Dr. Sudhir H. Ranganath, M.S., Ph.D., Postdoc (Harvard-MIT, JNCASR)

Associate Professor and Head
Department of Chemical Engineering
Principal Investigator
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Education

Sl.No.	Degree	Year	Institute	Specialization
1	B.E.	1999	Bangalore University	Chemical Engineering
2	M.Sc	2004	National University of Singapore	Chemical & Environmental Engineering
3	PhD	2010	National University of Singapore	Chemical & Bio molecular Engineering

Professional Experience

Sl.No.	Date (from-to)	Designation	Organization
1	2024 - till date	Associate Professor & Head, Chemical Engineering	Siddaganga Institute of Technology, Tumkur
2	2015-2024	Assistant Professor, Chemical Engineering	Siddaganga Institute of Technology, Tumkur
3	2010-2014	IUSSTF Postdoctoral Fellow	Harvard-MIT HST, USA JNCASR, India
4	2009-2010	BMRC Research Fellow	National University of Singapore
5	2005-2006	Project Engineer	Plant Engineering Construction Pte Ltd
6	2000-2001	Process Engineer	Grasim Industries Ltd, India
7	2000	Production Engineer Trainee	RS Starch & Chemicals Pvt Ltd, India

Positions held

Sl.No.	Date (from-to)	Designation	Organization
1	2024 - till date	Head, Chemical Engineering	Siddaganga Institute of Technology, Tumkur
2	2022-2025	Member Secretary	Institutional Biosafety Committee, SIT
3	2019-2024	Start-up Activity Coordinator	Institutional Innovation Council, SIT
4	2019-2020	Member, Board of Studies in Chemical Engineering	VTU Belagavi
5	2019 – till date	Member	NIRF Rank Improvement Committee
6	2019 - till date	Member	Research Progress Review Committee

Affiliations of Professional organizations

- Life Member, Sigma Xi, USA (2022 - till date)
- Member, Controlled Release Society (CRS), USA (Jan 2021 - till date)
- Member, Association for Research in Vision & Ophthalmology, USA (Dec 2019 - till date)
- Member of the Society for Biomaterials, USA (2017)
- Member of the Institute of Engineers (IE), India
- Student member of Controlled Release Society, USA (2008 – 2009)
- Student member of American Institute for Chemical Engineers (AIChE), USA (2006 – 2007)
- President of Chemical & Biomolecular Engineering-Graduate Students' Association, NUS (2008-2009)

Awards and Honors

- Member of **Sigma Xi Scientific Honor Society**, USA (Feb 2023 - till date)
- **INSA Visiting Scientist Fellowship** (Host: IIT Bombay) (May 2022)
- **Roche Collaborative Research Fellowship** from ARVO, USA (Nov 2020)
- **Young Investigator** at the Young Investigators' Meeting organized by India Bioscience Group (Feb 2020)
- **Finalist** at the National Bio Entrepreneurship Competition organized by C-CAMP, Bangalore (Dec 2019)
- **Award for Research Publication** from the Vision Group for Science & Technology, Govt of Karnataka (June 2019)
- **Winner** of DST-Lockheed Martin-Tata Trusts India Innovation Growth Programme University Challenge (July 2019)
- **Best Poster Award** at the COMSOL Conference, Bangalore (2018)
- **Innovation Certificate** by Partners Healthcare, Brigham & Women's Hospital, Harvard Medical School (2017)
- Session Chair at the International Conference on Biomedical Engineering, Singapore (Dec 2016)
- **DBT Travel Grant** to ICBME Singapore (Dec 2016)
- Awarded **Institute Seed Funding** of Rs.48 Lakhs for Research, SIT (2016)
- Selected for Young Investigator Meeting, MIT, USA (Sep 2013)
- Review article in **Featured Five Review Collection** in Cell Stem Cell Journal (March 2013)
- Selected to participate in Advanced School of Living Mechanics, NCBS, India (Nov 2010)
- Indo-US Science & Technology Forum (IUSSTF) Postdoctoral Fellowship (Aug 2010–Dec 2013)
- Biomedical Research Council (BMRC) Research Fellowship, NUS (Aug 2009-Aug 2010)
- NUS Research Scholarship for PhD (Jan 2006- Aug 2010)
- Ph.D. research proposal awarded funding (S$541,000) by BMRC to PI, NUS (2008-2010)
- **Best poster award** at Graduate Student Symposium, Singapore, 2004
- Bioprocess Engineering Continuing Education Course – **Distinction**, IISc, India (May 2002)

