

SYMRESEARCH 2.0

Pre-Conference Workshop V

Fundamentals of Research

18 September 2025

Moringa Auditorium, SUHRC

Co-ordinated by

Symbiosis Centre for Climate Change and Sustainability (SCCCS)

And

Symbiosis Centre for Waste Resource Management (SCWRM)

Schedule

Day and Date: Thursday, 18 September 2025 Time: 8:00 A.M. to 5:00 P.M.	
Fundamentals of Research	
Moringa, SUHRC	
8:00 A.M. - 8:50 A.M.	Registration (Health Skill Cafeteria, SUHRC)
9:00 A.M. - 9:15 A.M.	Dr. Prakash Rao, Head, SCCCS Welcome address
9:15 A.M. - 10:00 A.M.	Professor Kundan Sengupta, Associate Dean (International Relations and Outreach), IISER Pune Topic: The Art of Scientific Paper Writing
10:00 A.M. - 10:45 A.M.	Dr. Sundeep Salvi, Distinguished Research Professor, SIU Topic - The importance of Interdisciplinary Research
10:45 A.M. - 11:00 A.M.	Tea Break (Foyer of Moringa Auditorium)
11:00 A.M. - 11:20 A.M.	Dr. Ramakrishna Raman, Vice Chancellor, Symbiosis International University
11:20–12:30 P.M.	Dr. Sharvari Shukla Director, Symbiosis Statistical Institute (SSI), SIU. Topic - Biostatistics in Biological Research Design
12:30 - 1:30 P.M.	Lunch Break
1:30 P.M. - 03:00 P.M.	Ms. Vaishali Deshpande Director, Clinical Research Ethics Training (CRET), Pune. Topic: Importance of Ethics in Biological Research
3:00 P.M. - 3:45 P.M.	Dr. Ashish Lele, Director, National Chemical Laboratory, Pune. Topic: Leveraging sustainable scientific methods for a self-reliant India
03:45 P.M. - 04:00 P.M.	Tea Break (Foyer of Moringa Auditorium)
04:00 P.M. - 5:00 P.M.	Dr. Kamlesh Jangid Scientist E, Agharkar Research Institute, Pune. Topic - Mastering the Art of STEM Applications – Crafting Impactful CVs and Statement of Purpose (SOP)
4:30 P.M. - 5:00 P.M.	Closing remarks and Q&A

Speaker 1

Professor Kundan Sengupta, IISER Pune

Topic: The Art of Scientific Paper Writing



Dr. Kundan Sengupta

**Professor and
Associate Dean
(International
Relations and
Outreach),
IISER Pune**



- **Background & Role:** Prof. Sengupta completed his B.Sc. in Bangalore, M.Sc. in Microbiology, Ph.D. at TIFR, and postdoc at NIH. He joined IISER Pune in 2010 and currently serves as Professor in the Department of Biology and Associate Dean (International Relations & Outreach)
- **Research & Awards:** His lab focuses on chromosome biology, particularly the role of nuclear lamins and Lamin B Receptor (LBR) in genome organization and chromosomal stability in colorectal and breast cancer cells. He's received the Wellcome-DBT India Alliance Intermediate Fellowship (2010), "Nuclear Organization and Dynamics Editorial Board Award" (2023), and holds editorial positions with multiple journals and societies.
- **Ongoing Projects:** Current work investigates how lamin depletion affects chromosomal aneuploidy, nuclear territory distribution, transcriptome deregulation, and mechanisms of lamins/LBR in maintaining chromosomal stability.

Scientific paper writing is a crucial skill for STEM graduates, enabling them to effectively communicate their research. This session will provide a structured approach to writing compelling manuscripts, selecting the right journal, handling citations, utilizing smart writing tools, and navigating peer review effectively.

Learning Outcomes: -

- Structure a research paper effectively
- Improve clarity and coherence in writing
- Select suitable journals and avoid predatory publishers
- Use smart writing and visualization tools
- Respond constructively to reviewer comments



Dr. Kundan Sengupta (Indian Institute of Science Education and Research (IISER), Pune) traced the evolution of scientific writing and provided a step-by-step guide to manuscript preparation, while emphasizing ethics in authorship and promoting confidence in publishing.

