CURRICULUM VITAE

Dr. Shivajee Sambhajee Jadhav

M. Sc., Ph. D.

Department of chemistry,
Shivaji University, Kolhapur-416 004
(M. S.), India.
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ACADEMIC CREDENTIALS

- **Ph. D. in Chemistry, 2017 (DST-Inspire Fellow)**
  Shivaji University,
  Kolhapur- 416 004, (M. S.) India
  Specialization: **Chemistry (Material Science)**

- **Title of Ph. D. Thesis**:
  STUDIES ON CHEMICALLY DEPOSITED IB-IIB-MIXED METAL CHALCOGENIDE THIN FILMS AND THEIR APPLICATIONS

- **Research Supervisor: Dr. Ganpatrao N. Mulik,**
  Professor & Head, P. G., Department of Chemistry, Balwant Colleage Vita, Affiliated to Shivaji University, Kolhapur.

- **M. Sc. in Chemistry, 2011 (Gold medalist)**
  Department of Chemistry,
  Shivaji University,
  Kolhapur- 416 004, (M. S.) India.
  Specialization: **Analytical Chemistry**

- **Projects:**
  Title of project:
  "Separation and Identification of organic compound by using GC-MS"

- **B. Sc. in Chemistry, 2009 (2nd rank)**
  Balwant College Vita,
  Affiliated to Shivaji University,
  Kolhapur- 416004, (M. S.) India
  Specialization: Chemistry

❖ Current Job Profile

Assistant Professor (Ad-Voc.), Department of Chemistry, Balwant College Vita, affiliated to Shivaji University, Kolhapur (July 2019 to till date).

❖ Career Objective

To pursue a highly challenging and creative career, where I can apply my existing knowledge and creativity, acquire new skills and contribute effectively to the organization.

Academic Record

Sr. No	Course Name	Board/ University	Subjects	% obtained	Class obtained	Year of passing	Rank in University /College
1	Ph. D. (Material Science)	Shivaji University, Kolhapur	Chemistry	------	------	July, 2017	Awarded Ph. D.
2	Pre. Ph. D. exam	Shivaji University, Kolhapur	Chemistry	76	First Class With Distinction	May, 2015	A^+ Grade
3	M. Sc. (Analytical)	Shivaji University, Kolhapur	Chemistry	73.08	First Class With Distinction	2011	1st
4	B. Sc. - III	Shivaji University, Kolhapur	Chemistry	89.17	First Class With Distinction	2009	2nd
5	B. Sc.	Shivaji University, Kolhapur	Chemistry	68.32	First Class	2009	------
6	H. S. C	Kolhapur	PCMB	61.17	First Class	2006	------
7	S. S. C	Kolhapur	All	73.46	First Class	2004	------

Research and Teaching Experience

- Successfully completed Ph. D. research work.
- Worked as a **"DST-INSPIRE FELLOW"** in the department of Chemistry, Shivaji University, Kolhapur. (Ministry of Science and Technology, Department of Science and Technology, New Delhi-110016**- IF-120358, 10 July 2012).**
- Worked as **"Visiting Faculty"** at Department of Chemical Technology, Shivaji University, Kolhapur, for the academic year, **2011-12, 2013-14, and 2014-15**.
- Worked as **"Assistant professor"** at Balwant College, Vita, for the academic year, **2017-18, 2018-19 (June2018 to 11 Auguest 2018).**
- Worked as **"Assistant professor"** at Sanjay Ghodawat University, Atigare kolhapur, for the academic year, 13 Auguest, 2018 to 2019.

- Worked as **"IASc-INSA-NASI-Summer Research fellow" at ICT, Mumbai 2019.**
  Title: Furfural condensation by using solid base catalyst. **Reg. No. is CHET139.**
  Resarch Mentor : Prof. Lakshmi Kantam Mannepalli

❖ **Achievements:**

- Secured **1st** Rank in M.Sc. (Analytical Chemistry) at Shivaji University Kolhapur-2011 **(Gold Medal)**
- Secured **2nd Rank** in B.Sc.-III Chemistry at Balwant College Vita.
- In Quiz compition, **Secured IIIrd prize** in group under National science day event in IYC-2011 held on 4th March, 2011, organized by Department of Chemistry, Shivaji University, Kolhapur.
- Participated in Oral presentation session as **paper presenter** in Third International Conference on Advances in Material Science (ICAMS-2018) on 27th-29th December 2018, Organized by Post Graduate Department of Physics, Raje, Ramrao Mahavidyalaya, Jath-416004 Dist- Sangli Maharashtra India.
- Participated in **Oral presentation Session and presented paper on "Proposal for the Course Project"** in "Two Days Faculty Conclave" on "**Effective Student Engagement in Learning Through Active Learning Techniques"** to be held on 11th -12th of January 2019 Organized by Sanjay Ghodawat University, Kolhapur.

