International Conference & Workshops on

New Approach Methodologies (NAMs) in Pharmacology and Toxicology Testing

Theme

"NAMs In Biomedicine: An Interdisciplinary Perspective of Animal Alternatives"

Conference & Workshops

Dec 5 - 7, 2024
(Hybrid Mode)

NAMs-PONDY

A Satellite Program of
4th Asian Congress for Animal Alternative Experiments (ACAAE) and
7th Society for Animal Alternative Experiments – India (SAAE-I)

MAHATMA GANDHI MEDICAL ADVANCED RESEARCH INSTITUTE

MGM PRECLINICAL RESEARCH CENTRE, Sri Balaji Vidyapeeth (Deemed to be University)
Puducherry-607402, India

Program Highlights

In vitro pharmacology and toxicology: High-throughput screening in Microphysiological Systems

Ex vivo pharmacology and toxicology: Lab – Organ - Human - on chip

In silico pharmacology and predictive toxicology: Organs, mutagenicity and toxicogenomics

In chemico toxicology: Cheminformatics in hazard risk minimization strategies
Emerging regulatory landscapes

2 Thematic Workshops

Origami in Toxicology

In Silico approaches to drug and chemical toxicity
Reconstructed human epidermis: Drug, chemical and cosmetic testing

1 Stalwarts Meet

Start-Ups and Industrial Production

NAMs in practice at CROs in India

Registration ends on **Nov 30, 2024**
Abstract submission ends on : **Nov 24, 2024**
Contact: **mgmari @sbvu.ac.in.**

https://sbvu.ac.in/mgmari/namspondy/

Benefits: Certificates, TNMC Credits, Awards

NAMS-PONDY

About Us

Sri Balaji Vidyapeeth (SBV), a Deemed-to-be-University accredited with NAAC A++ and recognized by UGC. Mahatma Gandhi Medical Advanced Research Institute (MGMARI) is an autonomous research-based institution dedicated to advancing medical research, encompassing clinical, translational and basic studies. It features state-of-the-art laboratories and technological resources, supporting innovation and educational opportunities for researchers and students. MGMARI includes MGM Preclinical Research Centre (MGMPRC) which enables compliance with OECD GLP guidelines for toxicology and safety assessments. The Centre provides scalable evaluation of new drugs and treatments using animal models and in *vitro* systems. Research focuses on drug development, toxicology, pharmacokinetics, and pharmacodynamics, generating critical data to support risk assessment and advance new medical therapies.

The Society for Alternatives to Animal Experiments (SAAE) at the National Centre for Alternatives to Animal Experiments (erstwhile MGDC), Bharathidasan University, Tiruchirappalli, Tamil Nadu, actively promotes humane education system with animal alternatives in education, research and testing towards 3Rs concept . NAMs-PY is a Satellite Program to 7th SAAE-I and 4th ACAAE, Jamia Hamdard, New Delhi, Dec 12-14, 2024.

About the conference

New Approach Methodologies (NAMs) represent a paradigm shift in pharmacology and toxicology testing by offering innovative alternatives to traditional animal-based methods. The Origami in Toxicology include advanced *in vitro* models, such as cell-based assays and lab-organ-human-on-chip systems, which provide more relevant insights into drug effects and chemical interactions by simulating tissues in *ex vivo* microphysiological systems. NAMs improve the predictive power of drug and chemical safety evaluations in addition to knowing the potential risks and also align with ethical standards, making research and development more efficient and humane. *In silico* methods, like molecular docking and QSAR models, use computer simulations to predict molecular interactions in organs, mutagenicity toxicogenomics and streamline drug development pipeline. *In chemico* high-throughput virtual screening and omics technologies enable rapid and comprehensive analysis of compounds, enhancing the accuracy of safety assessments. By focusing on human-derived systems and reducing reliance on animal testing, NAMs not only improve the prediction of drug and chemical safety evaluations but also behold emerging regulatory landscapes to serve public next generation risk and assessment.

Who can attend

The target audience include undergraduate, postgraduate, PhD scholars, faculty, researchers, startup, CRO and industry.

Poster Session and Oral Presentations: We invite abstracts from UG, PG, PhD and faculty for poster and oral presentations. Abstract should not be more than 300 words. Topics can be related to pharmacology and toxicology. Mention whether participating in poster or oral presentation in the registration form. Poster size (3 ft width, 5 ft height). Oral presentation (10 mins; 2 mins Q&A).