Speaker 2

Dr. Sundeep Salvi, PURE Foundation & SIU

Topic - The importance of Interdisciplinary Research



Dr. Sandeep Salvi

**Director,
Pulmocare Research
and Education (PURE)
Foundation, Pune**



- **Background & Role:** MD and Ph.D. (Southampton) in respiratory medicine; founded Chest Research Foundation and serves as Director. Also involved with Symbiosis International University.
- **Research & Awards:** Trailblazer in non-smoking COPD research, asthma, air pollution effects, and post-COVID lung health. Recipient of the ATS World Lung Health Award (2024) and ranked in Stanford's top 2% of global scientists in respiratory medicine.
- **Ongoing Projects & Initiatives:**
 - The Chest Research Foundation received a Rs. 65 million ICMR-MRC (UK) grant for advanced non-smoking COPD research in collaboration with Imperial College London.
 - Through the **ARISE network**, led by CREST, Dr. Salvi drives multicentric research on lung oscillometry (FOT/IOS) for early detection and diagnosis of asthma, COPD, and related chronic diseases.
 - CREST organized TUSCON — India's first symposium focused on cough management — including AI diagnostic tools and a management algorithm for clinicians.
 - Launched SCREEN, India's first nationwide COPD screening program across 44 medical colleges, identifying a significant disease prevalence via spirometry-based methods

Modern scientific challenges, from climate change to public health, cannot be solved within the boundaries of a single discipline. This session emphasizes the need for interdisciplinary collaboration, where knowledge and tools from biology, medicine, data science, engineering, and environmental sciences converge. Interdisciplinary research fosters innovation, leads to holistic problem-solving, and creates opportunities for impactful publications and funding. For young researchers, learning to think beyond silos is essential for building resilience in their careers and making meaningful contributions to society.

Learning Outcomes:

- Understand the value of cross-disciplinary collaboration
- Explore real-world examples of interdisciplinary solutions
- Learn strategies to foster collaborative networks
- Recognize how interdisciplinary approaches improve research impact



Dr. Sundeep Salvi (Director, Pulmocare Research and Education (PURE) Foundation) showcased the power of interdisciplinary collaborations and reminded us that asking the right question is often more important than the solution itself. He provided examples from his own research journey and highlighted some of the key inventions in the history of scientific discourse that have resulted from interdisciplinary collaborations, often arising out of dire necessity, such as during the World Wars.

Speaker 3

Dr. Ramakrishna Raman, Vice Chancellor, Symbiosis International University



Dr. Ramakrishnan Raman (Vice Chancellor, SIU) emphasized the importance of competitiveness, smart questioning, and networking and collaboration in advancing research.

Speaker 4

Dr. Sharvari Shukla, Symbiosis Statistical Institute (SSI), SIU

Topic - Biostatistics in Biological Research Design



Dr. Sharvari Shukla

**Director, Symbiosis
Statistical Institute,
Pune**



- **Background & Role:** Director and Professor at SSI, Symbiosis International University. A biostatistician with extensive experience in healthcare, epidemiology, and life sciences.
- **Research & Awards:** Recipient of fellowships such as GEoCODE, Elmar Award (UK), and a WHO scholarship. Highly ranked in the AD Scientific Index for H-index and i-10 index in natural and mathematical sciences.

Ongoing Projects & Focus:

- Oversees national and international funded projects exploring **fetal origins of cardiovascular disease and Type II diabetes**, integrating epidemiology, epigenetics, clinical trials, and longitudinal data modeling.
- Actively shapes SSI's postgraduate and Ph.D. programs in applied statistics, biostatistics, and data science—equipping students with advanced statistical tools and methodologies.

Biostatistics ensures that scientific studies are designed, analyzed, and interpreted with accuracy and reliability. This session will cover statistical methods, sample size determination, and the use of tools such as R, SPSS, and GraphPad Prism to ensure robust, reproducible research

Learning Outcomes:

- Design statistically sound experiments
- Select appropriate tests for research questions
- Apply tools for data analysis and visualization
- Interpret results accurately for publication



Dr Sharvari Shukla (Symbiosis Statistical Institute, Pune) highlighted the indispensable role of biostatistics, showing how thoughtful data analysis is central to credible biological research. She highlighted some of the important scientific experiments involving statistics, ranging from Mendel's experiments on peas to contemporary studies of the COVID-19 virus. She made the session light, engaging, and encouraged all biological researchers to incorporate a statistically sound study design to achieve the goals of the hypothesis.

Speaker 5

Ms. Vaishali Deshpande, Clinical Research Ethics Training (CRET), Pune.

Topic: Importance of Ethics in Biological Research



**Ms. Vaishali
Deshpande**

**Director, Clinical
Research Ethics
Training (CRET), Pune**



- **Background & Role:** Dr. Vaishali Deshpande is a seasoned clinical research professional with over two decades of experience, currently directing CRET Consulting (formerly identified as CRET), where she specializes in training on clinical research ethics, ICH-GCP, ICMR guidelines, and NDCT rules .
- **Educational Qualifications:** She holds a Master of Science in Anthropology, a Bachelor of Science in Zoology, and a Diploma in Clinical Research.
- **Ethics Committee Leadership:** Dr. Deshpande serves as Chairperson of the Ethics Committees at prominent Pune institutions, including Ruby Hall Clinic, Sancheti Hospital, and Joshi Hospital. In these roles, she oversees the development of SOPs, ethics committee registration, clinical trial compliance and the training of committee members.
- **Training Expertise:** She's a trusted independent trainer and consultant in GxP compliance—covering GCP, GLP, GMP, GDP—and conducts workshops and online courses on ICH-GCP E6(R3), ICMR Guidelines 2017, and NDCT Rules 2019.
- **Clinical Research Experience:** Earlier in her career, she spent approximately 13 years as a Research Officer in the Diabetes Unit at KEM Hospital & Research Centre, working on adult and neonatal anthropometry and coordinating clinical trials.
- **Educational Contributions:** As a visiting faculty and mentor, she has delivered training across institutions like MITCON, Orange Life Sciences, and TechnoBridge, and developed course materials for clinical research programs.