Courses Taught

Undergraduate Courses

- Mass Transfer, Advanced Mass Transfer
- Biochemical Engineering
- Process Calculations, Bioprocess Calculations
- Biology for Engineers
- Chemical Reaction Engineering
- Heat and mass transfer (Teaching Assistant), NUS, Singapore, 2007, 2008, 2009
- Heat and mass transfer (Laboratory Teaching Assistant), NUS, Singapore, 2009
- Process control lab (Teaching Assistant), NUS, Singapore, 2006
- Process dynamics and control (Teaching Assistant), NUS, Singapore, 2004

- Mathematical Methods in Chemical Engineering (Teaching Assistant), NUS, Singapore, 2004

Postgraduate Courses

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Research Guidance

Sl. No.	Name of the Scholar	Title	Year of completion
1	Dr. Ramesha H (Postdoc Fellow)	Understanding the cellular and molecular interaction between glioma stem cells and T-cells in the context of immune exhaustion	Mar 2025 – till date
2	Dr. Tanusree Saha (Postdoc Fellow)	Understanding the cellular and molecular interaction between glioma stem cells and T-cells in the context of immune exhaustion	Apr 2024 – Jan 2025
3	Dr. Thanuja M Y	Development and characterization of natural and synthetic nanovesicles for drug delivery and biosensing applications	2016 - 2021
4	Dr. Anupama C	Effect of oxidative stress on the barrier function of corneal endothelium	2018 - 2022
5	Rudraradhya U	Prophylactic drug delivery to donor corneal endothelium	2024 - till date
6	Varsha G	Synthesis and development of injectable, intravitreal and stimuli-responsive drug delivery systems to treat eye diseases	2024 - till date (Co-guide)
7	Shubhangi Pandit	Microfluidic devices for cellular lysis for high throughput production of cell membrane vesicles for drug delivery	2023 - till date (IIT Delhi, Co-guide)
8	Bharathi M	Small molecule inhibitors to combat atherosclerotic plaque by cholesteryl ester supply cholesteryl ester transfer protein	2024 - till date (Co-guide)
9	Kavya S U (Research Fellow)	Non-genetic engineering of Mesenchymal Stem Cells to enable T-cell immunotherapy against glioma stem cells	2024-till date
10	Appurva K (MS Engg by Res)	Process development for the extraction of Lithium from RO reject using novel deep eutectic solvents	2024 - till date (Co-guide)

Research Areas

- Cell-based, cell-derived and cell-inspired targeted drug delivery systems
- Ocular pathophysiology, pharmacology, ocular drug delivery
- Bionanosensors for ocular surface sensing
- Small molecule-based bioengineering and particle engineering of stem cells
- Mesenchymal stem cell-based therapeutics, cancer treatment and immunomodulation
- Development of biomaterial-based micron/submicron/nanoscale drug/protein delivery implants
- Modelling & simulation of transport in biological systems
- Quantum computational and machine learning-assisted design of Deep Eutectic Solvents
- Deep Eutectic Solvent-based extraction of Lithium from RO reject water and spent Li ion batteries

Sponsored Projects

Ongoing Projects:

1. Title: Investigation of the protective effects of AMPK activation against energy stress in cold-stored ex vivo donor corneal endothelium
   Funding Agency: National Academy of Sciences, USA and SigmaXi
   Amount: ₹**2.14 lakhs**
   Duration: 1 year (2025)
   Role: Principal Investigator and Mentor

2. Title: Network center for research on glioblastoma stem cell-targeted T-Cell immunotherapy using non-genetically engineered mesenchymal stromal cells
   Funding Agency: Department of Biotechnology, Govt. of India
   Amount: ₹**3.35 crores**
   Duration: 3 Years
   Role: Principal Investigator and Project Coordinator

3. Title: Seed Grant to establish Bio-INvENT Center of Excellence
   Funding Agency: Sree Siddaganga Education Society (SSES), Tumakuru
   Amount: ₹**37.4 lakhs**
   Duration: NA
   Role: Principal Investigator and Project Coordinator

