa, 2023-2026
- Member, Recognition Committee (Inorganic Chemistry), Goa University, Goa, 2021-2026
- Member, Research and Recognition Committee (Chemistry), Punyashlok Ahilyadevi Holkar Solapur University, Solapur, 2018-2022
- Member, Academic and Administrative Audit (AAA) Committee, Punyashlok Ahilyadevi Holkar Solapur University, Solapur, 2022

- Member, Doctoral Committee, Rani Channama University, Belgavi, Karnataka, 2022
- Member, Board of Examination, Kuvempu University, Shivamogga (since 2011); Rani Channama University, Belgavi (since 2022); Karnataka State Akkamahadevi Women's University, Vijayapura (since 2015); and Gulbarga University, Kalaburagi (2014), Karnataka
- Member, Board of Studies in Chemistry, KBP University, Satara, 2022-2025
- Member, Board of Studies in Chemistry, New Arts, Commerce and Science College (*Autonomous*), Ahmednagar, 2022-2025
- Member, Board of Studies in Chemistry, SGM College (*Autonomous*), Karad, 2022-2025
- Coordinator, Steering Committee, National Assessment and Accreditation Council (NAAC), Sangola College, Sangola (PAH Solapur University) 2003 -2005.
- Head, Department of Chemistry, Sangola College, Sangola (PAH Solapur University, Solapur) 1992-2005

Member of International Panel: European Research Council

Member, European Research Council and Scientific Expert, Ministry of Education, Universities and Research, Rome, Italy. *Section: "Fundamental Research" and 'Applied Research'.*

Register of Expert Peer-Review for the Scientific Evaluation of Italian Research (REPRISE), Ministry of Education, Universities and Research (MIUR), Rome, **Italy**. (MIUR.AOODGRIC.REGISTRO_REPRISE.0005455.19-03-2018), since 2018

Awards / Fellowship:

- Mid-Career Award (Basic Science Research) University Grants Commission, New Delhi, **India**, 2021
- Brain Pool Fellow National Research Foundation (NRF), **South Korea**,
Host University: Chonnam National University, Gwangju, South Korea, 2018-2019
- Academic Staff Mobility Grant Erasmus Mundus EUPHRATES project (3rd Cohort).
(Funded by the European Union)
Host University: University of Santiago de Compostela, **Spain**
February 2017
- Best Teacher Award Shivaji University, Kolhapur, **India**, 2002

Patent: Korean

- Title: Manufacturing method of copper chalcogenide using deep eutectic solution.
(Patent Number: 1-1-2017-0288011-68, Publication/Grant date: 23.03.2017)

RESEARCH PAPER AWARDS / RECOGNITIONS:

- American Chemical Society ACS ‘Top Five’ Researcher, among the Indian Research Community for ‘*Making American Chemical Society Journals who are the most impactful in the Chemistry Field*’ 2020 ACS Applied Energy Materials, 2018, 1(2), 638–648
- ‘Globally Top Cited ACS Articles amongst the Shivaji University published Articles with ACS Publication during 2017-20’ ACS Applied Materials & Interfaces, 2017, 9, 26016-26028

- ACS Applied Energy Materials, 2018, 1(2), 638–648
- ACS ‘Top 10 Most Read’ paper, *Chemistry of Materials*, 2016, 28, 3308-3317
- Royal Society of Chemistry Cover Image, Journal of Materials Chemistry A, 2018, 6(45), 22566 - 22579
 - Invited Feature Article, Chemical Communications, 2014, 50, 11258-11273
 - Most Read Article, CrystEngComm, 2012, 14 (6), 1920 – 1924
 - Indian Academy of Sciences / Springer Cover Image, Bulletin of Materials Science, 2019, 42(6), 263:1-10
 - Renewable Energy Global Innovations, Canada Key Scientific Article contributing to the excellence in Energy research, 2015 (PCCP 17 (2015) 19777-19788)
 - Science Direct ‘Science Direct Top 10’ most downloaded article 2011 and ‘Science Direct Top 25 Hottest Articles’ Comptes Rendus Chimie 2011, 14, 883–886
 - ‘Science Direct Top 25 Hottest Articles’ Comptes Rendus Chimie 2011, 14, 878–882
 - ‘Science Direct Top 25 Hottest Article’ Electrochimica Acta 2010, 55, 4057 – 4061
 - ‘Science Direct Top 25 Hottest Article’, Applied Surface Science 2010, 257, 1786 – 1791
 - International Conference -American Canadian Conference for Academic Disciplines Best Paper Award, Ryerson University, Toronto, Canada, May 25, 2009
 - World Gold Council, London Excellent Paper Award (with honorarium of £300), December 10, 2001, Gold Bulletin, (2001), 34(2), 50 – 55

REVIEWER of INTERNATIONAL JOURNALS:

- Journals published by American Chemical Society, Royal Society of Chemistry, Nature, Elsevier, Springer, Wiley-VCH, Materials Society of Korea, American Scientific Publishers, Taylor and Francis etc.

REFeree FOR Ph. D. THESIS:

- More than 75 universities and research institutes in India.

FORMAL TEACHING ACTIVITIES:

- Topics in Inorganic Chemistry: Coordination chemistry, organometallic chemistry, chemistry of inorganic materials, energy conversion devices, energy storage devices.

Topics in Analytical Science: electroanalytical techniques, instrumentation techniques, separation science.

