

Curriculum vitae

Dr. Kahkashan Anjum Mohammed Roshan Shaikh

(Dr. Kahkashan R. Shaikh)

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❖ Educational Qualifications

Sr. No	Degree/Course	Board/University	Percentage of marks	Year
1	S. S. C.	Maharashtra State Board	93.09	2011
2	H. S. C.	Maharashtra State Board	86.83	2013
3	B. Sc.	Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar	88.21 (Gold medalist)	2016
4	M. Sc. (Physics)	Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar	97.4 (Gold medalist)	2018
5	NET	Joint CSIR-UGC	-	2020
6	GATE	IIT-Delhi	-	2020
7	Ph. D.	Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar	-	2025

❖ Academic and Research Experience

- Currently working as an Assistant Professor (Contractual) in the Department of Physics, Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar.
- Worked as an Assistant Professor on CHB basis in the Department of Physics, Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar (Academic year: 2025-2026).

- Served as a Contributory Assistant Professor in the Department of Physics, Dr. Babasaheb Ambedkar Marathwada University for three years (Academic years: 2021-2024).
- Serving as a M. Sc. student research project mentor (Spectroscopy specialization) since the year 2022 in the Department of Physics, Dr. Babasaheb Ambedkar Marathwada University.
- Contributed as the Member of organizing committee and Invited talk session coordinator for the International Conference on Innovation in Material Science for Sustainable Future (ICMS-2026), organized by Department of Physics, Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar.
- Proficiency in XRD, FTIR, UV-Visible, Raman, FESEM, EDS, TEM, VSM, BET, etc. data analysis, various instruments handling and bioactivity, photocatalytic activity, dispersion activity, etc. testing.

❖ **Awards/Prizes/honors**

- Awarded the DST-INSPIRE Fellowship by the Department of Science and Technology, Ministry of Science and Technology, Government of India for being University first ranker in M. Sc to pursue Ph. D. degree in 2019.
- University Gold medalist in M. Sc. (Physics) for being University first rank holder in Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar in 2018.
- University Gold medalist in B. Sc. for securing first rank in Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar in 2016.
- Awarded “Mrs. and Mr. Keshav and Sulbha Pujari Paritoshak” prize for securing highest number of marks at M. Sc. Physics exam (2018), Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar.
- Awarded “Dr. M. D. Jahagirdar Prize” for securing highest number of marks in B. Sc. Examination (2016), Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar
- Awarded “Smt. Mathurabai Bhimrao Pingle Prize” for securing highest number of marks in B. Sc. Examination (2016), Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar.
- Awarded “Smt. Padmaja Vinayak Chouble Prize” for being recognized as highest number of marks securing women candidate in B. Sc. Examination (2016), Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar.

- First prize in Physics Seminar competition in B. Sc. organized by the Department of Physics, Maulana Azad College of Arts, Science and Commerce, Chh. Sambhajinagar (2015).
- First prize in inter-department science quiz competition in M. Sc. organized by Dr. Babasaheb Ambedkar Marathwada University, (2018).
- Second prize in “6th Ahmed Bin Abood Memorial State level Physics Math Knowledge test-2016” in B. Sc. organized by Milliya Arts, Science and Management Science College, Beed.
- Second prize in poster presentation competition in B. Sc. organized by Maulana Azad College of Arts, Science and Commerce, Chh. Sambhajinagar (2015).
- Recognized among top 1% student in H. Sc. examination in 2013 by DST-INSPIRE Programme, Ministry of Science and Technology, Government of India.

❖ Area of specialization

Spectroscopy, Material Science, Nanomaterial fabrication, Functional nanostructures, Bio-Physics, Biomedical applications, Waste water treatment, size, shape and phase dependent studies of nanomaterials.

❖ Research publications

- 1) **Kahkashan R. Shaikh**, Sakina M. Mir, Vrushabh M. Khandelwal, Abhijeet R. Pawar, Prabhakar B. Undre, Surfactant functionalized Iron oxide nanoparticles: Multifunctional engineered nanomaterial with boosted antimicrobial, photocatalytic and antioxidant performance, *Inorganic Chemistry Communications*, 176 (2025) 114233, <https://doi.org/10.1016/j.inoche.2025.114233>.
- 2) **Kahkashan R. Shaikh**, Abhijeet R. Pawar, Akash D. Salmote, Santosh A. Shinde, Prabhakar B. Undre, Exploring the effect of crystalline phase on photocatalytic, antimicrobial and antioxidant activity of magnetic Iron oxide nanoparticles, *Nanostructure and Nano-objects*, 38 (2024) 101166, <https://doi.org/10.1016/j.nanoso.2024.101166>.
- 3) **Kahkashan R. Shaikh**, Faizaa A. Saif, Abhijeet R. Pawar, Bhalchandra Waykar, Prabhakar B. Undre, Evaluation of structural parameters of monoclinic clinch nanocrystalline CuO and study of sunlight driven photocatalytic dye degradation, antimicrobial and antioxidant potential, *Inorganic and nano-metal Chemistry*, 55 (2025) 505-519, <https://doi.org/10.1080/24701556.2024.2352350>.
- 4) Abhijeet R. Pawar, Akash D. Salmote, **Kahkashan R. Shaikh**, Manika A. Singh, Prabhakar B. Undre Ce_{1-x}Fe_xO₂ nanoparticles for enhanced photocatalytic degradation of cationic dyes and antibacterial activity, *Journal of water process engineering*, 86 (2026) 109922, <https://doi.org/10.1016/j.jwpe.2026.109922>.
- 5) Akash D. Salmote, Abhijeet R. Pawar, **Kahkashan R. Shaikh**, Prabhakar B. Undre, Optimization of Sn_xCo₍₃₋

