SRI LANKA ASSOCIATION FOR LABORATORY ANIMAL SCIENCE (SLALAS)

Newsletter

July 2025 Volume 12, Issue 01

CONTENTS

Sri Lanka Association for Laboratory Animal Science
Department of Physiology, Faculty of Medicine, University of Colombo
Email: slalasci@gmail.com / Website: www.slalas.lk
Facebook page: facebook.com

INTRODUCING THE THEME FOR 2025/2026

INTRODUCING THEME
2026

SRI LANKA ASSOCIATION FOR LAORATORY ANIMAL SCIENCE
(SLALAS)

"ETHICS, COLLABORATION AND POPULARIZATION: SHAPING THE FUTURE OF ANIMAL RESEARCH"

THIRTEENTH INTERNATIONAL CONFERENCE AND
SCIENTIFIC SESSION @ COLOMBO, SRI LANKA

THE PRESIDENT'S MESSAGE

DR VARUNI GUNATHILAKE

President
SLALAS 2025/2026

It gives me great pleasure to put a note in the second newsletter for the year 2025, as we continue our collective journey to elevate laboratory animal science in Sri Lanka. This year, we proudly embrace the theme: "Ethics, Collaboration, and Popularization: Shaping the Future of Laboratory Animal Research." These three pillars reflect our vision to not only advance scientific excellence but to do so with a sense of shared responsibility, transparency, and public engagement.

Ethics remains the backbone of laboratory animal research. Continuation of humane practices by promoting the 3Rs (Replacement, Reduction, and Refinement) and fostering a strong culture of care which are truly essential, while we navigate towards some other research needs. For example, collaboration, both within and beyond disciplines and institutions, has proven vital in expanding capacity and sharing best practices. Equally important is the popularization of our field—communicating the value, impact, and ethical foundations of animal research to the wider community is equally important to build trust, maintains transparency and understanding.

We are pleased to share that SLALAS has already undertaken several impactful initiatives this year in alignment with our theme. We successfully hosted a panel discussion on the interface between laboratory and wild animal research, bringing together experts to address emerging ethical and scientific challenges. Our workshop on research project management, empowered participants with tools to improve planning, execution, and ethical oversight. Furthermore, we partnered with the University of Uva Wellassa (UWU) to deliver a workshop on lab animal ethics and culture of care, strengthening institutional commitment to animal welfare and ethical standards. To encourage the 3R application in laboratory animal research, a collaborative workshop was conducted with 3R Center, Faculty of Medicine, University of Colombo.

Let us continue to work together—with integrity, openness, and innovation—to shape a responsible and forward-thinking future for laboratory animal research in Sri Lanka.

13TH EXECUTIVE COMMITTEE OF SLALAS

Seated left to right – Dr. Hasanthi Rathnadiwakara (Editor), Dr. Anusha Senevirathne (Secretary), Dr Varuni Gunathilake (President), Dr Sachini Amarasekara (Treasurer), Dr Kalpani Ratnayake (President elect)

Standing left to right – Dr Vindhya Fernando, Prof. Mangala Gunatilake, Ms. Lihini Sandaleka, Dr Prabuddha Manjula, Mr. Amila Jayaweera (Assistant secretary), Dr Ureshani Karunarathne (Assitant treasurer), Dr. Ramani Karunakaran, Ms. Piyumika Yapa, Dr. Mayuri Thammitiyagodage

Excused – Prof. Sugandhika Suresh

EDITORIAL

DR. HASANTHI RATHNADIWAKARA

Editor
SLALAS 2025/2026

Popularization of Laboratory Animal Research – Bridging Science and Society

With this year's them of SLALAS - "Ethics, Collaboration, and Popularization: Shaping the Future of Laboratory Animal Research" – popularization of laboratory animal research has received the spotlight in the research community. As we all know, laboratory animal research has been the cornerstone of research progress. From the development of life saving medicines to vaccines and surgical procedures, animal models have provided irreplaceable insights into complex biological systems and disease mechanisms. However, the public understanding of laboratory animal research and laboratory animal science remains limited and often misinformed. Misconceptions, ethical concerns, and emotional debates often cloud the discussions around animal experimentation. This highlights the need for popularization of laboratory animal research, bringing transparency, awareness, and scientific literacy to the forefront of public discussion. As members of the scientific community, we hold a responsibility to clear out this vital field and facilitate informed, balanced discussions.