RESEARCH ACTIVITIES:

- **Research Topics:** Synthesis of ferrites and metal-organic frameworks (MOFs) and their applications in supercapacitor; synthesis of nanocrystals, colloidal quantum dots and their applications in water splitting; synthesis of materials for solar cell fabrication; design and synthesis of ionic liquids and their applications as electrolytes in supercapacitor; separation science etc.
- **Ph. D. Guidance:** 31 students (23 degree awarded; 2 thesis submitted; 6 working)
- **Research Project Funding: Rs. 1,57,31,000**
DAE-BRNS (2 projects); CSIR (1 project); BARC (1 project); RGSTC (1 project); UGC (4 major projects and 5 minor projects); Shivaji University (2 projects)
- **Research Publications:**
Impact Factor (Clarivate Analytics, 2025): Cumulative 621; Average 4.66
Publications in Q1 and Q2 journals (Scimago Journal Ranking 2025): 80(Q1), 34(Q2)
Google Scholar Citation Index = 6446 (highest citations for a paper = 584); **h-index = 45, i10-index = 113** <https://scholar.google.co.in/citations?user=nX-3tE4AAAAJ&hl=en>
Scopus Citation Index = 5256 (highest citations for a paper = 442); **h-index = 41**
<https://www.scopus.com/authid/detail.uri?authorId=6602913340>

Scopus Id [6602913340](https://www.scopus.com/authid/detail.uri?authorId=6602913340) **Google Scholar Id** [nX-3tE4AAAAJ&hl=en](https://scholar.google.co.in/citations?user=nX-3tE4AAAAJ&hl=en)
Researcher Id [W-2232-2017](https://orcid.org/0000-0002-4367-6014) **ORCID Id** <https://orcid.org/0000-0002-4367-6014>
VIDWAN portal <https://vidwan.inflibnet.ac.in/profile/58482>

Research Publications: (Total= 155) (Materials Science-97; Analytical Science - 58)

Impact factor	>21	>10	9 to 10	7 to 9	6 to 7	5 to 6	4 to 5	3 to 4	2 to 3	1 to 2	ISSN
No. of papers	01	01	13	07	10	25	16	13	28	20	21

SCI Papers

Material Science:

2025

1. A high-performance Ag@CoFe-layered double hydroxide supported on stainless steel mesh for solid-state energy storage. R. Sankannavar, R. Bhosale, R. Jadhav, **S. Kolekar**, J.H. Kim, J. Manjanna *J. Energy Storage* (2025) 117,116185
DOI: <https://doi.org/10.1016/j.est.2025.116185> (IF 9.8) **Q1 Journal**
2. Design and fabrication of gold nanoparticles decorated SSM@NiCo₂O₄ as a binder-free electrode for solid-state symmetric supercapacitor application. S. Pise, T. Shaikh, O. Kulkarni, R. Bhosale, D. Narale, M. Vadiyar, K-W. Nam, **S. Kolekar** *J. Energy Storage* (2025) 114, 115965
DOI: <https://doi.org/10.1016/j.est.2025.115965> (IF 9.8) **Q1 Journal**
3. Designing of bimetallic rGO@Co/Mn MOF and bioderived carbon as efficient electrodes for high-performance asymmetric supercapacitor. T. Shaikh, S. Pise, O. Kulkarni, R. Sankannavar, C. Jambhale, **S. Kolekar** *J. Energy Storage* (2025) 112, 115545.

DOI: <https://doi.org/10.1016/j.est.2025.115545> (IF 9.8) **Q1 Journal**

4. Morphological engineering of core-shell hetero-structured zinc cobalt layered double hydroxide@CuCo₂O₄ for enhanced supercapacitor applications. D.M. Ulisso, P.K. Bhoj, B.D. Potadar, **S.S. Kolekar**, J.Y. Chang, J. Heo, A.V. Ghule. *J. Power Sources* (2025) 648, 237431.

DOI: <https://doi.org/10.1016/j.jpowsour.2025.237431> (IF 7.9) **Q1 Journal**

5. A review and perspective on advancement in metal-organic framework-based composites for supercapacitor: From dimensionalities to functionalities. T. Shaikh, S. Pise, R. Bhosale, M. Vadiyar, K.W. Nam, **S. Kolekar**. *Energy Fuels* (2025) 39(5) 2396–2421.

DOI: <https://doi.org/10.1021/acs.energyfuels.4c05687> (IF 5.2) **Q1 Journal**

6. Recovery of intercalated Li and synthesis of reduced graphene oxide from graphite of spent Li-ion battery for supercapacitor application. B. Uppina, R. Sankannavar, R.S. Kangutkar, J. Manjanna, **S. Kolekar**, G. P. Nayaka. *Inorg. Chem. Commun.* (2025) 177, 114371.

DOI: <https://doi.org/10.1016/j.inoche.2025.114371> (IF 5.4) **Q1 Journal**

7. High-efficiency pseudocapacitive layered double hydroxide on Ni-foil as an electrode for superior solid-state over liquid-state asymmetric supercapacitor. R. Sankannavar, R. Bhosale, R. Jadhav, **S. Kolekar**, J.H. Kim, J. Manjanna. *Inorg. Chem. Commun.* (2025) 172, 113741.

DOI: <https://doi.org/10.1016/j.inoche.2024.113741> (IF 5.4) **Q1 Journal**

8. Dual redox center-based copper-cobalt metal-organic framework as pseudocapacitive electrode material for supercapacitor. O. Kulkarni, R. Bhosale, D. Narale, S. Pise, T. Shaikh, **S. Kolekar**. *Inorg. Chem. Commun.* (2025) 172, 113711.

DOI: <https://doi.org/10.1016/j.inoche.2024.113711> (IF 5.4) **Q1 Journal**

9. Controllable synthesis of semiconducting anatase TiO₂ nanostructures for visible light driven photocatalytic degradation of crystal violet and methylene blue dye. P.D. Sanadi, R.K. Chougale, D.B. Malavekar, J.H. Kim, S.Masimukku, G.P. Chang-Chien, Y.Yi Lee, R.C. Ghaware, **S.S. Kolekar**, G.S. Kamble. *Spectrochim. Acta Part A* (2025)341, 126404.

DOI: <https://doi.org/10.1016/j.saa.2025.126404> (IF 4.6) **Q2 Journal**

10. Gold cluster decorated nanoporous network of nickel oxide for energy storage application. S.R. Bhosale, R.R. Bhosale, V.L. Patil, A.M. Tamboli, M.S. Tamboli, R.P. Dhavale, S.S. Kolekar, P.V. Anbhule. *Vacuum* (2025), 240,114522.

DOI: <https://doi.org/10.1016/j.vacuum.2025.114522> (IF 3.9) **Q1 Journal**

11. Efficient hydrogen evolution via neutral water electrolysis using nanocrystalline TiO₂ electrocatalyst. P.D. Sanadi, R.K. Chougale, D.B. Malavekar, J.H. Kim, S. Masimukku, G.P. Chang-Chien, Y.C. Ling. **S.S. Kolekar**, G.S. Kamble. *Sci. Rep.* (2025) 15, 16074.

DOI: <https://doi.org/10.1038/s41598-025-93371-0> (IF 3.8) **Q1 Journal**

2024

12. Facile synthesis of a rGO@CuCo-layered double hydroxide electrode for a high-performance solid-state symmetric supercapacitor. R. Sankannavar, R. Bhosale, R. Kangutkar, **S. Kolekar**, J. Manjanna. *J. Energy Storage* (2024) 94, 112455.
DOI: <https://doi.org/10.1016/j.est.2024.112455> (IF 9.8) **Q1 Journal**
 13. Engineering of both binder-free CuCo₂O₄ nanorod@CuO flower-like nanosheet core-shell heterostructure and NiFe₂O₄ nanoflake electrodes for asymmetric supercapacitor. D.K. Narale, P.D. Kumbhar, R.R. Bhosale, K.D. Patil, C.L. Jambhale, J.H. Kim, **S.S. Kolekar**. *J. Energy Storage* (2024) 84, 110942.
DOI: <https://doi.org/10.1016/j.est.2024.110942> (IF 9.8) **Q1 Journal**
 14. Rational design of NiMoO₄@CoMoO₄ core-shell microrods a promising binder-free positive electrode for high-performance asymmetric supercapacitor application D.K. Narale, P.D. Kumbhar, R.R. Bhosale, K.D. Patil, C.L. Jambhale, J.H. Kim, **S.S. Kolekar**. *J. Power Sources* (2024) 601, 234291.
DOI: <https://doi.org/10.1016/j.jpowsour.2024.234291> (IF 7.9) **Q1 Journal**
 15. Multilayered core-shell NiCo-Layered double hydroxide@NiCo₂O₄ composite electrode for high-performance supercapacitor. D.M. Ulisso, S.A. Mane, R.A. Chavan, G.P. Kamble, **S.S. Kolekar**, A.V. Ghule. *J. Alloys Compd.* (2024) 980, 173563.
DOI: <https://doi.org/10.1016/j.jallcom.2024.173563> (IF 6.3) **Q1 Journal**
 16. Bimetallic MnFe₂-MOF and its derived MnFe₂O₄ nanostructures for supercapacitive applications. R. Bhosale, S. Bhosale, R. Sankannavar, V. Chavan, C. Jambhale, H. Kim, **S. Kolekar**. *ACS Appl. Nano Mater.* (2024) 7(4), 4078-4091.
DOI: <https://doi.org/10.1021/acsanm.3c05645> (IF 5.5) **Q1 Journal**
 17. Hybrid supercapacitors based on nanoporous carbon and CoFe₂O₄ derived from a bimetallic-organic framework. R. Bhosale, S. Bhosale, V. Chavan, C. Jambhale, D.-kee Kim, **S. Kolekar**. *ACS Appl. Nano Mater.* (2024) 7(2), 2244–2257.
DOI: <https://doi.org/10.1021/acsanm.3c05664> (IF 5.5) **Q1 Journal**
 18. Binder-free core-shell zinc cobalt layered double hydroxide@NiCo₂O₄ flexible composite electrodes for high-performance supercapacitor. D. Ulisso, R. Chavan, S. Mane, P. Bhoj, S. Kolekar, A. Ghule. *Energy Fuels* (2024) 38 (19), 19064–19075.
DOI: <https://doi.org/10.1021/acs.energyfuels.4c02428> (IF 5.3) **Q1 Journal**
 19. Degradation of organic pollutant by using of BiVO₄-NiFe₂O₄ heterostructure photocatalyst under visible light irradiation: Assessment of detoxicity study using *Cirrhinus mrigala*. R.C. Ghaware, N.B. Birajdar, G.S. Kamble, **S.S. Kolekar**. *Langmuir* (2024) 40 (28), 14426-14439.
DOI: <http://doi.org/10.1021/acs.langmuir.4c01136> (IF 3.9) **Q1 Journal**
- Correction** to “Degradation of organic pollutant by using of BiVO₄-NiFe₂O₄ heterostructure photocatalyst under visible light irradiation: Assessment of detoxicity study using *Cirrhinus mrigala*”. R.C. Ghaware, N.B. Birajdar, G.S. Kamble, **S.S. Kolekar**. *Langmuir* (2024) 40 (33), 17843-17843.
DOI: <https://doi.org/10.1021/acs.langmuir.4c02873> (IF 3.9) **Q1 Journal**