Last Date for abstract submission : Nov 24 , 2024

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Prof. Yasuyuki Sakai, President, JSAAE, Japan

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Dr. Kunal Roy, Jadavpur University, Kolkata

Dr AB Pant, Senior Principal Scientist, CSIR-IITR, Lucknow, India

Prof. S G Ramachandra, IISc - Bengaluru, India

Dr. Parthasarathi Ramakrishnan, CSIR-IITR

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Dr. Abhay Deshpande, Jai Research Foundation, Gujarat

Dr. Arunkumar Palaniappan, VIT, Vellore, Tamil Nadu, India

Dr. Vinod Scaria, Vishwanath Cancer Care Foundation, Mumbai, India

Dr. Satish Ramalingam, SRMIST, Tamil Nadu India

Prof. Natarajan Aravindan, Oklahoma State University, USA.

Dr. Sitta Djody Sivanandane, Wake Forest University, School of Medicine, Institute for Regenerative Medicine, USA.

NAMs-PONDY

Registration Fee (INR -Rs)	Category	
	Online	Offline
Students	Rs. 750	Rs. 1250
Faculty/Post- Doc	Rs. 2000	Rs. 2500
Industry Personnel	Rs. 4250	Rs. 4750

Prizes - oral/poster Presentation awards includes cash prize of 2000 and 1500 for oral; 1500 and 1000 for poster presentation
Sponsors are appreciated for the conference and workshops

ORGANISING COMMITTEE	
Program coordinators	Dr. Veni Subramnayam Mr. Suresh Kumar Saravanan
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Contact

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Prof. R. Raveendran
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Co-ordinators
Dr. Veni Subramanyam , 9943186494
Mr. Sureshkumar S.,8870538455

Scientific programmes planned		
New Approach Methodologies (NAMs) in Pharmacology and Toxicology Testing and Research-Brief overview		
Inaugural address **Prof. M. A. Akbarsha** General Secretary, SAAE-I		**Motivational speech** **Prof. Y.K. Gupta** President, SAAE-I
In vitro	Towards *in vitro* models for reducing or replacing the use of animals in drug testing and risk assessment	1. 2D culture and Spheroid / Organoid culture 2. Microfluidics 3. High-Throughput Screening 4. Human-Derived Cells and Tissues
2D culture and Spheroid /organoid culture	Introductions to emphasize organoids and spheroids; drug discovery, and cutting-edge research. The talk will highlight the significance of 2D culture, organoids, spheroids and 3D bioprinting technologies in biomedical research. Stem cell science, regenerative medicine, drug discovery, and cutting-edge research as alternatives to animal model testing	**Dr. AB Pant** Senior Principal Scientist · CSIR-Indian Institute of Toxicology Research, Lucknow, Uttar Pradesh, India
Microfluidics	Challenges in developing the synthetic organs and the role of extracellular matrix (ECM) dynamics and molecules involved in organ development, tissue homeostasis, organ function and regeneration	**Dr. Vinod Scaria** MBBS, Ph.D Senior Consultant, Genome Informatics and Computational Biology Vishwanath Cancer Care Foundation, Mumbai, India
High-Throughput Screening	Single-cell analysis to understand cellular physiology when compared to bulk cellular analysis. Massive parallel single-cell patterning and large biomolecular delivery. Automated platforms and robotics facilitating screening of thousands of chemicals for toxicity, allowing for more comprehensive hazard assessment and prioritization of testing resources.	**Prof. P.R. Anil Kumar** Scientist G, Sree Chitra Tirunal Institute for Medical Science and Technology, Thiruvananthapuram, Kerala, India
Human-Derived Cells and Tissues	New paradigm: relevance of the models for human prediction and translational efficacy.	**Dr. Ashis Kumar Sen** Indian Institute of Technology Madras

Ex vivo	Towards utilization of intact tissues or organs to better simulate the *in vivo* environment and physiological responses	5. Organ on chip, Human on chip, & Microphysiological systems (MPS) 6. Precision Medicine and Personalized Toxicology 7. Early-stage clinical evaluation of decision support systems 8: Start-ups, Industrial production
Organ-/Human -/ Lab on- chip	The topics encompass the latest advancements in Lab-/ Organ-/ on- chip technology, particularly focusing on the assessment of Nano-based therapeutics. Areas: 3D bioengineered constructs, *ex vivo* tissues, re-cellularized scaffolds, and bio-printed constructs featuring micro-fabricated structures, Human-centric methodologies. Exploring the trends and advancements in Biomaterials synthesis. A success story from India	**Dr. Satish Ramalingam** Associate Professor Department of Genetic Engineering SRM Institute of Science & Technology, Kanchipuram, Tamil Nadu India
	Alternates to Human-centric methodologies: Approaches, practices, or methodologies replaced by the alternative technology in health care and health care products. A success story from West	**Prof. Natarajan Aravindan** Professor & Kerr Chair, Department of Physiological Sciences Oklahoma State University, USA.
Precision Medicine and Personalized Toxicology	Medicine & toxicology, the role of toxicogenomics in connecting the two fields, and the impact of AI on personalized medicine & toxicology	
Early-stage clinical evaluation of decision support systems	*Ex Vivo* Metrics™, a preclinical tool in new drug development	**Dr. Sitta Djody Sivanandane** Wake Forest University School of Medicine, Institute for Regenerative Medicine, USA.

STALWARTS MEET		
Start-Ups and Industrial Production		
NAMs in practice at CROs in India		
In silico	Computational Methods for Predictive Toxicology	9. Methods and Protocols 10. Models 11. Next Generation Risk Assessment 12. Limitations and Challenges

Methods and Protocols ; Models	The presentation will focus on *in silico*, *in chemico*, and *in vitro* methods as key components of animal alternative research. Innovative, ethical and scientifically robust alternatives to traditional animal testing. *In silico* methods, computational modelling, simulation of biological processes and prediction of chemical interactions, providing valuable insights into toxicity and efficacy	
Next Generation Risk Assessment	Cheminformatics, Translational bioinformatics, toxicogenomic for toxicity and biomarker discovery. Toxicological database	**Dr. Parthasarathi Ramakrishnan** CSIR-Indian Institute of Toxicology Research, Lucknow, Uttar Pradesh, India
Regulatory Toxicology	Status quo of NAMs adoption in India and internationally. Microphysiological systems and AI in pharma- Regulatory decisions	**Dr. Kasturi Mahadik**, Ph.D Chief Manager Centre for Predictive Human Model Systems Atal Incubation Centre-Centre for Cellular and Molecular Biology, Hyderabad 500039, Telangana **Dr. S.G. Ramachandra**. MVSc, Ph.D, FNAVS, DICLAM Chief Research Scientist Central Animal Facility Indian Institute of Science Bangalore
THEMATIC WORKSHOPS-ORIGAMI IN TOXICOLOGY		
In chemico	Computational methods for the prediction of chemical toxicity	13. Cheminformatics platform 14. Methods and validations 15. Regulatory decisions of complex toxicological endpoints
Cheminformatics	*In chemico* assays, which utilize biochemical reactions, offer rapid and cost-effective screening of chemical compounds.	
Methods and validations	Areas- QSAR and Molecular Modeling; Cheminformatics; Drug Design; Ecotoxicological Modeling. *In silico* toxicology using q-RA, q-RASAR, and ARKA approaches.	**Prof. Kunal Roy**, Ph.D., FRSC Professor and Group Leader, Drug Theoretics and Cheminformatics (DTC) Lab, & Ex-Head, Department of Pharmaceutical Technology, Jadavpur University, Kolkata **Mr. Arkaprava Banerjee** Dept. of Pharmaceutical Technology, Jadavpur University, Kolkata, India
In silico	*In Silico* Approaches: Computational methods for the prediction of drug and chemical toxicity	
In vitro	Reconstructed human epidermis: Drug, chemical and cosmetic testing	**Dr. Christian Pellevoisin**, France

About Stalwarts meet

Start-Ups and Industrial Production

NAMs (New Approach Methodologies) in animal alternative practices at CROs (Contract Research Organizations) in India

3C's —Content, Communication and Cooperation.

Content: Ideas, Information, and Insights

Innovative NAMs development or implementation in toxicology, Emerging technologies and methodologies that could potentially replace or reduce animal testing. data, research, efficacy and reliability explained with case studies applications within CROs, startups and industries. Regulatory guidelines and requirements in India and worldwide accelerating the benefits, refining the challenges and limitations comparing traditional animal testing vs. NAMs

Communication: Exchange of Thoughts and Ideas, recent advancements and ongoing research, challenges and opportunities, concerns and questions, Best Practices within researchers, CRO's, startups, regulatory bodies and industry representatives to different users, regulatory and public.

Cooperation: Exploring joint ventures between start-ups, CROs, and industrial producers to advance NAMs involves securing funding, implementation strategies, developing roadmap for integrating into existing research and production processes within CROs and industries. It also includes updating guidelines and standards for NAM adoption and providing training, knowledge exchange to support researchers and practitioners.

This structured approach ensures that all relevant aspects of NAMs and their application in animal alternative practices are thoroughly discussed, promoting effective dialogue and collaboration among stakeholders.