Popularization can sometimes be misunderstood as promoting the use of laboratory animals blindly without a critical background assessment. However, popularization is truly about educating the public on how and why animals are used, with strict ethical guidelines and regulatory oversight. The frameworks such as the 3Rs principle –Replacement, Reduction, and Refinement- can guide the ethical animal research, ensuring that animals are used only no suitable alternative exists, that number are minimized, and that suffering is reduced through better techniques. These principles guide researchers in pursuing scientifically sound and ethically responsible laboratory animal research.

Modern laboratory animal research is driven by both scientific rigor and moral responsibility. Advances in animal welfare, enrichment strategies, anesthesia, and pain management reflect the commitment of these two aspects. And further, researchers are also actively moving towards alternatives to animal models, with promising results. In vitro models, such as organoids and 3D tissue cultures, can mimic complex physiological systems. In silico approaches, including computer modeling and artificial intelligence, offer clear insights with remarkable accuracy.

Furthermore, zebrafish embryos, fruit flies, and *C. elegans* continue to serve as ethical and efficient models, particularly in genetic and developmental studies.

While the alternatives are producing promising results and continue to evolve rapidly, complete replacement of animal model is not yet feasible. Whole-organism animal models still provide complex systemic interactions, which cannot be achieved through alternative models. The future of the laboratory animal research therefore lies in balance, integrating alternative technologies where possible while continuously improving animal welfare.

To gain the public trust and understanding, the scientific community must take an active role in science communication. Workshops, webinars, open labs, school outreach programs, and inclusive discussions can help popularize animal research, clear out the myths, address ethical concerns, and highlight the pathways towards more humane science. As we work towards a future of scientific excellence, popularization of laboratory animal research must not only be viewed as a public relations task, but as a call for transparency, empathy, and scientific integrity with educational importance. Let us get together to promote transparence, foster informed discussions, and celebrate the innovation that brings us closer to more compassionate science.

ZEBRAFISH AS A MODEL FOR HUMAN OBESITY: INSIGHTS FROM DIETARY INDUCTION OF OBESITY THE RISING TIDE OF OBESITY

Imani Pavithra Wijerathne
Department of Zoology and Environmental Management, Faculty of Science,
University of Kelaniya, Sri Lanka

Obesity is a multifactorial but preventable chronic disease characterized by an excessive accumulation of body fat in the adipose tissue, resulting from a combination of genetic, environmental, and lifestyle factors. It is one of the most severe health problems in existence and this disease is associated with the cause of death of 2.8 million people per year worldwide (World Obesity Atlas, 2023). One contributing factor to obesity is the consumption of diets with excess macronutrients. A diet rich in lipids (high-fat diet) can disrupt nutrient absorption, increase adiposity, increase insulin resistance and can cause metabolic disorders. Furthermore, an increased intake of carbohydrates (high-carbohydrate diet) also increases adipose tissue, weight gain, and hepatic steatosis. Altogether, obesity has been reported to be associated with increased mortality, morbidity, and numerous non-communicable diseases (NCDs), while also indirectly affecting the quality of life of obese people. With the rising incidence of obesity, the associated health consequences, socio-economic burden, and the management prevention of obesity have gained significant attention.

Animal Models for Understanding and Combating Obesity

To gain deeper insight into the underlying mechanisms of obesity, an appropriate animal model is essential in research. Animal models, particularly mammals like mice and monkeys, have played a vital role in biomedical research due to their evolutionary proximity to humans. Although rodent models have greatly contributed to understanding human obesity, experiments using rodent models require considerable infrastructural support and are relatively expensive. Therefore, ethical and budgetary concerns have led to the search for alternative model systems for obesity research.