Scientific Instruments knowledge:

- **Spectroscopy:** UV-Visible spectrophotometer, NMR, Mass, IR,
- **Chromatography:** GC, HPLC, HPTLC, TLC GC-MS, RPEC
- **Thin films synthesis**: Hydrothermal, CBD, Spin Coater, Spray technique
- **Thermal Analysis**: TGA, DTA, DSC
- **Surface Technique**: Contact Angle Measurments, SEM, HR-TEM
- **Other Instruments:** Spectrophotmeter, Flame photometer, AAS, pH meter.

Supervised Masters level projects (2012-2017)

- **Title:** Separations studies of some metal ions from organic acid media using reverse phase column chromatography (RPCC).
- **Title:** Synthesis, characterization and applications of polymer thin films.
- **Title:** Synthesis and characterization of copper doped MnO_2 thin films by hydrothermal technique.
- **Title:** Synthesis, characterization and applications of Bi doped ZnO thin films by reflux method
- **Title:** Studies on chemically deposited CTS thin films.
- **Title:** Simple chemical synthesis of metal oxides for solar cells.
- **Title:** Synthesis of magnetic Fe_3O_4/Ag nanoparicals for cancerus cell treatment.

❖ **Projects Submitted To External Funding Agency:**

❖ **Award of IASC-INSA-NASI-Summer Research Fellowship- 2019 (Awarded)**

❖ **Title:** Furfural condensation by using solid base catalyst. **Reg. No. is CHET139.**
Resarch Mentor : Prof. Lakshmi Kantam Mannepalli

Dr. B. P. Godrej Distinguished Professor, J. C. Bose National Fellow,
Department of Chemical Engineering, Institue of Chemical Technology,
Matunga, Mumbai-400019, India.
Former Director, CSIR-IICT, Hyderabad, Adjunct professor, Tezpur University, Tezpur.

- **Technical Skill**
- **Synthesis Techniques**
  - Fabrication of multinary thin films by arrested precipitation technique (APT).
  - Synthesis of thin films by Modified chemical bath deposition technique (M-CBD), Successive ionic layer adsorption and reaction (SILAR) technique.
  - Synthesis of nanocrystalline materials by solution combustion (SC) technique, Co-precipitation technique.
  - Synthesis of polymer composite materials by CBD, SILAR and electrodeposition technique.
  - Synthesis of carbon nano tubes (CNT) by chemical vapor deposition (CVD) and SILAR technique.
  - Fabrication of CuO thin films by hydrothermal technique using different complexing agents.
  - Hydrothermal synthesis of Metal oxides by using various solvents, complexing agents, surfactants etc.

Equipment, Plants and Machinery Handled

- High temperature programmable furnace
- Spin Coater, UV-Visible Spectrophotometer
- Scanning electron microscope
- X-ray diffractometer
- Centrifuge Machine
- Dip Coating Machine

Computer Proficiency

- Operating systems Windows Vista, XP, Windows 7/8/8.1/10
- MS-Office 2003/2007/2010/2013
- Origin 6/6.5/ 8/8.5
- Mendeley desktop

Reviewer for Journals

- Journal of Material Science: Materials in Electronics (IF: 2.015)
- Journal of Alloys and Compounds (IF: 3.01)
- Material Research Bulletin (IF: 2.7)
- Material Chemistry and Physics (IF: 2.5)

	List of research paper published/communicated in international journals/ conferences
1	Novel synthesis of efficient counter electrode by facile arrested precipitation technique (APT)