Completed Projects:

1. Title: Nanoparticle-based prophylactic drug delivery to the corneal endothelium
   Funding Agency: SERB, Dept of Science & Technology, Govt of India
   Amount: ₹35.04 Lacs
   Duration: 3 year
   Role: Principal Investigator

2. Title: Mesenchymal stem cell membrane-derived nanovesicles loaded with 177Lu for targeted cancer therapy
   Funding Agency: BRNS, Department of Atomic Energy, Govt of India
   Amount: ₹28.82 Lacs
   Duration: 3 Year
   Role: Principal Investigator

3. Title: Investigation of ferroptosis as the mechanism of hypothermia-induced cell death and barrier dysfunction in cold stored ex vivo corneal endothelium
   Funding Agency: National Academy of Sciences, USA and SigmaXi
   Amount: ₹2.08 lakhs
   Duration: 1 Year
   Role: Principal Investigator and Mentor

4. Title: Rescuing the hypothermia- and cytokine-induced damage to donor corneal endothelial functions by pre-treatment with microtubule stabilizers
   Funding Agency: Association for Research in Vision Science & Ophthalmology, USA
   Amount: $10,000
   Duration: 1 Year
   Role: Principal Investigator

5. Title: Unraveling a new strategy of inhibition of Cholesteryl ester transfer protein by small molecule inhibitors through site directed mutagenesis and molecular dynamics simulation studies
   Funding Agency: Vision Group on Science & Technology, Govt of Karnataka
   Amount: ₹25 Lacs
   Duration: 2 Year
   Role: Co-Principal Investigator

6. Title: CLeONs: High efficiency contact lens-coated oxygen nanosensors for eye clinics
   Funding Agency: DST-Lockheed Martin-Tata Trusts
   Amount: ₹10 Lacs
   Duration: 1 Year
   Role: Principal Investigator

7. Title: Understanding the biophysical properties of cell membrane-derived nanocarriers
   Funding Agency: Indo-French Centre for the Promotion of Advanced Research
   Amount: ₹1.69 Lacs
   Duration: 3 months
   Role: Principal Investigator

8. Title: Nanoparticle-assisted non-genetic, transient engineering of stem cells for therapy
   Funding Agency: TEQIP-II/SSES
   Amount: ₹9.5 Lacs
   Duration: 1 Year
   Role: Principal Investigator

9. Title: Ocular drug delivery and biosensing via nanotechnology and mathematical modeling
   Funding Agency: SSES, Tumkur
   Amount: ₹47.25 Lacs
   Duration: 6 Year
   Role: Principal Investigator

Publications

Journals

- Chakraborty A, ... SH Ranganath, et al. Engineering multifunctional adhesive hydrogel patches for biomedical applications. Interdisciplinary Medicine, 2023. https://doi.org/10.1002/INMD.20230008.
- Shilpashree PS, ... SH Ranganath, et al. Grading the severity of damage to the peri-junctional actomyosin ring and ZO-1 of the corneal endothelium by ensemble learning methods. Journal of Ocular Pharmacology & Therapeutics, 2023; 39(4): 252-274.
- Thanuja MY, Tellakula SS, Suryavanshi SV, Keerthana GS, Chandan V, Ranganath SH. Fusogenic liposome-coated nanoparticles for rapid internalization into donor corneal endothelial tissue to enable prophylaxis before transplantation. Nanoscale Advances, 2023; 5(23): 6410-6422.
- Roy D, Udugiri G, Ranganath SH. Evaluation of suitability and detection range of fluorescent dye-loaded nanoliposomes for sensitive and rapid sensing of wide ranging osmolarities. Journal of Liposome Research, 2023; 33(3): 300-313.
- Anupama C, Abhijith SR, Ranganath SH, Srinivas SP. Experimental oxidative stress breaks down the barrier function of the corneal endothelium. Journal of Ocular Pharmacology & Therapeutics, 2023; 39(1): 70-79.
- Thanuja MY, Ranganath SH, Srinivas SP. Role of oxidative stress in the disruption of the endothelial apical junctional complex during corneal cold storage. Journal of Ocular Pharmacology & Therapeutics, 2022; 38 (10), 664-681.
- SP Srinivas, ... SH Ranganath, et al. Depth-resolved fluorescence lifetime spectroscopy across the cornea in digital frequency domain. Multiphoton Microscopy in the Biomedical Sciences XXII 11965, 2022; 44-53.