Zebrafish as a Versatile Model for Obesity Research

Zebrafish (*Danio rerio*) is widely used alternative vertebrate animal model to study human diseases and to evaluate potential drugs as the 84% of human genes that are known to be associated with various diseases have a counterpart in the zebrafish genome (Howe *et al*., 2013).

They are an excellent model in which to study metabolic dysfunction because they have the key organs that are important for regulation of energy homeostasis and metabolism in mammals, including digestive organs, adipose tissues, and skeletal muscley. The key functions such as appetite regulation, insulin regulation and lipid storage are also well conserved. Obese zebrafish

also exhibit dysregulation of pathways that control lipid metabolism, including SREBF1, PPARs, NR1H3, and LEP demonstrates that zebrafish as a suitable model for human obesity studies.

Several types of obesity models have been developed in zebrafish, mainly categorized as 'diet-induced obesity (DIO) models' and 'genetic models'. Genetic models of obesity have been characterized in zebrafish including transgenic lines expressing obesogenic genes or mutants from targeted mutagenesis and genetic screens.

Diet-Induced Obesity (DIO) in Zebrafish

A common approach to induce obesity in zebrafish is excess fat intake. Obese zebrafish can be conveniently produced by overfeeding starting from the onset of feeding at 5 dpf (days post fertilization). There are two types of dietary induction of obesity in zebrafish as follows:

High-Fat Diet (HFD) **-** Zebrafish are fed diets enriched with fats such as heavy whipping cream, chicken egg yolk, corn oil, lard, or beef fat. These diets lead to increased lipid accumulation, higher body mass index (BMI), hypertriglyceridemia and fatty liver, mimicking human obesity and its metabolic dysfunction.

Over-nutrition **-** Excess feeding with calorie-rich food like Artemia or commercial feed induces obesity, resulting in increased adiposity, hyperglycemia, and hepatosteatosis.

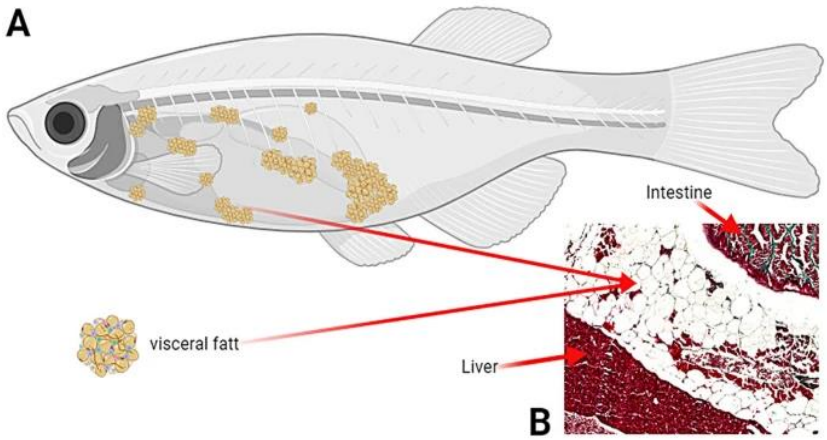


Figure 1: A) Schematic spatial distribution of visceral fat in Zebrafish. (B) Random example of histological images from the current visceral fat analysis (Smolińska *et al*., 2024)

Monitoring Diet-Induced Obesity Progression with Key Parameters

Mean body weight and body length

Measuring the weight and length of zebrafish is a crucial aspect of assessing the impact of different exposure variables on their growth and metabolic health. In many studies, feeding a high-fat diet during the experimental period led to a significant increase in body weight compared to controls in zebrafish.

