

Ananya Sharma

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AREAS OF INTEREST

Molecular imaging, photoacoustic contrast agents, photodynamic therapy, in vivo tomography imaging image-guided therapy

EDUCATION

Institution	Degree	Date	Field of study
Indian Institute of Science (IISc), Bengaluru	Ph.D.	Aug 2021-Present	Bioengineering
Indian Institute of Technology (IIT), Gandhinagar	MTech.	07/19 - 05/212021	Biological Engineering
Dr D Y Patil Biotechnology and Bioinformatics Institute (DYPBBI), Pune	BTech.	07/15-05/19	Biotechnology

HONORS

Fellowships and scholarships

- Prime Minister Research Fellowship (2021-Present)
The fellowship is offered by the Ministry of Human Resource Development (MHRD), Government of India. It includes a 4-year stipend and travel support for the research carried during the PhD tenure.
- Summer Research Fellowship (2018)
The fellowship is awarded by three national Science Academies: Indian Academy of Sciences, Indian National Science Academy, and The National Academy of Sciences, India. This fellowship included a 2-months stipend and was focused on training awardees based on their potential and commitment to research careers.

Presentation awards

- *Best oral presentation*, 10th Annual Symposium, Department of Bioengineering, IISc (2024)

Travel awards and conference/workshop attendance scholarships

- *Student Travel Award*, World Molecular Imaging Congress, WMIC, Montreal, Canada, 2024.

Academic excellence Awards

- *President's Gold medal* (M. Tech. Biological Engineering) at Indian Institute of Technology, Gandhinagar (2019-2021)
- *Institute Gold medal* (M. Tech. Biological Engineering) at Indian Institute of Technology, Gandhinagar (2019-2021)
- *Gold medal* (B.Tech Biotechnology) at Dr. D.Y. Patil Biotechnology and Bioinformatics Institute, Pune (2015-2019)
- *Annual All Rounder Student Award* by Dr. D.Y. Patil Biotechnology and Bioinformatics Institute, Pune (2019)
- *1st place* in National Level Championship for Science organized by IIT-Kharagpur (2018)
- *Meritorious Student Prize* for CBSE Secondary Exams by Inter Faith Fraternal Association, Ajmer (2010)

PUBLICATIONS

Peer reviewed journals

1. Tripathi, M., **Sharma, A.**, Sinharay, S. and Raichur, A.M., 2024. Effect of PVP Molecular Weights on the Synthesis of Ultrasmall Cus Nanoflakes: Synthesis, Properties, and Potential Application for Phototheranostics. ACS Applied Bio Materials, 7(3), pp.1671-1681.
2. **Sharma, A.**, Marapureddy, S.G., Paul, A., Bisht, S.R., Kakkar, M., Thareja, P. and Mercado-Shekhar, K.P., 2023. Characterizing viscoelastic polyvinyl alcohol phantoms for ultrasound elastography. Ultrasound in Medicine & Biology, 49(2), pp.497-511.

Manuscript in submission

Tripathi, M*, **Sharma A***, Victor A. Ajisafe., V.A., Sinharay, S. and Raichur, A.M. Mucin-capped CuS Nanoparticles for Mitochondrial targeted NIR-II Photothermal therapy and Photoacoustic imaging, Manuscript submitted, *Small*.

Manuscripts in preparation (submissions anticipated in 2024)

- Patkulkar, P., SV, Arjun., Sharma, A., V, V., Shringi, C., Sinharay, S. Noninvasive monitoring of metabolic avidity with a glycol-conjugated photoacoustic contrast within an in vivo tumor model.
- Sharma, A., Banerjee, A., Pradhan, R., Patkulkar, P., Sahoo, S., Jhunjhunwala, S., Sinharay, S. Glycerol-substituted zinc phthalocyanine based photoacoustic agents for theranostic application in pancreatic cancer.

Conference presentations

1. *Oral presentation* at IEEE South Asian Ultrasonics Symposium (SAUS), 27th-29th March 2024, IIT Gandhinagar, India
2. *Oral presentation* at European Molecular Imaging Meeting (EMIM), 14th-17th March 2023, Salzburg, Austria
3. *Poster presentation* at the ACS Asia-Pacific Conclave on Engineering Healthcare, 29th-31st January 2024, Mysore, India
4. *Oral presentation* at Acoustics in Focus (AiF), the 180th meeting of The Acoustical Society of America (ASA) 2021. Virtual conference.
5. *Oral presentation* at 45th Annual International Symposium on Ultrasonic Imaging and Tissue Characterization (UITC) 2021. Virtual meeting.
6. *Oral presentation* at International Conference on Formulations in Food and Healthcare (ICFFH) 2021. Virtual conference organized by the University of Birmingham, UK.

INTELLLECTUAL PROPERTY

Glycerol-substituted zinc phthalocyanine based photoacoustic agents for theranostic application in pancreatic cancer (IDR-BSSE-2024-045, Our Ref: [IP79142]/KG/rv) – “Provisional application submitted”

TEACHING AND MENTORING EXPERIENCES

Mentorship

- Mentored a BS-MS student from IISER Mohali for a 2-month summer internship (May-July 2024)

Teaching Assistantship

- Diagnostics and Devices (BE 224, Aug -Dec 2023), Indian Institute of Science
Instructor: Dr. Sanhita Sinharay and Dr. Bhushan Toley

- Science for Rural India (SFRI), a student-driven initiative at IISc which aims at inspiring students from rural backgrounds towards science by teaching them hands-on science experiments
Created digital content comprising of concept presentation, experimental models and video explanation (Jan-June 2022)

PROFESSIONAL MEMBERSHIPS

- World Molecular Imaging Society (WMIS) member (2024-2025)
- European Society for Molecular Imaging (ESMI) member (2023-2024)
- ACS student chapter in IISc (2022-2023)