- Thanuja MY, Ranganath SH, Bonnano JA, Srinivas SP. Nanoliposomes for sensing local osmolarity of the tear film on the corneal surface. Journal of Ocular Pharmacology & Therapeutics, 2022; 38(8): 549-560.
- Anupama C, Thanuja MY, Ranganath SH, Pandya K, Kompella UB, Srinivas SP. Oxidative stress induces a breakdown of the cytoskeleton and tight junctions of the corneal endothelial cells. Journal of Ocular Pharmacology & Therapeutics, 2022; 38(1): 74-84.
- Thanuja MY, Suma BS, Divyasree D, Ranganath SH, Srinivas SP. Microtubule stabilization protects hypothermia-induced damage to the cytoskeleton and barrier integrity of the corneal endothelial cells. Journal of Ocular Pharmacology & Therapeutics, 2021; 37(7): 399-411.
- Rogers OC, Antony L, Levy O, Joshi N, Simons BW, Dalrymple SL, Rosen DM, Pickering A, Lan H, Kuang H, Ranganath S, et al. Microparticle encapsulation of a prostate-targeted biologic for the treatment of liver metastases in a preclinical model of castration-resistant prostate cancer. Molecular Cancer Therapeutics, 2020; 19(11), 2353-2362
- Thanuja MY, Anupama C, Ranganath SH. Bioengineered cellular and cell membrane-derived vehicles for actively targeted drug delivery: So near and yet so far. Advanced Drug Delivery Reviews 2018; 132, 57-80.
- SP Srinivas, A Goyal, DP Talele, S Mahadik, RR Sudhir, P Pavani Murthy, S Ranganath, U Kompella, P Padmanabhan. Corneal epithelial permeability to fluorescein in humans by a multi-drop method. PLoS ONE 2018; 13 (6), e0198831.
- Yang Z, Concannon J, Ng KS, Seyb K, Mortensen L, Ranganath SH, Gu F, Levy O, Zhao W, Glicksmen M, Karp JM. Tetrandrine identified in a small molecule screen to activate mesenchymal stem cells for enhanced immunomodulation. Scientific Reports, 2016; 6, 30263.
- Ranganath SH, Tong Z, Levy O, Martyn K, Karp JM, Inamdar MS. Controlled inhibition of the mesenchymal stromal cell pro-inflammatory secretome via microparticle engineering. Stem Cell Reports, 2016; 6, 1-14.
- Levy O, Brennen WN, Han E, Rosen DM, Musabeyezu J, Safaee H, Ranganath S, et al. A prodrug-doped cellular Trojan Horse for the potential treatment of prostate cancer. Biomaterials 2016; 91, 140-150.
- Fu Y, Ong LC, Ranganath SH, Zheng L, Yu S, Chow PKH, Wang CH. A dual tracer 18F-FCH/18F-FDG PET imaging of an orthotopic brain tumor xenograft model. PLoS ONE 2016; 11 (2), e0148123.
- Ranganath SH, Levy O, Inamdar MS, Karp JM. Harnessing the mesenchymal stem cell secretome for the treatment of cardiovascular disease. Cell Stem Cell 2012; 10(3): 244–258.
- Ranganath SH, Tan AL, He F, Krantz WB, Wang CH. Control and enhancement of perm-selectivity of membrane-based microcapsules for favorable biomolecular transport and immunoisolation. AIChE Journal 2011; 57: 3052-3062.
- Ranganath SH, Fu Y, Arifin DY, Kee I, Zheng L, Lee HS, Chow PKH, Wang CH. The use of submicron/nanoscale PLGA implants to deliver paclitaxel with enhanced pharmacokinetics and therapeutic efficacy in intracranial glioblastoma in mice. Biomaterials 2010; 31: 5199-5207.
- Ranganath SH, Kee I, Krantz WB, Chow PKH, Wang CH. Hydrogel matrix entrapping PLGA-paclitaxel microspheres: Drug delivery with near zero-order release and implantability advantages for intracranial chemotherapy. Pharmaceutical Research 2009; 26: 2101-2114.
- Ong BYS, Ranganath SH, Lee LY, Lu F, Lee HS, Sahinidis NV, Wang CH. Paclitaxel delivery from PLGA foams for controlled release in post-surgical chemotherapy against glioblastoma multiforme. Biomaterials 2009; 30: 3189-3196.
- Lee LY, Ranganath SH, Fu Y, Zheng JL, Lee HS, Wang CH, Smith KA. Paclitaxel release from micro-porous PLGA disks. Chemical Engineering Science 2009; 64: 4341-4349.
- Ranganath SH, Wang CH. Biodegradable microfiber implants delivering paclitaxel for the post-surgical chemotherapy against malignant glioma. Biomaterials 2008; 29: 2996-3003.
- Loh KC, Ranganath S. External-loop fluidized bed airlift bioreactor (EFBAB) for the cometabolic biotransformation of 4-chlorophenol (4-cp) in the presence of phenol. Chemical Engineering Science 2005; 60(22): 6313-6319.

Conference Proceedings

- Computational thermodynamics- and machine learning-based screening of deep eutectic solvents for the extraction of Lithium from low concentration sources. 14th International Conference on Sustainable Waste Management - Circular Economy & IPLA Global Forum, GITAM University (Nov 2024)
- Biochemical insights into the oxidative stress-induced adverse effects of cold storage on the barrier function of donor corneal endothelium. SRRR-INDIA DISCOVER 2024, BARC, Mumbai (Nov 2024)
- Computational thermodynamics- and machine learning-based screening of deep eutectic solvents for the extraction of Lithium from low concentration sources. SChemcon 2024, IIChE-RGPIT, Amethi (Sep 2024)
- Machine learning and computational thermodynamics-based screening of deep eutectic solvents for the extraction of Lithium from low concentration sources. IISc Sustainability Summit, IISc Bangalore (July 2024)
- Fusogenic liposome-coated nanoparticles for rapid internalization into donor corneal endothelial tissue to enable prophylaxis before transplantation. Nature Conference on Nanomaterials in Biomedical Applications, MAHE Manipal (Feb 2024).
- Fluorescent dye-loaded nanoliposomes for sensing local osmolarity of the tear film on the corneal surface. Nature Conference on Nanomaterials in Biomedical Applications, MAHE Manipal (Feb 2024).
- Nanoparticle-based prophylactic microtubule stabilization protects barrier integrity of donor corneal endothelial cells from hypothermic stress. Progress in Regenerative & Integrative Medicine for Eye (PRIME Summit 2023), Narayana Netralaya, Bengaluru (Dec 2023).
- Fusogenic Liposome-coated Nanoparticles for rapid internalization into donor corneal endothelial tissue to enable prophylaxis before transplantation. Progress in Regenerative & Integrative Medicine for Eye (PRIME Summit 2023), Narayana Netralaya, Bengaluru (Dec 2023).
- Oxidative stress induces a breakdown of the cytoskeleton, tight junctions and barrier function of corneal endothelial cells. Progress in Regenerative & Integrative Medicine for Eye (PRIME Summit 2023), Narayana Netralaya, Bengaluru (Dec 2023).
- Fusogenic liposome-coated nanoparticles for rapid internalization into donor corneal endothelial tissue to enable prophylaxis before transplantation. International Conference on Advancements in Polymeric Materials, CIPET, Bengaluru (Mar 2023).
- Sensing local osmolarity of the tear film on the corneal surface using fluorescent dye-loaded nanoliposomes. ARVO Annual Meeting, Denver, USA (May 2022).
- Automatic image skeletonization to characterize ZO-1 distribution in the corneal endothelium following hypothermia and oxidative stress. ARVO Annual Meeting, Denver, USA (May 2022).
- Corneal cold storage breaks down the actin cytoskeleton and tight junctions of the endothelium via oxidative stress. ARVO Annual Meeting, Denver, USA (May 2022).
- Depth-resolved fluorescence lifetime spectroscopy across the cornea in the digital frequency domain. SPIE Photonics West Conference, San Francisco, USA (Jan 2022).
- Hypothermia breaks down the barrier function of the corneal endothelium. ARVO Annual Meeting, (May 2021).
- Impact of oxidative stress on the cytoskeleton and barrier integrity of the corneal endothelium. ARVO Annual Meeting, (May 2021).
- Drug-loaded nanoparticle internalization into donor cornea towards enhanced transplantation. Bengaluru India Nano 2020, Bengaluru (Mar 2020).
- Mesenchymal stem cell membrane-cloaked nanoparticles for active targeted cancer therapy. Bengaluru India Nano 2020, Bengaluru (Mar 2020).
- Ruthenium-loaded silica nanoparticles bound to contact lenses for rapid pO2 sensing in the post lens-tear film. Bengaluru India Nano 2020, Bengaluru (Mar 2020).
- Multifaceted effects of oxidative stress on the corneal endothelium in Fuchs Endothelial Corneal Dystrophy (FECD). Society for Free Radical Research (SFRR) - India Annual Meeting 2020. BARC, Mumbai (Feb 2020).
- An integrated and multidisciplinary approach to the development of ocular theranostic solutions. Young Investigators' Meeting, Mahabalipuram (Feb 2020).
- CLeONs: Contact Lens-coated oxygen nanosensors for rapid pO_2 sensing in the post lens-tear film. International Conference on Biomedical Engineering, Singapore (Dec 2019).