x)O₄ nanoparticles for efficient photodegradation of crystal violet under UV and visible irradiation and antibacterial activity, *Ceramics International*, 52 (2026) 5938-5959, <https://doi.org/10.1016/j.ceramint.2025.12.353>.

- 6) Sakina M. Mir, **Kahkashan R. Shaikh**, Abhijeet R. Pawar, Prabhakar B. Undre, Microwave-assisted synthesis and functionalization of nanocrystalline molybdenum trioxide for enhanced antimicrobial and photocatalytic activity, *Journal of Indian Chemical Society*, 101 (2024) 101288, <https://doi.org/10.1016/j.jics.2024.101288>.
- 7) Abhijeet R. Pawar, Manika A. Singh, Akash D. Salmote, **Kahkashan R. Shaikh**, Prabhakar B. Undre, Tailoring Ce_{1-x}Co_xO₂ nanostructures for enhanced photocatalytic degradation of Malachite green and Methylene blue and antibacterial applications, *Ceramics International*, 51 (2025) 50658-50672, <https://doi.org/10.1016/j.ceramint.2025.08.294>.
- 8) Abhijeet R. Pawar, **Kahkashan R. Shaikh**, Akash D. Salmote, Prabhakar B. Undre, Fe³⁺ doped ZnO nanostructures for improved photocatalytic degradation of malachite green, crystal violet and antibacterial activity, *Journal of material science material in Electronics*, 34 (2023) 2271, <https://doi.org/10.1007/s10854-023-11689-9>.
- 9) Akash D. Salmote, Abhijeet R. Pawar, **Kahkashan R. Shaikh**, Prabhakar B. Undre, Enhanced photocatalytic degradation of crystal violet with hexagonal nanosheets of Cu - doped Co₃O₄ under UV and visible irradiation, *Journal of material science material in Electronics*, 36 (2025) 1-18, <https://doi.org/10.1007/s10854-025-14526-3>
- 10) Abhijeet R. Pawar, Akash D. Salmote, **Kahkashan R. Shaikh**, Prabhakar B. Undre, Improved photocatalytic degradation of Malachite Green, Crystal Violet and antibacterial activity of Zn_{1-x}Co_xO nanoflakes, *International Journal of Environmental Analytical Chemistry*, 105 (2025) 4613-4638, <https://doi.org/10.1080/03067319.2024.2374877>.
- 11) Anju A. Pakhale, Vrushabh M. Khandelwal, **Kahkashan R. Shaikh**, Sanjay K. Tupe, Prabhakar B. Undre, Photocatalytic, antimicrobial, antioxidant, and latent fingerprint detection studies of green-synthesized CuO, ZnO and CuO-ZnO nanocomposites, *Inorganic Chemistry Communications*, 191 (2026) 17173, <https://doi.org/10.1016/j.inoche.2026.117173>.
- 12) Akash D. Salmote, Abhijeet R. Pawar, **Kahkashan R. Shaikh**, Nikita N. Deshmukh, Prabhakar B. Undre, Dual Functional Mn-Doped Co₃O₄ Nanoparticles for Efficient Crystal Violet Photodegradation and Antibacterial Applications, *physica status solidi (a) applications and materials science* 2026, 223, e70483. <https://doi.org/10.1002/pssa.70483>.

❖ Research work presented in National/International conferences

1. 7th International Conference on Nanoscience and Nanotechnology (ICONN-2023), SRM institute of Science and Technology, Tamil Nadu.

2. National Conference on Ferroelectrics and Dielectrics (XXII NSFD-2022), School of advanced sciences, VIT-AP University, Andhra Pradesh.
3. International conference on new horizons in material science and nanotechnology, Yeshwant Rao Chawan college of Arts, commerce and science, Sillod, Dist. Chhatrapati Sambhajinagar.
4. International conference on Polymers, composites, nanocomposites and bio- composites (ICPCNB-2024), SRM University, Kerala.
5. National Conference on Recent Advancement on Chemical and Physical Sciences (RACPS-2022), Bahirji Smarak Mahavidyalay, Basmath, Hingoli in collaboration with Shiv Chhatrapati College, Chhatrapati Sambhajinagar.
6. International conference on Innovation in materials science for sustainable future (ICMS-2026), Department of Physics, Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar.