

# Swati Kashinath Gaikwad, M.Sc. SET

## Present position

- Assistant Professor in Physics

## Contact Details (Mention e-mail) – fergusson.edu or despune.org

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in <https://www.linkedin.com/in/swati-gaikwad-b00382102>

## Work Experience

- Teaching: 05 years
- Research/Industrial: NIL

## Personal Profile

Completed M.Sc. (Physics) from the Department of Physics, Savitribai Phule Pune University, Pune-411007, and pursuing a Ph.D. in Multiferroic lead-free magnetoelectric materials. Teaching B.Sc. and M.Sc. Physics for the last 5 years.

## Course(s) Taught (Only Titles)

1. PHY2301: Principles and Applications of Optics
2. PHY2401: Introduction to Quantum Physics and Special Theory of Relativity
3. PHY3501: Mathematical Methods in Physics
4. PHY3502: Solid State Physics
5. PHY3603: Thermodynamics and Statistical Mechanics
6. PHY3604: Nuclear Physics
7. PHY1103: Physics practical laboratory-I
8. PHY1203: Physics practical laboratory-II
9. PHY2303: Physics practical laboratory-III
10. PHY2403: Physics practical laboratory-III
11. PHY3506: Physics practical laboratory-I
12. PHY3507: Physics practical laboratory-II
13. PHY3508: Physics practical laboratory-III
14. PHY3608: Physics Practical VI
15. PHY4206: Physics Practical Laboratory - IV: Electronics Lab
16. PHY5401: Nuclear Physics
17. PHY5407: Physics Practical Laboratory -VII: Special Lab. II

## Field of Specialization/Areas of Interests

- Material Science
- Magnetism
- Ferroelectric materials, Ferrites
- Magnetoelectric composite materials

## Education

- **Ph.D. – (Physics):** Pursuing  
**Title of the Thesis:** Magnetoelectric Composite of Rare-Earth Modified Ni-Co Ferrite and BZT-BCT Piezoelectric.  
**Name of University / Institution:** Department of Physics, Savitribai Phule Pune University, Pune-411007
- **Master of Science- (Physics):** 2014  
University/College: Department of Physics, Savitribai Phule Pune University, Pune-411007
- **Bachelor of Science- (Physics):** 2011  
NDMVPs, Karmveer Kakasaheb Wagh Arts, Commerce and Science College, Pimpalgon (Baswant), Taluka: Niphad, District: Nashik, Pin:422209,  
(Affiliated to Savitribai Phule Pune University, Pune-7).

## Fellowship/Awards/ Certifications/Achievements/Recognitions

1. Recipient of **UGC-BSR-JRF fellowship** in the year 2015, from 16-10-2015 to 14-06-2017.
2. Recipient of **DST- PURSE fellowship** in the year 2014, from 07-10-2014 to 15-10-2015A.

## Member of College Committees/ Professional Bodies and Others

College Level	Professional Bodies	Others
● Anti-ragging committee cell member from 2018 to till date	Member of Indian Association of Physics Teachers, IAPT	-
● S. Y .B. Sc. Physics Practical In charge from June 2022		
● S. Y. B. Sc. theory in charge from June 2017 to May 2021		
● Extra credit course XCC022 and XCC023 course coordinator (A.Y.2022-23)		

## Employment History

- 1) **Organization : Deccan Education Society's Fergusson College (Autonomous), Pune-411004**  
**Role : Assistant Professor**  
**Duration : Since 15<sup>th</sup> June 2017**

## Responsibilities

- S. Y. B. Sc Physics theory in charge

## Research Publications in National and International Journals

1. Shahaji P Kharat, **Swati K Gaikwad**, Paul Gaurav Nalam, Rahul C Kambale, Ajit R James, Yesh D Kolekar, CV Ramana, "Effect of Crystal Structure and Phase on the Dielectric, Ferroelectric, and Piezoelectric Properties of Ca<sup>2+</sup>- and Zr<sup>4+</sup>-Substituted Barium Titanate", *Crystal Growth & Design*, doi:10.1021/acs.cgd.2c00679, 2022
2. **S. K. Gaikwad**, V. G. Ghodekar, O. A. Ramdasi, S. P. Kharat, S. G. Kakade, R. C. Kambale, and Y. D. Kolekar, , "Effect of Zr<sup>4+</sup> substitution on ferroelectric and dielectric properties of BaTiO<sub>3</sub> ceramics", *AIP Conf. Proc.* 1731, 140061 (2016); DOI:10.1063/1.4948227.
3. S. P. Kharat, T. C. Darvade, **S. K. Gaikwad**, B. G Baraskar, S. G. Kakade, R. C. Kambale, and Y. D. Kolekar, "Magnetic properties of CoFe<sub>2</sub>O<sub>4</sub> and ZnFe<sub>2</sub>O<sub>4</sub> nanoparticles synthesized by novel chemical route" *AIP Conference Proceeding*, May 2016, DOI: 10.1063/1.4948162.