2023

20. Rational design of binder free $\text{NiFe}_2\text{O}_4@\text{CoFe}_2\text{O}_4$ core-shell nanoflake arrays synthesized by chemical bath deposition for supercapacitor application. D.K. Narale, P.D. Kumbhar, R.R. Bhosale, R.C. Ghaware, K.D. Patil, J.H. Kim, **S.S. Kolekar**. *J. Energy Storage* (2023) 66, 107477.
DOI: <https://doi.org/10.1016/j.est.2023.107477> (IF 9.8) **Q1 Journal**
21. $\text{NiO}@\text{MXene}$ nanocomposite as an anode with enhanced energy density for asymmetric supercapacitor. R.A. Chavan, G.P. Kamble, S.B. Dhavale, A.S. Rasal, **S.S. Kolekar**, J.Y. Chang, A.V. Ghule. *Energy Fuels* (2023), 37 (6), 4658–4670.
DOI: <https://doi.org/10.1021/acs.energyfuels.2c04206> (IF 5.3) **Q1 Journal**
22. Construction of well-defined two-dimensional architectures of trimetallic metal-organic frameworks for high-performance symmetric supercapacitors. R. Bhosale, S. Bhosale, D. Narale, C. Jambhale, **S. Kolekar**. *Langmuir* (2023) 39(34) 12075–12089.
DOI: <https://doi.org/10.1021/acs.langmuir.3c01337> (IF 3.9) **Q1 Journal**
23. Construction of waste chalk powder into mpg- $\text{C}_3\text{N}_4\text{-CaSO}_4$ as an efficient photocatalyst for dye degradation under UV-Vis light and sunlight. S.B. Shinde, S.R. Bhosale, N.B. Birajdar, A.H. Gore, G.B. Kolekar, **S.S. Kolekar**, A.D. Mandake, P.V. Anbhule. *Langmuir* (2023) 39(18) 6324–6336.
DOI: <https://doi.org/10.1021/acs.langmuir.2c03362> (IF 3.9) **Q1 Journal**
24. Recent progress on functional metal-organic framework for supercapacitive energy storage systems. R. Bhosale, S. Bhosale, M. Vadiyar, C. Jambhale, K.W. Nam, **S. Kolekar**. *Energy Technol.* (2023) 11(9), 2300147.
DOI: <https://doi.org/10.1002/ente.202300147> (Impact Factor 3.6) **Q2 Journal**
25. Thermodynamics of azo dye adsorption on a newly synthesized titania-doped silica aerogel by cogelation: A comparative investigation with silica aerogels and activated charcoal. P.D. Sarvalkar, A.S. Vadanagekar, O.S. Karvekar, P.D. Kumbhar, S.S. Terdale, A.S. Thounaojam, **S.S. Kolekar**, R.S. Vhatkar, P.S. Patil, K.K. Sharma. *ACS Omega* (2023), 8, 13285–13299.
DOI: <https://doi.org/10.1021/acsomega.3c00552> (IF 4.3) **Q2 Journal**
26. Design and development of porous nanorods-based nickel-metalorganic framework (Ni-MOF) for high-performance supercapacitor application. R. Bhosale, S. Bhosale, P. Kumbhar, D. Narale, R. Ghaware, C. Jambhale, **S. Kolekar**. *New J. Chem.* (2023), 47, 6749-6758.
DOI: <https://doi.org/10.1039/D3NJ00456B> (IF 2.5) **3.3 Q2 Journal**
27. Biomass nanoarchitectonics with *Annona Reticulate* flowers for mesoporous carbon impregnated on CeO_2 nanogranular electrode for energy storage application. S.R. Bhosale, R.R. Bhosale, S.B. Shinde, A.A. Moyo, R.P. Dhavale, **S.S. Kolekar**, P.V. Anbhule. *Inorg. Chem. Commun.* (2023) 154, 110949.
DOI: <https://doi.org/10.1016/j.inoche.2023.110949> (IF 5.4) **Q1 Journal**
28. Template free synthesis of mesoporous carbon from fire cracker waste and designing of ZnO -mesoporous carbon photocatalyst for dye (MO) degradation. S.B. Shinde, S.D.

Dhengale, O.S. Nille, S.S. Jadhav, A.H. Gore, T.R. Bhosale, N.B. Birajdar, **S.S. Kolekar**, G.B. Kolekar, P.V. Anbhule. *Inorg. Chem. Commun.* (2023), 147, 110242.
DOI: <https://doi.org/10.1016/j.inoche.2022.110242> (IF 5.4) **Q1 Journal**

29. Effect of small change in reaction conditions on the size of monoclinic BiVO₄ nanoparticles and their photocatalytic abilities. R. Ghaware, P. Sanadi., D. Narale, R. Bhosale, K. Patil, J.H. Kim, **S. Kolekar**. *ChemistrySelect* (2023), 8(25), e202301320.
DOI: <https://doi.org/10.1002/slct.202301320> (IF 2.0) **Q3 journal**

30. Recent trends in synthetic top-down approach for mesoporous carbon: A seminal review S.R. Bhosale, R.R. Bhosale, K.S. Jagadhane, A.H. Gore, G.B. Kolekar, **S.S. Kolekar**. P.V. Anbhule. *J. Mater. Nanosci.* (2023) 10(1), 601.

2022

31. Enhanced electrocatalytic activity of a layered triple hydroxide (LTH) by modulating the electronic structure and active sites for efficient and stable urea electrolysis. K. Patil, P. Babar, H. Bae, E. Jo, J.S. Jang, P. Bhoite, **S. Kolekar**. J.H. Kim. *Sustainable Energy Fuels* (2022), 6, 474-483.
DOI: <https://doi.org/10.1039/D1SE01478A>
(IF 4.1) **Q1 Journal**

32. Facile synthesis of flower-like Bi₂O₃ as an efficient electrode for high performance asymmetric supercapacitor. S.A. Mane, A.A. Kashale, G.P. Kamble, **S.S. Kolekar**, S.D. Dhas, M.D. Patil, A.V. Moholkar, B.R. Sathe, A.V. Ghule. *J. Alloys Compd.* (2022) 926, 166722.
DOI: <https://doi.org/10.1016/j.jallcom.2022.166722> (IF 6.3) **Q1 Journal**

33. Structure-engineering of core-shell ZnCo₂O₄@NiO composites for high-performance asymmetric supercapacitors. G.P. Kamble, A.S. Rasal, J.Y. Chang, **S.S. Kolekar**, S.N. Tayade, A.V. Ghule. *Nanoscale Adv.* (2022), 4, 814–823.
DOI: <https://doi.org/10.1039/D1NA00851J> (IF 4.6) **Q1 Journal**

34. Facile, cost effective and eco-friendly approach to synthesize bio-MnO₂ nanosphered thin film for all solid-state flexible asymmetric supercapacitor. R. Chavan, G. Kamble, A. Kashale, **S. Kolekar**, B. Sathe, A. Ghule. *ChemistrySelect* (2022), 7, e202202166.
DOI: <https://doi.org/10.1002/slct.202202166> (IF 2.0) **Q3 Journal**

2021

35. Construction of dual metal ferrite based core-shell nanostructures as low-cost multimetal electrode for boosting energy density of flexible asymmetric supercapattery. S.B. Bandgar, M.M. Vadiyar, C.L. Jambhale, Z. Ye, J.H. Kim, **S.S. Kolekar**. *J. Energy Storage* (2021), 36, 102379. **Q1 Journal**
DOI: <https://doi.org/10.1016/j.est.2021.102379> (IF 9.8)

36. Superfast ice crystal-assisted synthesis of NiFe₂O₄ and ZnFe₂O₄ nanostructures for flexible high-energy density asymmetric supercapacitors. S.B. Bandgar, M.M. Vadiyar, C.L. Jambhale, J.H. Kim, **S.S. Kolekar**. *J. Alloys Compd.* (2021), 853, 157129.
DOI: <https://doi.org/10.1016/j.jallcom.2020.157129> (IF 6.3) **Q1 Journal**