	S. S. Jadhav, S. S. Mali, C. K. Hong, P. S. Patil, P. N. Bhosale, G. N. Mulik ***Journal Materials Science: Material in Electronics, 27 (2016) 3812–3820, I.F. 2.015***
2	Arrested precipitation assembly of nanosheets Cu_2ZnCd (S, Se)$_3$ thin film for solar cell performance: Novel skilful synthesis **Shivajee S. Jadhav,** Sawanta S. Mali, Chang Kook Hong, Pramod S. Patil , Popatrao N. Bhosale , Ganpatrao N. Mulik ***Materials Letters, 217(2018) 215-218, I.F. 2.7***
3	To investigate the study of bio-absorption of Nickel by aquatic macraphytes hydrilla species A. M. Momin, **S. S. Jadhav,** S. A. Shivde, V. S. Raut, S. B. Thombare, R. G. Suryawanshi. ***Bionano Frontier 8 (2015) 137-139***
4	Controlled chemical growth protocol for synthesis of marigold-like morphologies of Cd ($S_{0.7,}$ $Se_{0.3}$) thin films and solar cell performance **S. S. Jadhav,** N. B. Velhal, S A. Pawar, J. H. Kim, P. S. Patil, P. N. Bhosale, G. N. Mulik ***Material Chemistry and Physics, (Revision submitted) I.F. 2.1***
5	Scalable fabrication of stoichiometric Cu_2Cd ($S_{0.7,}$ $Se_{0.3}$)$_2$ nanosheets array thin films as photoanode: Effect of copper content **S. S. Jadhav,** N. B. Velhal, S. S. Mali, C. K. Hong, P. S. Patil, P. N. Bhosale, G. N. Mulik ***Solar energy materials and solar cell, (Under Reveiw). I.F. 5.3***
6	Photocurrent enhancement in $Cu_2Zn_xCd_{1-x}$ ($S_{0.7}$, $Se_{0.3}$)$_3$ photoanode synthesized via novel facile arrested precipitation technique **Shivajee S. Jadhav**, Sawanta S. Mali, Chang Kook Hong, Pramod S. Patil, Popatrao N. Bhosale, Ganpatrao. N. Mulik ***New Journal of chemistry, (Comunicated), I.F. 3.2***
7	Arrested precipitation assembly for efficient Cu_2SnS_3 thin films: Via skilful sulfurization **S. S. Jadhav**, P. S. Patil, P. N. Bhosale, G. N. Muik ***Solar energy materials and solar cell, (Under Reveiw). I.F. 5.3***
8	Synthesis and charcterisation of solution processed Cu_2Se thin films and their application **S. S. Jadhav,** S. S. Mali, C. K. Hong, P. S. Patil, P. N. Bhosale, G. N. Mulik ***Solar energy materials and solar cell, (Comunicated), I.F. 5.3***
9	Chemical synthesis of Cu_2Se thin films and their applications **S. S. Jadhav**, S. A. Pawar, N. S. Harale, J. H. Kim, P. S. Patil, P. N. Bhosale, G. N. Mulik. ***UGC Sponsored two day State Level Seminar on, "Nanotechnology: Fabrication Methods and Its Application (2nd and 3rd December 2011)",*** *Organised by Department of Physics, AbasahebMarathe Arts and New commerce, Science college, Rajapur, Dist-Ratnagri.*

10	Chemistry and Thin film Nanotechnology **S. S. Jadhav**, and G. N. Mulik ***International year of chemistry 2011 One day state level seminar on "Chemistry in our life*** *organized by P. G. Department of chemistry, Jaysingpur colleage, Jaysingpur, Tal-*

	Shirol, Dist- Kolhapur and sponsored by Shivaji University Kolhapur(21st December 2011).
11	Chromatographic Separation of Thorium (IV) using Poly [dibenzo-18- crown-6] in Glycine. **S. S. Jadhav**, R. B.Kadam, K. R. Mahanwar, N. D. Nikam, S. N. Lad, G. H.Nikam ***"National Seminar on Recent Advances in Synthetic Chemistry and Nanomaterials (RASCN-2012)*** *Department of chemistry, Shivaji University Kolhapur, 21st-22nd Jan. 2012.*
12	Fabrication of Flower-like ZnO nanostructure for NO_2 Gas Detection V. L. Patil, N. S. Harale, N. L. Tarwal, S. D. Patil, **S. S. Jadhav**, S. A. Vanalakar, J. H. Kim, P. S. Patil. ***3rd National Seminar on Physics of Materials and Materials based Device Fabrication (NSPM-MDF),*** *organized by Department of Physics, Shivaji University Kolhapur, 19 and 20 December 2014.*
13	Investigation on Chemosynthesized CuSSe Nanocrystalline Thin Film by Room Temperature Arrested Precipitation Technique (APT) **S. S. Jadhav**, S. A. Pawar, N. S. Harale, J. H. Kim, P. S. Patil, P. N. Bhosale,G. N. Mulik. ***International Conference on Contemporary Research in Chemical and Life Science (ICCRCLS)*** *organized by Sadguru Gadge Maharaj College, Karad, 22 and 23rd April, 2015.*
14	Investigations on chemosynthesized Cd(S, Se) nanoflowers architectures for solar cell **S. S. Jadhav**, S. A. Pawar, N. S. Harale, J. H. Kim, P. S. Patil, P. N. Bhosale, G. N. Mulik. ***State Level Poster Competition on the occasion of Thomas Edison and Charles Darwin's Birth Anniversary,*** *organized by Balwant College Vita, Dist. Sangli, Thursday 12 February 2015.*
15	Novel Synthesis of Nanocrystalline Cu_2 (S, Se) Thin Film by Arrested Precipitation Technique (APT) **S. S. Jadhav**, S. A. Pawar, N. S. Harale, J. H. Kim, P. S. Patil, P. N. Bhosale, G. N. Mulik. ***International Multidisciplinary Conference on Recent Trends in Library, Science and Technology, Humnities, Commerce & Management***, *organized by Library and IQAC of college on Friday, 21st December 2018.*
16	Arrested precipitation assembled Cd ($S_{0.7}$, $Se_{0.3}$) nanostructures thin films for solar cell performance **S. S. Jadhav**, P. S. Patil, P. N. Bhosale, G. N. Mulik. ***Oral Presentation: Third International Conference on Advances in Material Science (ICAMS-2018) on 27th-29th December 2018,*** Organized by Post Graduate Department of Physics, Raje, Ramrao Mahavidyalaya, Jath-416004 Dist- Sangli Maharashtra India.