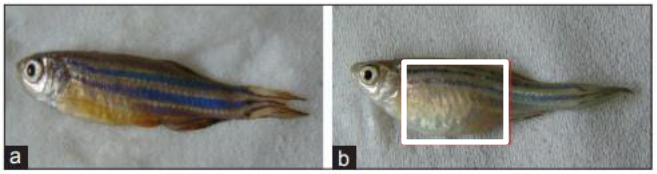


Figure 2: Normal (a) and obese zebrafish (b) Red box shows a change in the size of the abdomen of obese zebrafish (Yuniarto *et al*.,2019)

Body mass index (BMI)

One of the globally accepted indicators of obesity is the body mass index (BMI). Body mass index (BMI) is calculated by dividing the body weight (g) by the square of the body length (cm). In many diet-induced obesity research using zebrafish as a model organism have calculated BMI as an obesogenic parameter.

Hepatosomatic index (HSI)

The Hepatosomatic index (HSI) is not a direct measure of growth but is often used as an indicator of the relative size of the liver in relation to the overall body size of a fish. The hepatosomatic index is often used in obesity associated studies.

Adipogenesis of Zebrafish

Peroxisome proliferator-activated receptors (PPARs) are ligand-activated transcription factors that regulate genes important in cell differentiation and various metabolic processes, especially lipid and glucose homeostasis. Zebrafish is a promising model to investigate the specific functions of PPARs in adipogenesis and obesity. The PPARs in the zebrafish genome have a 67-74 % identity to human PPARs. Within the five types of PPARs, PPARG/ PPARγ/pparg has been shown to act as the key regulator of adipogenesis. Most of the studies using diet-induced obese zebrafish revealed that pparg is a key regulatory factor that expressed in zebrafish and corresponds to mammalian obesity.

Histopathology of Vital organs

Histological examinations, especially using specific staining like ‘Oil Red O’ or ‘Hematoxylin and eosin’ usually carried out to examine the histology of vital organs, especially, liver and intestinal tissues. Histopathology provides visual confirmation of lipid overload and tissue damage caused by diet-induced obesity.

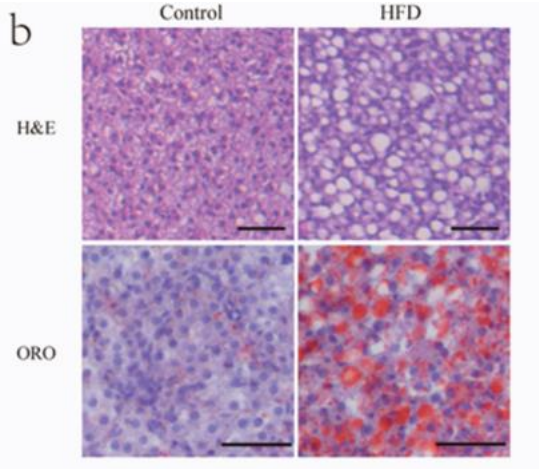


Figure 3: Representative liver histology image by Hematoxylin and Eosin (H&E) staining and oil red O (ORO) staining of adult zebrafish fed with a control diet or HFD for 4 weeks. The scale bar is 50 μm (Teame *et al*., 2019).

Future Directions of Diet-Induced Obesity Studies in Zebrafish

Advanced nutrition research - Expanding the use of zebrafish to explore how diet interacts with genetic and epigenetic factors influencing obesity and applying transcriptomic and metabolomic analyses to identify novel metabolic pathways and gene-diet interactions relevant to obesity and related disorders.

Genetic Manipulation and Disease Modeling - Utilizing genome editing to create targeted mutations or transgenic zebrafish lines to dissect molecular mechanisms of obesity and its comorbidities.

Anti-obesity Drug Screening - Zebrafish is suitable for large-scale screening to identify anti-obesity compounds and evaluate metabolic toxicity of chemicals. Potential herbal anti-obesity agents can be extensively studied using zebrafish models due to their suitability for in vivo screening of natural products with potential lipid-lowering and metabolic benefits.

Multi-Generational and Developmental Studies - Zebrafish studies can be used to Investigate the developmental origins of obesity and the transgenerational effects of diet and environmental exposures on metabolic health.