37. CuCo₂O₄ nanorods coated with CuO nanoneedles for supercapacitor applications. G.P. Kamble, A.S. Rasal, S.B. Gaikwad, V.S. Gurav, J.Y. Chang, **S.S. Kolekar**, Y.C. Ling, A.V. Ghule. *ACS Appl. Nano Mater.* (2021), 4, 11, 12702–12711.
DOI: <https://doi.org/10.1021/acsanm.1c03284> (IF 5.5) **Q1 Journal**
38. Marigold micro-flower like NiCo₂O₄ grown on flexible stainless-steel mesh as an electrode for supercapacitors. G.P. Kamble, A.A. Kashale, A.S. Rasal, S.A. Mane, R.A. Chavan, J.Y. Chang, Y.C. Ling, S.S. Kolekar, A.V. Ghule. *RSC Adv.* (2021), 11, 3666–3672.
DOI: <https://doi.org/10.1039/D0RA09524A> (IF 4.6) **Q1 Journal**
39. Reflux temperature-dependent zinc cobaltite nanostructures for asymmetric supercapacitors. G.P. Kamble, A.A. Kashale, **S.S. Kolekar**, I-W.P. Chen, B.R. Sathe, A.V. Ghule. *J. Mat. Sci.- Mater. Electron.* (2021), 32, 5859–5869.
DOI: <https://doi.org/10.1007/s10854-021-05306-w> (IF 2.8) **Q2 journals**
40. Investigating the influence of reflux condensation reaction temperature on the growth of FeCo₂O₄ thin film for flexible supercapacitor. G. Kamble, A. Kashale, A. Rasal, S. Dengale, S. Kolekar, J.Y. Chang, S.H. Han, A. Ghule. *ChemistrySelect* (2021), 6 (8), 1838-1844.
DOI: <https://doi.org/10.1002/slct.202004544> (IF 2.0) **Q3 journal**

2020

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Conference/Symposia/Workshop Presentations:

International 24 (Canada, South Korea and India); **National 23**

International

1. Bimetallic manganese/nickel metal-organic framework (Mn/Ni MOF) as a highly efficient electrode for advanced supercapacitors. 13th India-Japan Science and Technology Conclave: International Conference on Frontier Areas of Science and Technology (ICFAST-2023), Shivaji University, Kolhapur, **India**, September 8-9, **2023**.
2. Ice-template assisted synthesis of metal ferrites for supercapacitor application. International Conference on "Advancements in Renewable Energy", Swami Ramanand Teerth Marathwada University, Nanded, **India**, January 10-11, **2020**.
3. Eutectic-mediated selective synthesis of Cu-Sb-S-based nanocrystals: Combined experimental and theoretical studies toward highly efficient water splitting. Brain Pool (BP) Program & Korea Research Fellowship (KRF) Program, Annual Workshop, Seoul, **South Korea**, December 18, **2018**.
4. Unassisted solar water splitting via ecological and efficient eutectic mediated quantum dot synthesized efficient photoelectrodes. *Young Korean Research Open Symposium (Y-KROS)*, organized by Korean Academy of Science and Technology (KAST) and National Research Foundation (NRF), Seoul, **Korea**, August 24-25, **2018**.
5. CTS nanocrystal synthesis and their applications in solar cells. *Asia- Pacific Kesterite Workshop 2018*, Optoelectronics Convergence Research Center, Chonnam National University, **Korea**, August 21, **2018**.
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7. Chemical synthesis of ZnO@NiFe₂O₄ heterostructure thin films for supercapacitor applications. *International Conference on Advances in Chemical Sciences (IC-ACS 2018)*, Department of Chemistry, Shivaji University, Kolhapur, India, February 1-3, **2018**.
8. Electrochemical study of copper oxide using dimethylimidazolium based ionic liquid. 3rd *International Conference on Innovative Research in Science and Technology (ICIRST – 2017)*, GKG College, Kolhapur, INDIA, November 7-8, **2017**.
9. Thiocyanide functionalized ionic liquid electrolytes for the photoelectrochemical study of CdSe thin films. 2nd *International Conference on Physics of Materials and Materials based Device Fabrication (ICPM-MDF-2014)*, Department of Physics, Shivaji University, Kolhapur, **India**, January 13-15, **2014**.
10. Facile hydrothermal synthesis heterostructured Ag-ZnO with enhanced photocatalytic activity. *International Conference on Innovations in Energy, Polymer & Environmental Sciences (IEPES-2014)*, Yashwantrao Chavan Institute of Science, Satara, **India**, January 10-12, **2014**.