- Ruthenium-loaded silica nanoparticles bound to contact lenses for rapid pO2 sensing in the post lens-tear film. ARVO-IERG, Chennai (2019)
- Digital frequency domain approach for pO2 sensing with a microfluorometer developed for transcorneal measurements. ARVO Annual Meeting, British Columbia, Canada (May 2019).
- Simulation of measurement of corneal permeability by multi-drop method using COMSOL Multiphysics. COMSOL Conference 2018, Bangalore, INDIA (Aug 2018).
- Measurement of endothelial permeability to fluorescein with a spot fluorometer. ARVO Annual Meeting, Baltimore, USA (May 2017).
- Reevaulation of epithelial permeability to fluorescein by the multi-drop method. ARVO Annual Meeting, Baltimore, USA (May 2017).
- Non-genetic, Transient Engineering of Mesenchymal Stem Cell Secretome via Intracellular Controlled Drug Delivery. Society for Biomaterials Annual Meeting, Minneapolis, USA (April 2017).
- Non-genetic and transient engineering of mesenchymal stem cell secretome using intracellular, controlled drug delivery. International Conference on Biomedical Engineering (ICBME 2016), Singapore (Dec 2016).
- Attacking prostate cancer with a prodrug-doped cellular Trojan horse. American Association of Cancer Research 107th Annual Meeting 2016; New Orleans, LA, USA (April 2016).
- Measurement of corneal epithelial permeability to Fluorescein in humans by multi-drop method. ARVO Annual Meeting, Seattle, USA (May 2016).
- Nanoparticle engineering of corneal endothelial cells for transplantation. International Advanced Lecture Series in Ocular Pharmacology: Recent Trends with a Focus on Nanomedicine. SIT, Tumkur, Aug 2015.
- Cell membrane-derived nanocarriers for targeted drug delivery. International Advanced Lecture Series in Ocular Pharmacology: Recent Trends with a Focus on Nanomedicine. SIT, Tumkur, Aug 2015.
- Delivery of riboflavin into corneal stroma with and without iontophoresis. International Advanced Lecture Series in Ocular Pharmacology: Recent Trends with a Focus on Nanomedicine. SIT, Tumkur, Aug 2015.
- Effects of brief periods of eye closure on the dynamics of pO2 underneath a contact lens. International Advanced Lecture Series in Ocular Pharmacology. SIT, Tumkur, Aug 2015.
- Penetration of hydrophilic sulforhodamine B into the cornea. International Advanced Lecture Series in Ocular Pharmacology: Recent Trends with a Focus on Nanomedicine. SIT, Tumkur, Aug 2015.
- Measurement of tear flow rates in humans using a spot fluorometer. Advanced Lecture Series in Ocular Pharmacology: Recent Trends with a Focus on Nanomedicine. SIT, Tumkur, Aug 2015.
- Mesenchymal stromal cells as a cellular delivery platform of prostate cancer prodrugs. Society of Biomaterials Annual Meeting, Denver, CO, USA, April 2014.
- Mesenchymal stem cells (MSC) as a cell-based delivery vector for PSA-activated prodrugs to sites of prostate cancer. American Association of Cancer Research (AACR) Annual Meeting, San Diego, USA, October 2014; 74(19).
- Micro/nano-structures enabling chemotherapy & stem cell phenotype control. Young Investigator Meeting, MIT, Cambridge, USA, September 2013.
- 8th Indo-Australian Biotechnology Conference on Stem Cell Biology, Bangalore, India, December 2011. – poster presentation.
- Micro/nano-structured implants delivering paclitaxel: Enhanced pharmacokinetics and therapeutic efficacy in treating intracranial glioblastoma in mice. CRS Annual meeting 2010, Portland, USA, July 2010.- podium presentation.
- Bio-molecular mass transport across alginate microcapsules with genipin-chitosan membrane shell: Implications for micro-bioreactor-based protein delivery. CRS Annual meeting 2010, Portland, USA, July 2010. – poster presentation.
- Implantable hydrogel beads entrapping PLGA-paclitaxel microspheres: Exploring the effects of near-zero order drug release for intracranial chemotherapy. AIChE Annual Meeting, Philadelphia PA, USA, 16-21 November 2008. – podium presentation.