Ethical research practices are the foundation of credible science. This session will focus on the ICMR National Ethical Guidelines (2017), informed consent, confidentiality, and the role of Institutional Ethics Committees. It highlights how ethics ensures credibility, protects participants, and strengthens global trust in science.

Learning Outcomes:

- Understand key ethical principles in biomedical research
- Implement informed consent and confidentiality measures
- Ensure compliance with IEC and regulatory standards
- Recognize the necessity of ethical approval in research



Ms. Vaishali Deshpande (CRET, Pune) explored the evolution of research ethics in India, clarifying the nuances of consent and informed consent, as well as environmental considerations. She engaged the audience with case studies and also discussed the legal implications. While her focus was more on clinical trial research, she had to deal with many aspects; all biological studies involving human participation were discussed in detail. She conducted a lengthy Q&A session addressing numerous concerns from fellow clinicians and researchers.

Speaker 6

Dr. Ashish Lele, National Chemical Laboratory, Pune

Topic: Leveraging sustainable scientific methods for a self-reliant India



Dr. Ashish Lele (Director, CSIR- National Chemical Laboratory) spoke on tackling emissions in chemical manufacturing through continuous process reactors and their role in making India self-reliant in drugs and APIs.

Speaker 7

Dr. Kamlesh Jangid, Agharkar Research Institute, Pune.

Topic - Mastering the Art of STEM Applications – Crafting Impactful CVs and Statement of Purpose (SOP)



Dr. Kamlesh Jangid

**Scientist E &
Head, Bioenergy
Division, Agharkar
Research Institute
(ARI), Pune**



- **Background & Role:** Ph.D. from NCCS Pune, postdoc in soil microbial ecology at University of Georgia. Since 2023, he has been Scientist E, at ARI, heading the **Bioenergy Division** and curating the MACS Collection of Microorganisms (MCM).
- **Research & Awards:** Editor roles include Soil Biology and Biochemistry, PLOS, and Frontiers; member of ICSP; President of BISMIS (2020–23). Received an Honorary Academic Advisor appointment from China Agricultural University (2018).
- **Ongoing Projects:**
 - Leading the **MACS microbial culture collection activity**, a project funded by ARI and running through March 2028, supporting microbial preservation and research.
 - His lab works on **microbial community dynamics, quorum sensing**, culturing recalcitrant “tough-to-cultivate” microbes, genome-based microbial systematics, and bioinformatics tool development for soil and ecosystem studies.
 - ARI’s broader updates include recent microbial discoveries, such as a new species from neem bark with pharmaceutical potential, showcasing the institute's active engagement in microbial biodiversity research

A strong academic CV or professional resume is essential for career advancement. This session will provide strategies to highlight research achievements, technical expertise, and transferable skills. It will also cover tailoring applications for academic, industrial, and governmental roles, as well as building a professional presence on platforms like LinkedIn.

Learning Outcomes:

- Develop tailored academic and industry applications
- Showcase research and technical skills effectively
- Adapt applications for diverse career paths
- Gain confidence in applying for fellowships, grants, and jobs



Dr. Kamlesh Jangid (Agharkar Research Institute, Pune, India) concluded with practical guidance on crafting impactful CVs and SOPs to strengthen STEM applications. He shared how researchers should approach potential employers, both in industry and academia, and tailor their content accordingly. He provided some available resources that researchers and students can utilize to enhance their chances. He also discussed the use of AI and how it can be a game-changer and can be used for your benefit even if you lack a polished English language. He also discussed using live examples of good and bad CV's and how to avoid mistakes that people often forget while crafting their applications

Closing remarks

Dr. Prakash Rao, Symbiosis Centre for Climate Change and Sustainability (SCCS)



“The workshop combined technical know-how with ethical, interdisciplinary, and career-focused perspectives—truly equipping STEM graduates with skills and inspiration for their research journeys.”

Key Takeaways from the Conference:

1. Mastering scientific writing for impactful publications
2. Applying biostatistics for robust research design
3. Ensuring ethics and compliance in research
4. Building effective academic and professional applications
5. Understanding the value of interdisciplinary collaboration

This conference provided practical, career-enhancing skills to help STEM scholars excel in research, publish successfully, and secure promising opportunities in academia and industry.