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13. 2D Nanostructured inorganic solids-emerging nanomaterials beyond graphene. *CINBM International Symposium*, Ewha Womans University, Seoul, **South Korea** October 16, **2012**.
14. Electrodeposition of honey comb like nanoporous ZnO by [ADPPY][OH] ionic liquid – one move towards sustainable technology. *Ist International Conference on Physics of Materials and Materials based Device Fabrication (ICPM-MDF-2012)*, Department of Physics, Shivaji University, Kolhapur, **India** January 17-19, **2012**.
15. Ionic liquid stabilized silver nanoparticles and their biocidal activity. *International Conference on Nanoscience and Nanotechnology (ICNN-2011)*, Swami Ramanand Teerth Marathwada University, Nanded, **India** January 11 -13, **2011**.
16. Synthesis of nickel-zinc ferrite thin films by chemical solution method for electrochemical capacitor application. *3rd International Symposium on Materials Chemistry, (ISMC-2010)*, Chemistry Division, Bhabha Atomic Research Centre (BARC), Trombay, Mumbai, **India** December 7 - 11, **2010**.
17. Synthesis, characterization and application of nanosilver. *International Conference on Nano Science and Nano Technology (ICNST 2010)*, Gwangju Institute of Science and Technology, Gwangju (GIST), **Korea** November 8 - 9, **2010**.
18. Effect of annealing atmosphere on the properties of chemically deposited Cu₂ZnSnS₄ (CZTS) thin films. *Renewable Energy 2010 (RE2010)* Pacifico Yokohama, Yokohama, **Japan**, June 27 – July 2, **2010**.
19. SEM study of nanocrystalline Ni_{0.5}Zn_{0.5}Fe₂O₄ thin films synthesized by aqueous solution method with chemical bath deposition. *International Conference on Advances in Electron Microscopy and Related Techniques (EMSI-2010)*, BARC, Mumbai, **India**, March 8 - 10, **2010**.
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21. Effect of complexing agent on the properties of electrochemically deposited Cu₂ZnSnS₄ (CZTS) thin films for photovoltaic application. *International Conference on Nano Science and Nano Technology 2009 (GJ-NST 2009)*. Gwangju-Jeonnam Nano Science and Technology Union, Mokpo National University, JeollaNam - Do, **Korea**, November 5 - 6, **2009**.
22. Selective extraction and photometric determination of platinum(IV) with 4- (2'-furalideneimino)-3-methyl-5-mercapto-1,2,4-triazole in *n*-butanol and its applications to real samples. *American Canadian Conference for Academic Disciplines*, Ryerson University, Toronto, Ontario, **Canada**, May 25 - 28, **2009**.
23. Extractive separation and determination of cerium(IV) with high molecular weight amine into xylene. *International conference on nanomaterials and applications (ICNAMA-2008)*, Shivaji University, Kolhapur, **India**, December 9 - 11, **2008**.
24. Selective liquid-liquid extraction of platinum(IV) from ascorbate media by *N*-*n*- octylaniline: analysis of real samples. *International Symposium on Solvent Extraction*, Regional Research Laboratory (CSIR), Bhubaneswar, **India**, September 26 - 27, **2002**.

National

1. Development of metal-organic framework-based electrode material for hybrid supercapacitor. Advances in Analytical Techniques for Materials and Bio-Medical Application (AATMABIMAAN 2022), organized in association with Indian Society of Analytical Scientists (ISAS) and Department of Chemistry, Rani Channamma University December 15-16, **2022**.
2. Exploring bimetallic metal-organic framework for supercapacitor application. DAE-BRNS 9th Interdisciplinary Symposium on Materials Chemistry (ISMC-2022), DAE Convention Centre, Anushakti Nagar, BARC, **Mumbai**, December 7-10, **2022**.
3. Rational design of binder free NiFe_2O_4 @ CoFe_2O_4 core – shell nanoflake arrays synthesized by chemical bath deposition for supercapacitor applications. *National Conference on 'Impact of Chemistry and Biology to the Society and Industry (ICBSI)'*, Kuvempu University, **Shivamogga**, May 20-21, **2022**.
4. Synthesis, characterization and application of NiCo_2O_4 nanoflakes electrodes for supercapacitor. *National Conference on "Recent Advances in Chemical Sciences" (RACS – 2022)*, School of Chemical Sciences, Punyashlok Ahilyadevi Holkar Solapur University, **Solapur**, April 28, **2022**.
5. Flexible and stable supercapacitor based on mechanochemically deposited NiFe_2O_4 thin films. *National Conference on Innovative Research in Chemical Sciences (IRCS-2017)* Department of Chemistry, Shivaji University, **Kolhapur**, February 1-2, **2017**.
6. Mahogany fruit shell activated carbon (MFSAC) an efficient low cost adsorbent for removal of toxic metals. *National Conference on Frontiers in Chemical and Material Sciences (FCMS-2015)*, Department of Chemistry, Shivaji University, **Kolhapur**, January 16-17, **2015**.
7. High-quality spinel zinc ferrite (ZnFe_2O_4) thin films with porous nano - flakes morphology for electrochemical energy storage. **b.** Sol-gel derived nanostructured cobalt oxide thin film for pseudocapacitor. *National Symposium on Current Trends in Chemical and Nano Science (CTCNS-2014)*, Department of Chemistry, Shivaji University, **Kolhapur**, January 17-18, **2014**.
8. Facile development of supercapacitor using graphene oxide and ionic liquids. *National Seminar on Recent Advances in Synthetic Chemistry and Nano-materials -2012 (RASCN-2012)*, Department of Chemistry, Shivaji University, **Kolhapur**, January 21- 22, **2012**.
9. Brønsted acidic ionic liquids (BAILs) promoted cyclocondensation reactions of the formation of 1,8-dioxo-octahydroxanthenes. *National Symposium on "Advances in Synthetic Methodologies and New Materials" (ASMNM-2011)*, Department of Chemistry, Shivaji University, **Kolhapur**, January 21 - 23, **2011**.
10. Studies on chemical bath deposited nanocrystalline PbS thin films. *National Seminar on Advanced Materials (NSAM-2010)*, Department of Physics, Shivaji University, **Kolhapur**, March 19 - 20, **2010**.
11. Studies on extraction behaviour of samarium(III) from salicylate media by using 2- octylaminopyridine. *Emerging Trends in Separation Science and Technology (SESTEC-2010)*, Indira Gandhi Centre for Atomic Research (IGCAR), **Kalpakkam**, March 1 - 4, **2010**.
12. The synergistic liquid-liquid extraction and spectrophotometric determination of copper(II) from basic solution by 1-(2',4'-dinitro aminophenyl)-4, 4, 6- trimethyl - 1, 4 dihydro pyrimidine -2-thiol in the presence of pyridine. *National Seminar on 'Advanced Synthetic Methodologies and Functional Materials' (ASMFM-2009)*, Shivaji University, **Kolhapur**, December 23 - 24, **2009**.
13. Nanocrystalline zinc doped nickel ferrite thin films using chemical deposition route.

