

Curriculum-Vitae

Dr. Sikandar Hamid Tamboli.

**Assistant Professor,
Department of Physics,
Shri Yashwantrao Patil Science College, Solankur
At: Solankur, Tal: Radhanagari,
Dist.-Kolhapur,
Maharashtra, India-416212**



Date of Birth: 23rd March, 1984

E-mail ID: sikandar.physics@gmail.com

Scopus Author ID: 25824432400

ORCID ID: <https://orcid.org/0000-0001-8678-371X>

Google Scholar page: <https://scholar.google.com/citations?user=TzWFqmcAAAAJ&hl=en>

Contact No.: +91 9764557155

Academic Experience: 10 years

Research Experience: 03 years

ACADEMIC CREDENTIALS

Post-Doctoral Research Fellow: I. Clean Energy Research Center,
(2011-2012) Korea Institute of Science and Technology (KIST),
Seoul, Republic of Korea.

(2012-2014) **II.** Heat Transfer Lab,
Yonsei University, School of Mechanical
Engineering, Seoul, Republic of Korea.

Doctor of Philosophy (Physics) : Vacuum Techniques and Thin Film Lab.,
Department of Physics,
Shivaji University, Kolhapur – 416 004
(M.S.) INDIA
Awarded dated on (18th Jan. 2011)

Master of Science (Physics) : Department of Physics,
Shivaji University, Kolhapur
Kolhapur -416004 Maharashtra (INDIA).
Year-2004-2006

Bachelor of Science (Physics) : Atpadi College, Atpadi
Tal: Atpadi Dist: Sangali
Maharashtra (INDIA).
Year-2001-2004

DISSERTATION DETAILS

- **Thesis Title: Studies on mechanical and optical properties of Magnesium oxide, Aluminium oxide and their co-deposited mixed thin films.**

- **Name of Guide: Prof. R. K. Puri, Dept. of Physics, Shivaji University, Kolhapur.**

RESEARCH INTEREST

I have experience to work as a research scientist in the world's most appreciable research organizations and universities and enhanced my professional experience along with my best contribution to the concerned organization by providing continuous solutions to the all challenging tasks given to me.

I have been working on the metal oxides (MgO, Al₂O₃, Bi₂O₃, Fe₂O₃, TiO₂, ZnO) thin film preparation by lucrative deposition methods such as electrodeposition, chemical bath deposition (CBD), vacuum evaporation technique, spin coating and sol-gel method. Deposited thin films with various nanostructured morphologies have been utilized in the application of Photoelectrochemical solar cells (PEC), DSSC, optical waveguide and optoelectronics devices.

Recently, I have been working on the graphene synthesis by Chemical Vapor Deposition (CVD) and thermal exfoliation method for boiling heat transfer and supercapacitor applications. Different nanostructured materials along with conductive graphene are keen interest for various applications. So, I am interested in thin films growth mechanism as well as graphene interaction and their performance improvement suitability in various applications. I have very good hand in various characterizations and their data analysis.

Reviewer- I have reviewed research paper of various international research journals: Journal of alloys and compound, Material research Bulletin, Journal of Materials Research and Technology, Journal of material chemistry and Physics.

MINOR RESEARCH PROJECTS

Sr. No.	Name	Title of the Project	Funding Agency	Status	Proposed Amount
1.	Dr. Sikandar H. Tamboli	Chemical based Graphene/NiO Composite Paper Electrode Synthesis for Hybrid Supercapacitor	Shivaji University, Kolhapur	Completed	1,25,000/-
2.	Dr. Sikandar H. Tamboli	Manganese dioxide Nanostructures Decorated Graphene Paper As A Hybrid Supercapacitor Electrode Synthesis and Its Applications	Shivaji University, Kolhapur	Ongoing	1,70,000/-

SUPERVISOR FOR RESEARCH SCHOLARS

Sr. No	Name of Student	Thesis title	Degree	Registered University	Status
1.	Mr. Sohel I. Bagwan	Studies of Metal Oxide Nanostructures Decorated Graphene Paper as a Hybrid Supercapacitor	Ph. D.	Shivaji University, Kolhapur	On going

HONORS & AWARDS

- ❖ Departmental Research Fellowship of Shivaji University, Kolhapur (2007-2011).
- ❖ Post-Doctoral Research Fellowship, Korea Institute of Science and Technology (KIST), Seoul, Republic of Korea (2011-2012).
- ❖ Post-Doctoral Research Fellowship, School of Mechanical Engineering, Yonsei University, Seoul, Republic of Korea (2012-2014).