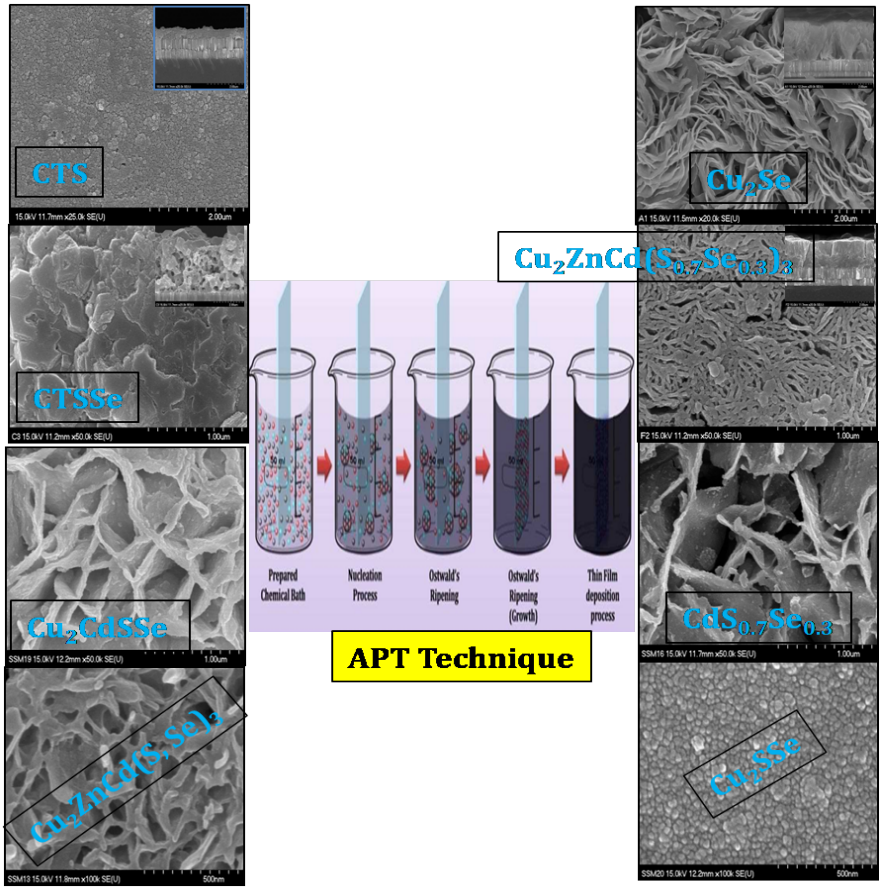
❖ Personal Information:

Name in Full : Dr. Shivajee Sambhajee Jadhav

Birth Date : 6th May. 1988 Sex : Male

Nationality : Indian Marital status : Single

Permanent Address: A/P- Vita, Tal-Khanapur, Dist- Sangli-415311.



Micrographs of synthesized materials by using Arrested precipitation Technique.

References:

1) Prof. P. S. Patil

M.Sc., PhD. FinstP (UK)

DAAD Fellow, Germany

Coordinator,

School of Nanoscience and Nanotechnology,

Prof., Department of Physics,

Shivaji University, Kolhapur 416004

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2) Prof. P. N. Bhosale,

M.Sc., PhD.

Prof. & Head,

Department of Chemistry,

Shivaji University, Kolhapur-416004

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drpnbhosale@gmail.com

3) Prof. M. Lakshmi Kantam

M. Sc., Ph. D., FNA, FTWAS, FNASc, FRSC

Dr. B. P. Godrej Distinguished Professor, J. C. Bose National Fellow,

Department of Chemical Engineering, Institue of Chemical Technology, Matunga, Mumbai-400019, India. **Email-** lk.mannepalli@ictmumbai.edu.in

Former Director, CSIR-IICT, Hyderabad, Adjunct professor, Tezpur University, Tezpur.

I hereby declare that all the information given above is correct to the best of my knowledge.

Date: 26/05/2021 **Dr. Shivajee Jadhav**