Conclusion

Zebrafish have emerged as a valuable and versatile model organism for studying diet-induced obesity, offering unique advantages such as genetic similarity to humans, easy to maintain and cost-effective concern. Through well-established protocols involving high-fat and overfeeding diets, zebrafish effectively mimic key features of human obesity, including increased BMI, visceral adiposity and metabolic disturbances. Moreover, zebrafish models facilitate rapid and high-

throughput screening of potential anti-obesity compounds, including promising herbal extracts, accelerating the discovery of novel therapeutics. Future research using advanced genetic tools, refined diet protocols, and multi-omics approaches will further enhance the relevance of zebrafish diet-induced obesity models.

References

1. Howe, K., Clark, M. D., Torroja, C. F., Torrance, J., Berthelot, C., Muffato, M., Collins, J. E., Humphray, S., McLaren, K., Matthews, L., McLaren, S., Sealy, I., Caccamo, M., Churcher, C., Scott, C., Barrett, J. C., Koch, R., Rauch, G.-J., White, S., … Stemple, D. L. (2013). The zebrafish reference genome sequence and its relationship to the human genome. *Nature*, *496*(7446), 498–503. https://doi.org/10.1038/nature12111 (accessed on 30 May 2025).
2. Smolińska, K., Sobczyński, J., Szopa, A., Wnorowski, A., Tomaszewska, E., Muszyński, S., Winiarska-Mieczan, A., Czernecki, T., Bielak, A., Dobrowolska, K., Smoliński, K., Klebaniuk, R., & Dobrowolski, P. (2024). Innovative high fat diet establishes a novel zebrafish model for the study of visceral obesity. *Scientific Reports*, *14*(1), 3012. https://doi.org/10.1038/s41598-024-53695-9 (accessed on 31 May 2025).
3. Teame, T., Zhang, Z., Ran, C., Zhang, H., Yang, Y., Ding, Q., Xie, M., Gao, C., Ye, Y., Duan, M., & Zhou, Z. (2019). The use of zebrafish (Danio rerio) as biomedical models. *Animal Frontiers*, *9*(3), 68–77. https://doi.org/10.1093/af/vfz020 (accessed on 31 May 2025).
4. *World Obesity Atlas*. (n.d.). https://doi.org/https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2023 (accessed on 30 May 2025).
5. Yuniarto Muhammadiyah, A. A., Yulinah Sukandar, E., Yuniarto, A., Sukandar, E. Y., Fidrianny, I., Crystalia, A. A., Adnyana, I. K., & Yuniarto, A. (n.d.). *Zebra fish model of obesity: Relevance to metabolic syndrome*. https://www.researchgate.net/publication/333371593 (accessed on 31 May 2025).

REVOLUTIONIZING LAB ANIMAL RESEARCH: THE AI BREAKTHROUGH FOR ETHICAL RESEARCH PRACTICE

Dr Varuni Gunathilake
Senior Lecturer, Department of Zoology, Faculty of Applied Science, University of Sri Jayewardenepura, Nugegoda
varunig@sjp.ac.lk

Artificial Intelligence (AI) has emerged as a new era of technology in recent past and has been used extensively in research. It transforms research across disciplines, from animal-based research to environmental studies, by enhancing data analysis, improving efficiency, and uncovering patterns invisible to human observation. AI-driven data analysis methods allow researchers to process vast datasets, identify correlations, and make predictive models with unprecedented accuracy. In lab animal research, AI aids in monitoring animal behavior, automating image analysis, and optimizing study designs, reducing reliance on invasive procedures while ensuring ethical standards (Rudroff *et al*., 2024). Advances in artificial intelligence (AI) are providing new opportunities to replace animal testing with more human-relevant and efficient methods

AI and deep learning technologies can automate the tracking and analysis of animal movements, as well as monitoring their health indicators. This enables the collection of detailed data on behavioral patterns, social interactions, daily routines, responses to environmental changes, and overall well-being. Compared to human observation, these tools offer greater efficiency and accuracy, thereby reducing variability in data and enhancing the reliability and reproducibility of results. By extracting richer, more meaningful insights from the same set of experiments, integrated AI approaches also contribute to a reduction in the number of animals required for research.