- Local intracranial drug delivery using biodegradable PLGA-paclitaxel micro/nano-fiber implants to treat malignant brain tumors. AIChE Annual Meeting, Philadelphia PA, USA, 16-21 November 2008. – podium presentation.
- In vitro efficacy of implantable hydrogel beads entrapping PLGA-paclitaxel microspheres in treating brain tumors. ChemBiotech'08 Regional Conference, Singapore, 19-20 December 2008. – poster presentation.
- External-loop fluidized bed airlift bioreactor (EFBAB) for the co-metabolic biotransformation of 4-chlorophenol (4-cp) in the presence of phenol. 7th International Conference on Gas-Liquid-Solid Reactor Engineering, Strasbourg, France, 21-24 August 2005. – poster presentation.

Book Chapters

- Ranganath SH, Thanuja MY, Anupama C, Manjunatha TD. (2021) Systemic Drug Delivery to the Posterior Segment of the Eye: Overcoming Blood–Retinal Barrier Through Smart Drug Design and Nanotechnology. In: Tripathi A., Melo J.S. (eds) Immobilization Strategies. Gels Horizons: From Science to Smart Materials. Springer, Singapore. https://doi.org/10.1007/978-981-15-7998-1_6.
- Waters RM, Maloney R, Ranganath SH, Hsieh, HY, Paul A. Nano- and microscale delivery systems for cardiovascular therapy. Microscale Technologies for Cell Engineering, 2016; 269-289.

Books

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Editorial

- CH Wang, SH Ranganath. Current formulations and techniques of drug/gene delivery for targeted therapy and tissue engineering. Current Pharmaceutical Design 2010; 16(21): 2296-2297.

Editor / Reviewer of Journal

- Reviewer, **American Chemical Society** (Publisher: ACS)
- Reviewer, **Advanced Drug Delivery Reviews** (Publisher: Elsevier)
- Editorial Board Member, **Journal of Cancer Science & Treatment** (Publisher: SciTech Central, USA)
- Reviewer, **Journal of Materials Chemistry B** (Publisher: Royal Society of Chemistry, London)
- Reviewer, **RSC Advances** (Publisher: Royal Society of Chemistry, London)

Patents

Patents (Applied)

- A formulation and a method for inducing defense response in plants. 2022, WO 2022/097174
- A formulation and a method for inducing defense response in plants. 2022, 200233.403 (US Patent)
- A method for recycling cathode materials from spent Lithium-ion batteries. 2023, 202311080453 (Indian Patent)

Invited Lectures, Talks and Workshops

- Invited Lecture, Department of Chemical Engineering, IIT Hyderabad (April 2025)
- Invited Industry Lecture, MTech Program, Department of Chemical Engineering, IIT Hyderabad (April 2025)
- Invited Lecture, SRRR-INDIA DISCOVER 2024, BARC, Mumbai (Nov 2024)
- Invited Talk, Science Forum, Govt. First Grade College, Tumkur (Dec 2023)
- Invited Talk, PRIME Summit, Narayana Netralaya (Dec 2023)
- Invited Lecture, Samskara-PG Orientation Program at Ashwini Medical College, Tumkur (May 2023)
- Invited Lecture, Department of Chemical Engineering, IIT Bombay (Jan 2023)
- Invited Lecture, Bioscience Group, Bhabha Atomic Research Center (BARC), Mumbai (Dec 2022)

- Invited Talk, FDP on Smart and Sustainable Nanomaterials, DSCE, Bengaluru (Nov 2022)
- Invited Lecture, National Seminar on Biochemistry, Tumkur University (Sep 2022)
- Panel Discussion - Education Expo, Pragathi TV, Tumakuru (Mar 2022)
- Invited Lecture, Department of Chemical Engineering, IIT Hyderabad (Feb 2022)
- Invited Lecture, School of Optometry, Indiana University, Bloomington, USA (Aug 2021)
- Invited Lecture, Department of Chemical Engineering, IISc Bangalore (July 2021)
- Invited Lecture, COMSOL Day: Simulation for Engineering Education & Research (Mar 2021)
- Webinar, e-Workshop on Nanotechnology, Ramaiah Institute of Technology, Bangalore (Aug 2020)
- Lecture (Webinar), CSIR-SRTP 2020 (Aug 2020)
- Webinar, MHRD-Institute Innovation Council of SIT Tumkur (May 2020)
- Society for Free Radical Research (SFRR) - India Annual Meeting 2020. BARC, Mumbai (Feb 2020).
- DST-sponsored INSPIRE Science Nurture Camp (Dec 2019)
- Entrepreneurship Awareness Camp, DSCE, Bangalore (Jan 2019)
- Chief Guest, Robotech & Science Expo 2018, Sapthagiri PU College, Tumkur (Dec 2018)
- DST-sponsored INSPIRE Science Nurture Camp (Nov 2018)
- FDP on Biomaterials for Healthcare, DSCE, Bangalore (July 2018)
- Cornea and Ocular Surface Symposium at Sankara Nethralaya, Chennai (Mar 2018)
- Colloquium at Engineering Mechanics Unit, JNCASR, Bangalore (Feb 2018)
- FDP on Biomaterials for Healthcare, MSRIT, Bangalore (Jan 2018)
- Special Invitee, Engineers' convention, Ramakrishna-Vivekananda Ashrama, Tumkur (Jan 2018)
- DST-sponsored INSPIRE Science Nurture Camp (Nov 2017)
- Bhabha Atomic Research Center (BARC), Mumbai (Nov 2017)
- Center for PG Studies, Jain University, Bangalore (Sep 2017)
- Resource person for Career Counselling for Students, Krupamayi Makkala Balaga (May 2017)
- Industrial Flow Measurement Symposium, SIT Tumkur (March 2017)
- FDP on Biomaterials for Healthcare, BMSCE, Bangalore (Mar 2016)
- Department of Chemical & Biomolecular Engg, National University of Singapore, Singapore (Dec 2016)
- DST-sponsored INSPIRE Science Nurture Camp (Dec 2016)
- Biocon Academy, SIT Tumkur (Sep 2016)
- International Conference on Biomedical Engineering in Ophthalmology, DSCE, Bangalore (Aug 2016)
- Faculty Development Program on Omics, MSRIT, Bangalore (July 2016)
- Plenary Talk, National Conference on Impact of Physics on Biological Sciences, SSCW, Tumkur (April 2016)
- Plenary Talk, National Seminar on Advances & Challenges in Biological Research, Kuvempu University (Mar 2016)
- Plenary Talk, National Seminar of Stem Cells, JSS College of Science, Mysore (March 2016)
- Keynote Address, National Science Day, SSCW, Tumkur (January 2016)
- Biotechnology Finishing School, SIT, Tumkur (December 2015)
- Panel discussion - Futuristic Approach to Alternatives to animal testing, IIT Bombay (Nov 2015)
- BMS College of Engineering, Bangalore (March 2015)
- Indian Institute of Technology, Indore (October 2014)
- Indian Institute of Technology, Ropar (May 2014)
- Keynote Address, Dayananda Sagar College of Engineering, Bangalore University (March 2014)
- Indian Institute of Technology, Kanpur (February 2014)
- Indian Institute of Technology, Hyderabad (February 2014)
- Indian Institute of Science, Bangalore (January 2014)
- Orientation to Biomedical Research for Japanese high school students, BWH, USA (April 2013)

Date: 26 June 2025