### Participation in Conferences/Seminars/Symposia/Workshop:

1. Presented an Oral Presentation at the 28<sup>th</sup> Raman Memorial Conference (RMC 2022) held on “Studies on lead-free BZT-BCT ferroelectric using Raman spectroscopy” **Swati K. Gaikwad**, S. P. Kharat, R. C. Kambale, and Y.D. Kolekar during 17th -18th February 2022 at the Department of physics, Savitribai Phule Pune University, Pune-7
2. Presented a Poster in **60<sup>th</sup> DAE-Solid State Physics Symposium (DAE-SSPS-2015)** on “Effect of  $Zr^{4+}$  Substitution on Ferroelectric and Dielectric Properties of  $BaTiO_3$  Ceramics”, **S. K. Gaikwad**, V. G. Ghodekar, O. A. Ramdasi, S. P. Kharat, S. G. Kakade, R. C. Kambale and Y. D. Kolekar; Sponsored by Board of Research in Nuclear Sciences (BRNS), Dept. Of Atomic Energy, Government of India; held at Amity University, U.P., Noida - 201313; during December 21-25, 2015.
3. Presented a Poster at **22<sup>nd</sup> Raman Memorial Conferences 2016** on “Effect on  $Ca^{2+}$  substitution in  $Ba^{2+}$  site in  $BaTiO_3$  ceramics”; **S. K. Gaikwad**, O. A. Ramdasi, S. P. Kharat, B. G. Baraskar, S. G. Kakade, R. C. Kambale, Y.D. Kolekar held at the Department of Physics, S. P. Pune University, Pune-411007; during February 12-13, 2016.
4. Presented a Poster in the **International conference on Functional Materials @ Nanoscale : Concerns & Challenges 2015 (ICFMNCC-2015)** on “Effect on the Structural, Dielectric and Ferroelectric properties due to the substitution of  $Zr^{4+}$  in  $BaTiO_3$ ”, **S. K. Gaikwad**, V. G. Ghodekar, S. G. Kakade, R. C. Kambale and Y. D. Kolekar; , paper presentation in the (**ICFMNCC-2015**) organized by Dept. of Physics, Chemistry and Electronics; Karmveer Bhaurao Patil Mahavidyalaya, Pandharpur; Dist. Solapur (M.S.) India; during March 9-11, 2015.
5. Attended and presented a poster paper titled “Influence of  $Zr^{4+}$  on the Structural, Dielectric and Ferroelectric Properties of  $BaTiO_3$ ”, **Swati K. Gaikwad**, V. G. Ghodekar, S. G. Kakade, R. C. Kambale and Y. D. Kolekar; presented in the **Raman Memorial Conference-2015**, held during Feb. 14-15, 2015 at Department of Physics, S. P. Pune University, Ganeshkhind, Pune – 411 007.
6. Presented a Poster in **22nd Raman Memorial Conference - 2016 (RMC-2016)** on “Ferroelectric and Dielectric Properties of BT based Lead Free Ceramics”; O.A.Ramdasi, **S.K.Gaikwad**, B.G.Baraskar, S.P.Kharat, S. G. Kakade, R. C. Kambale, Y. D. Kolekar held at Department of Physics, University of Pune, Pune- 411 007, during 12th -13th February 2016.
7. Presented a Poster in **International Conference on Functional Eco-friendly Smart Emerging Materials (FESEM-2016)** on “Ferroelectric and Piezoelectric Properties of Hf Modified  $BaTiO_3$ ”; O.A.Ramdasi, **S.K.Gaikwad**, B.G.Baraskar, S.P.Kharat, S. G. Kakade, R. C. Kambale, Y. D. Kolekar, held at YASHADA, organized by Baburaoji Gholap College, Sangavi, Pune- 411 027, during 10th - 12th March 2016.
8. Oral presentation in **22nd Raman Memorial Conference - 2016 (RMC-2016)** on, “Modified chemical synthesis route for magnetic properties of  $CoFe_2O_4$  and  $ZnFe_2O_4$  nanoparticles”, S. P. Kharat, T. C. Darwade, **S. K. Gaikwad**, B. G. Baraskar, O. A. Ramdasi, S. G. Kakade, R. C. Kambale, Y. D. Kolekar, held on 12-13 February 2016.
9. Presented a Oral Presentation in **State Level Seminar on “RECENT TRENDS IN MATERIAL SCIENCE AND APPLIED PHYSICS”** on “Ferroelectric and Dielectric Properties of BT Based Lead-Free Ceramics”; O.A.Ramdasi, **S.K.Gaikwad**, B.G.Baraskar, S.P.Kharat, S.G.Kakade, R. C. Kambale and Y. D. Kolekar held at Hutatma Rajguru Mahavidyalaya, Rajgurunagar - 410505, on 5th January 2016.

### Events Organized/Coordinated:

<b>Sr. No.</b>	<b>Name of the Event</b>	<b>Name of organizing Institute/ College/ University</b>	<b>Nature of contribution</b>	<b>Dates</b>
1	Summer school Program for interdisciplinary sciences	Department of Physics, Fergusson College, (Autonomous), Pune - 411004	Resource person	25-28 July 2022
2	Raman Memorial Conference (RMC-2017)	Department of Physics, Savitribai Phule Pune University, Pune-411007	Organizing Core committee member	February 2017

#### **Course Content Developed (e-content)**

- Solid state Physics: <https://youtu.be/r2d14D6Tuoc>