- National Conference on Chemistry and Molecular Nanotechnology for Industry and Society (NCMNIS-2009)*, Kuvempu University, **Shimoga**, January 16 - 17, **2009**.
14. Solvent extraction of lanthanum(III) by N-n-octylaniline from salicylate media. DAE- BRNS Biennial Symposium on *Emerging Trends in Separation Science and Technology (SESTEC 2008)*, Department of Chemistry, University of Delhi, **Delhi**, March 12 -14, **2008**.
 15. Analytical separation of yttrium(III) with N-n-octylaniline. National Seminar on *Synthesis of New Materials for Industrial Applications*, Department of Chemistry, Shivaji University, **Kolhapur**, February 1 - 2, **2008**.
 16. Liquid-liquid extraction of gallium(III) from acid solution using 2-octylaminopyridine as an extractant. *Royal Society of Chemistry, West India Section, Students Symposium - 2005*, National Chemical Laboratory, **Pune**, November 25 - 26, **2005**.
 17. Nanomaterials in separation science. *National Conference on Advanced Characterization Techniques on Nanomaterials*, Institute Instrumentation Centre, Indian Institute of Technology, **Roorkee**, August 24 -26, **2005**.
 18. Investigation of the ion-pair formation of palladium(II) with N-n-octylaniline by solvent extraction from salicylate media. *22nd National Conference, Indian Council of Chemists*, Indian Institute of Technology, **Roorkee**, October 17 - 19, **2003**.
 19. Solvent extraction separation of rhodium(III) with N-n-octylaniline as an extractant. *20th National Conference, Indian Council of Chemists*, University of Mysore, **Mysore**, December 22 - 24, **2001**.
 20. Solvent extraction separation of gold(III) with liquid anion exchanger in malonate media. *19th National Conference, Indian Council of Chemists*, Kuvempu University, **Shimoga**, December 27 - 29, **2000**.
 21. Extractive spectrophotometric determination of thallium(II) with pyrimidine-2-thiol. *18th National Conference, Indian Council of Chemists*, North Maharashtra University, **Jalgaon**, December 27 - 29, **1999**.
 22. Solvent extraction and spectrophotometric determination of osmium(VIII) with pyrimidinethiol. *15th National Conference, Indian Council of Chemists*, Dr. Babasaheb Ambedkar Marathwada University, **Aurangabad**, October 24 - 26, **1996**.
 23. Solvent extraction and spectrophotometric determination of palladium(II) with 1-(2',3'- dichlorophenyl) 4, 4, 6 -trimethyl(1H 4H)-2-pyrimidinethiol: analysis of alloys. *National Conference on Applications of Solvent Extraction in Chemistry and Industry*, Shivaji University, Kolhapur, March 6 - 8, **1996**.

Conference/Symposia/Workshop Attended:

1. GIAN workshop on "Advanced Functional Materials and Green Energy Strategies" Department of Chemistry, Shivaji University, Kolhapur, October, 16 - 20, **2023**.
2. Workshop on "Next Two Decades of Chemical Sciences & Technology", Organized by Maharashtra Academy of Sciences, National Chemical Laboratory, Pune and University of Pune, at NCL, **Pune** September 23, **2011**.
3. *Chemistry of Functional Materials 2011(CFM-2011)*, Organized by Indian Institute of Technology Bombay, Mumbai and International Centre of Materials Science (ICMS), Jawaharlal Nehru Centre for Advanced Research (JNCASR), Bangalore, at **Goa**, August 12-14, **2011**.
4. *RSC-CSIR Chemical Sciences Innovation Symposium*, National Chemical Laboratory, **Pune**, November 30, **2009**.
5. *National Seminar on Materials for Advanced Technologies (NASMAT – 2006)* Department of Physics, Shivaji University, **Kolhapur**, January 23 - 25, **2006**.
6. *National Symposium on Frontiers in Organic Chemistry*, Shivaji University, **Kolhapur**, February 7 - 8, **2002**.

7. *Workshop in Chemistry*, D. B. F. Dayanand College of Arts and Science, **Solapur**, September 29, **1996**.
8. *Seminar in Chemistry*, Shivaji University, **Kolhapur**, February 24-26, **1994**.
9. *UGC sponsored COSIP Seminar*, K. B. P. Mahavidyalaya, **Pandharpur**, October 2-3, **1993**.

Chairman- Scientific Session in Conference: International (4); National (5)

Invited Talks: International (01), National (12)

Refresher/Orientation/Training Programme Participation:

Chemistry / Material Science Refresher Course / Orientation Programme: 03
Schools and Workshops : 05

Organization of Conference / Symposium / Refresher Course (National Level) as

Co-ordinator / Liaison Officer / Convener: 09

Administrative Responsibilities: (few selected)

1. Coordinator, Memorandum of Understanding (MoU) between University Industry Interaction Center, Shivaji University, Kolhapur and Leaders in Industry-University Cooperation, Chonnam National University, Gwangju, South Korea (International MoU), 2016.
2. Departmental Committees, Department of Chemistry, Shivaji University, Kolhapur, 2006-2007 and 2019-2020.
3. Administrative Excellence Award Committee, Shivaji University, Kolhapur, 2014.
4. Panel of Expert Guides for “*AVISHKAR 2014-15*”, Shivaji University, Kolhapur 2014.
5. Entrance Examination Committee, Shivaji University, Kolhapur 2014.
6. Executive Committee, Yashwantrao Chavan School of Rural Development, Shivaji University, Kolhapur since 2013.
7. Departmental Research Committee, Department of Agrochemicals and Pest Management, Shivaji University, Kolhapur 2010-2012.
8. Editorial Board, *Shivsandes*, an E-Magazine, Shivaji University, Kolhapur, 2008 -2014.
9. Golden Jubilee Celebration Committees, Shivaji University, Kolhapur, 2011-2012.
10. University Level Committee constituted to ‘*Improve the Standard of Higher Education*’, as per guidelines of Higher and Technical Education, Government of Maharashtra, 2011.
11. Member, University Delegation to visit Manipal Academy of Higher Education, Manipal, Karnataka state, 2007.
12. University Celebration Committees such as Golden Jubilee, Workshops, National Youth Festival, Sports Events, Disaster Management, National Management, Convocation etc. Shivaji University, Kolhapur.
13. Various University Level Committees constituted by the Vice Chancellor and Director, BCUD, Shivaji University, Kolhapur as LIC, Staff Selection, etc.
14. Coordinator, College Science Improvement Programme (COSIP), Sangola College, Sangola, 2002-2005.
15. Coordinator, Maharashtra Talent Search Examination (MTSE), Sangola Taluka, Sangola, conducted by Wadia College, Pune, 1995-2005.