TECHNICAL EXPERIENCE

I can operate/handle following units:

Vacuum coating unit, Plasma polymerization unit, Scanning Electron Microscope, Electro-Potentiostat, Atomic Absorption Spectrophotometer, UV-Near IR spectrophotometer (Shimadzu), Spin-Coating technique, Screen-Printing Deposition technique, Cyclic Voltamogram, Zeta potential unit, Solar Simulator unit.

TECHNICAL SKILLS

- I have been familiar with operating skills of electrochemical work station such as Versastat II, III (Princeton Applied Research) and Potentiostat (IviumStat technologies, Netherland).
- I can also analyze the graphs such as CV, EIS (Nyquist, Bode), obtained by these instruments.
- I have been skillfully evaluated structural, morphological, optical, electrical and wettability properties of thin films by means of X-ray diffraction (XRD), Raman and AFM data analysis, scanning electron microscopy (SEM), Transmission electron micrograph (TEM), Fourier transform infrared (FT-IR), UV-vis-NIR spectrophotometer, two point probe method and water contact angle measurement techniques.

PUBLISHED BOOKS

1. 'Vapor Chopped MgO Protective Layer for Plasma Display Panel' ISBN: 978-3-659-70509-0, LAP Lambert Academic Publication, Germany. 18 May, 2015.
2. Text book of Physics (Mechanics -I) as per CBSC Syllabus of Shivaji University, Kolhapur, ISBN: ISBN: 978-81-938664-6-7, Utkranti Prakashan, Kolhapur, June 2019.
3. Text book of Physics (Mechanics -II) as per CBSC Syllabus of Shivaji University, Kolhapur, ISBN: ISBN: 978-81-938664-5-0, Utkranti Prakashan, Kolhapur, June 2019.

EDITED BOOKS

1. J. B. Yadav, Rupesh Devan, R. B. Patil, **S. H. Tamboli**, A. D. Chougale, 3rd International e-Conference on Frontiers in Mechanical Engineering and Nano Technology, **Materials Today Proceedings - Elsevier'** 47/P16(2021), Elsevier Publishing, Netherlands, ISSN: 2214-7853

RESEARCH PUBLICATIONS

Papers Published/Accepted/Submitted to the Cited International Journals:

1. S.I. Bagwan, Saipan H Tamboli, S.M. Bargir, Nasser M Abd El-Salam, Hassan Fouad, **Sikandar H Tamboli**, Curtailing the Ambient Air Ageing Effect on Mechanical Properties of Vacuum Evaporated Al₂O₃ Thin Films Using Vapor Chopping Technique, **Journal of Nanoelectronics and Optoelectronics**, **19 4 (2024) 351-355**.
2. P.K. Salokhe, S.S. Shetti, V.D. Patil, T.R. Patil, R.M. Nille, A.B. Chougale, K.T. Gurav, R.B. Sutar, A.A. Jatrakar, G.G. Chougale, J.B. Yadav, B.M. Mohite, S.M. Bargir, Rahul B Patil, **Sikandar H Tamboli**, Study of physical properties of chemical bath deposited nickel oxide thin films, **Materials Today: Proceedings**, **23, 10 (2021) 26-29**.
3. **Sikandar H. Tamboli**, R. B. Patil, A. A. Jatrakar, G. G. Chougale, S. M. Bargir, J. B. Yadav, Vijaya Puri, Vapor chopped MgO thin film optical waveguide (**Materials Today: Proceedings 23, (2020) 175-181**)
4. B. S. Kim, **Sikandar H. Tamboli**, J. B. Han, Taehwan Kim, H. H. Cho, "Broadband radiative energy absorption using a silicon nanowire forest with silver nanoclusters for thermal energy conversion" (**International Journal of Heat and Mass Transfer**, **82 (2015) 267-272**).
5. **Sikandar H. Tamboli**, B. S. Kim, Geehong Choi, Hwanseong Lee, Donghwi Lee, U. M. Patil, Juhwan Lim, S. B. Kulkarni, S. C. Jun, H. H. Cho "Post-heating effects on the physical and electrochemical capacitive properties of reduced graphene oxide paper" (**Journal of Material Chemistry A**, **2 (2014) 5077-5086**).