Other Responsibilities at University:

1. **Curriculum Development:** Member, Syllabus Formation/Revision Committee in Chemistry, Industrial Chemistry, Applied Chemistry, Nanotechnology.

2. **University Examination Related Work:** End semester examination work (paper setting etc.), Examination / Evaluation responsibilities for internal/continuous assessment work, Examination work such as coordination, senior supervision etc.
3. **University Functions:** Member, organizing committees formed for Convocation and Foundation Day Celebration etc.

Association with other University / other examinations:

1. **Member**, Panel of Judges, Ph. D. Defense, Hanyang University, Seoul, **South Korea**.
2. **Referee**, Ph. D. Thesis of above 75 Universities and National Research Institutes in India.
3. **Member**, Board of Examiners and Examiner at Gulbarga University; Karnataka State Women's University, Vijayapura; Kuvempu University, Shankargatta; Rani Chennamma University, Belgaum etc.
4. **Observer**, Maharashtra State Eligibility Test for Lectureship (SET), Pune and AIPMT / NEET Examination, CBSE, Board, New Delhi.

Community Associate, American Chemical Society, 2022 - Present

Life Membership of Professional Bodies (India):

1. Society for Materials Chemistry (SMC), BARC, Mumbai (LM-477).
2. Indian Science Congress Association (ISCA), Kolkata. (L-14835).
3. Indian Association of Nuclear Chemists and Allied Scientists (IANCAS), BARC, Mumbai (LM-1041).
4. Indian Society of Analytical Scientists (ISAS), BARC, Mumbai (LM-1894).
5. Association of Separation Scientists and Technologists (ASSET), BARC, Mumbai (LM-007)
6. Indian Council of Chemists (ICC), Agra (LF-873).
7. Fellow, Indian Chemical Society (ICS), Kolkata (F-4564).

Ph. D. Students: (31)

Former Ph. D. students: 23

Ashish Sartape, conferred December 2011, currently Assistant Professor

Aniruddha Mandhare, conferred December 2011

Prathmesh Salvi, conferred December 2011, Scientist, R & D Centre, Reliance Industries Limited, Mumbai, currently - Scientist, United Phosphorus Limited, Mumbai

Dattatrya Pawar, conferred June 2012, currently Assistant Professor

Sagar Utture, conferred August 2012, Manager Analytical, PS-Food, TÜV SÜD South Asia Pvt. Ltd. Bangalore; currently General Manager, Spinco Biotech Pvt. Ltd, Bangalore

Rupali Patil, conferred March 2013, Start-up industry

Bharat Pawar, conferred March 2013, currently Assistant Professor

Bharati Pawar, conferred January 2015

Santosh Patil, conferred April 2016, completed **PDF in South Korea** at Chonnam National University, **Gwangju**; Pohang University of Science and Technology, **Pohang**; Kyungpook National University,

Daegu; Inha University, Incheon; FEMTO-ST Institute Besancon, France; currently Scientist, C-MET India.

Madagonda Vadiyar, conferred January 2017, completed **PDF** at Laurentian University, Ontario and Concordia University, Quebec, **Canada**, currently Korean Research Fellow (**KRF**) at Dongguk University, Seoul, **South Korea**

Umadevi Ghorpade, conferred February 2017, completed PDF at Chonnam National University, **South Korea** and University of Limerick, Limerick, **Ireland**; currently PDF, University of New South Wales (UNSW), Sydney, **Australia**

Dipak Awale, conferred December 2017, currently Professor

Sagar Bhise, conferred October 2018, currently Assistant Professor

Gurupad Kore, conferred October 2018, currently Associate Professor

Sandip Patil, conferred October 2018, currently Assistant Professor

Anita Ghare, conferred November 2018, currently Associate Professor

Vidya Jadhav, conferred September 2019, currently Assistant Professor

Shubhangi Bandgar, conferred April 2021, currently Assistant Professor

Suryakant Patil, conferred June 2021, currently Assistant Professor

Pramod Kumbhar, conferred March 2023, currently Assistant Professor

Rakhee Bhosale, conferred November 2023, currently Assistant Professor

Dattatrya Narale, conferred February 2024, currently Assistant Professor

Rachana Ghaware, conferred May 2025

Current Ph. D. students: 07

Prashant Sanadi, registered July 2019

Omkar Kulkarni, registered July 2021

Tabbu Shaikh, registered January 2023

Sandip Pise, registered January 2023

Mayuri Gurav, registered January 2025

Shridhar Rangar, registered January 2025

Akshay Pawar, registered January 2025

Ph. D. student under collaborative research: 01

Rohini Sankannavar, Rani Channamma University, Belgavi, registered January 2022

Collaboration with Scientifically Renowned Personalities:

Scientists from renowned universities/institutes have always extended scientific support, guidance and also offered great human values which always helped me to contribute to the science. Some of them are included here,

- ❖ **Prof. Han S. H.**, Department of Chemistry, Hanyang University, Seoul, **South Korea**
- ❖ **Prof. Kim J. H.**, Department of Materials Science and Engineering,
Chonnam National University, Gwangju, **South Korea**
- ❖ **Prof. Nam K. W.**, Department of Energy and Materials Engineering, Dongguk
University, Seoul, **South Korea**
- ❖ **Prof. Yoon S. S.**, Solar Cell & Aerosol Science Laboratory, Mechanical Engineering
Department, Korea University, Seoul, **South Korea**
- ❖ **Prof. Zhibin Ye**, Department of Chemical and Materials Engineering,
Concordia University, Montreal, Quebec, **Canada**
- ❖ **Dr. Wadgaonkar P. P.**, National Chemical Laboratory,
Council of Scientific and Industrial Research, **India**
- ❖ **Prof. Mane R. S.**, School of Physical Science, S. R. T. M. University, Nanded, **India**
- ❖ **Prof. Manjanna J.**, Department of Chemistry,
Rani Channamma University, Belgavi, **India**

Personal Information and Educational Qualification:

Date of Birth: June 2, 1970

Education:

B. Sc. Chemistry Shivaji University, Kolhapur 1990
M. Sc. Chemistry Shivaji University, Kolhapur 1992
Ph. D. Chemistry Shivaji University, Kolhapur 2003