6. **Sikandar H. Tamboli**, A. Jatrakar, J. B. Yadav, Vijaya Puri, R. K. Puri, H. H. Cho, “Ageing and vapor chopping effect on the properties of MgO thin films” (**Journal of Alloys and Compounds**, *588 (2014) 321–326*).
7. **Sikandar H. Tamboli**, Gul Rahman, Oh-Shim Joo “Influence of potential, deposition time and annealing temperature on photoelectrochemical properties of electrodeposited iron oxide thin films” (**Journal of Alloys and Compounds**, *520 (2012) 232–237*).
8. S. V. Kamat, **Sikandar H. Tamboli**, Vijaya Puri, R. K. Puri, M F. Luo, Determination of Optical Transmission Loss in Poly (3-Methyl Thiophene) Thin Film Planar Waveguide: Effect of Vapour Chopping (**Progress In Electromagnetics Research M**, *18 (2011) 197-207*).
9. A. K. Ghatage, Sikandar H. Tamboli, R. N. Patil and R. A. Patil, “Electrical conductivity of Ti substituted Ni-Zn ferrites” (**Archives of Physics Research**, *2 (2011) 1-5*).
10. **Sikandar H. Tamboli**, C. B. Singh, R. B. Patil, Vijaya Puri, V. Singh, R. K. Puri, M. F. Luo “Enhanced secondary electron emission yield of MgO thin films by vapor chopping technique for PDPs” (**Journal of Nanoelectronics and Optoelectronics**, *6 (2011) 156*).
11. S.V. Kamat, , **Sikandar H. Tamboli**, Vijaya Puri, R. K. Puri, J. B. Yadav, O. S. Joo, “Optical and electrical properties of polythiophene thin films: Effect of post deposition heating” (**Journal of Optoelectronics and Advanced Materials**, *12 (2010) 2301-2305*).
12. S. V. Kamat, **Sikandar H. Tamboli**, J. B. Yadav, Vijaya Puri, R. K. Puri, O. S. Joo “Post deposition heating effect on polythiophene thin films” (**Archives of Physics Research**, *1 (2010): 119-125*).
13. **Sikandar H. Tamboli**, S. V. Kamat, S. P. Patil, R. B. Patil, J. B. Yadav, Vijaya Puri, R. K. Puri, O. S. Joo “Oxidation temperature and vapor chopping effects on superficial properties of Bi₂O₃ thin film prepared on glass and alumina substrates” (**Archives of Physics Research**, *1 (2010): 73-81*).

14. **Sikandar H. Tamboli**, Vijaya Puri, R. K. Puri, SciTopic on “Improvement in adhesion and decrease in stress of MgO thin films due to vapour chopping” **Elsvier 2010**.
15. **Sikandar H. Tamboli**, Vijaya Puri, R. K. Puri, R. B. Patil, M. F. Luo “Comparative study of physical properties of vapor chopped and nonchopped Al₂O₃ thin films” (**Material research Bulletin**, *46 (2011) 815-819*).
16. **Sikandar H. Tamboli**, Vijaya Puri, R. K. Puri “Improvement in adhesion and decrease in stress of MgO thin films due to vapour chopping” (**Journal of Alloys and Compounds**, *503 (2010) 224-227*).
17. **Sikandar H. Tamboli**, Vijaya Puri, R. K. Puri “Adhesion and stress of Magnesium oxide thin films: effect of thickness, oxidation temperature and duration” (**Applied Surface Science**, *256 (2010) 4582-4585*).
18. **Sikandar H. Tamboli**, S.V. Kamat, R. B. Patil, R. K. Puri, Vijaya Puri; “Modification in optical properties of MgO thin films by vapour chopping” (**Journal of Alloys and Compounds**, *477 (2009) 855-859*).

MY NATIONAL & INTERNATIONAL COLLABORATORS

- **Prof. Hyung Hee Cho**, ASME (American Society of Mechanical Engineers) Fellow, Director, The Low Observable Technology Research Center, Professor, Dept. of Mechanical Engineering, Yonsei University, Seoul, Republic of Korea.
- **Prof. Oh-Shim Joo**, Dean of Clean Energy Center, Korea Institute of Science and Technology (KIST), Seoul, Republic of Korea.
- **Prof. Vijaya Puri**, Department of Physics, Shivaji University, Kolhapur, Maharashtra, India.
- **Dr. J. B. Yadav**, I/C, Head, Department of USIC, Shivaji University, Kolhapur, Maharashtra, India.
- **Dr. N. L. Tarwal**, Assistant Professor, Department of Physics, Shivaji University, Kolhapur.