This article describes a few areas in laboratory animal science, in which AI extensively play a major role.

AI in Disease detection and management

AI facilitates early disease detection and personalized treatment plans, improving overall animal health outcomes.AI-enabled platform for analyzing animal behavior, enhancing usability and flexibility in research. It specifically addresses behavior recognition in lab animals and facilitates the evaluation of behavioral differences between sick and healthy animals. AI models improve the accuracy of predictions in epidemiology and risk analysis, leading to better-targeted interventions (Ezanno *et al*., 2021).

AI in Animal Behavior Analysis

AI-enabled platforms allow for flexible and scalable analysis of animal behavior, enhancing the interaction between researchers and experimental data (Chen *et al*., 2024). The use of artificial neural networks (ANN) for automatic detection of behavioral events in lab animals demonstrates high accuracy in identifying various behaviors, reducing human error in observations (Crispim-Junior & Marino-Neto, 2013).

AI in Animal Welfare

One of the most significant advancements in AI-driven lab animal research is the establishment of animal welfare. AI is used in continuous home-cage monitoring as AI-powered systems enable researchers to track animal behavior throughout the study period and beyond, capturing their movements and interactions that may otherwise go unnoticed. This approach enhances reproducibility and provides more precise behavioral data, leading to improved study outcomes as well.

AI is also playing a crucial role in **a**nimal health diagnostics. It enables detection of early signs of disease, predicts health risks, and optimizes treatment strategies. By integrating AI into veterinary research, scientists can develop more effective interventions while minimizing stress on lab animals.

Advantages of using AI in laboratory animal-based research

AI-driven monitoring systems can help minimize invasive procedures by providing real-time behavioral analysis and health assessments. This aligns with the 3Rs principle—Replacement, Reduction, and Refinement, which aims to reduce the number of animals used in experiments and refine methods to minimize distress.

Streamline experimental process

AI-powered systems can predict optimal experimental conditions, reduce trial-and-error approaches and minimize number use in research. In fields like drug discovery research, AI accelerates the process by simulating molecular interactions and identifying promising compounds. Additionally, AI-driven methods enable high-throughput experimentation, conducting thousands of tests simultaneously with minimal human intervention. It further ensures reproducibility.

Enhance data accuracy

AI models rely on vast datasets, but if these datasets contain biases or inaccuracies, they may lead to flawed conclusions. Ethical AI use requires transparent data collection and validation to ensure

reliable results that do not compromise animal welfare. AI can assist researchers in analyzing data, but final decisions regarding animal welfare and experimental design should remain human-led. Ethical frameworks advocate AI as a supportive tool, rather than a replacement for human judgment.

Data Reporting and Scientific Writing

In experimental settings, AI is used to process and analyze large volumes of data collected from animal models, including physiological signals (such as ECG or brain wave data), behavioral recordings, imaging data (e.g., histological slides or radiographs), and genomic or proteomic profiles. Machine learning (ML) algorithms can detect complex, non-linear patterns in these datasets, enabling researchers to classify disease states, track behavioral changes, or evaluate treatment effects more precisely than with conventional statistical methods. Deep learning models, particularly convolutional neural networks (CNNs), are especially useful in analyzing imaging data, such as identifying histopathological changes in tissue samples without the need for extensive manual annotation. AI also enhances the reproducibility of animal studies by minimizing observer bias and automating repetitive and subjective assessments.

Beyond data analysis, AI significantly contributes to the scientific writing process. Natural language processing (NLP) tools can automatically generate concise summaries of findings, organize experimental results, and assist in drafting sections of manuscripts, such as methods and results, based on structured data inputs. AI-based language models can recommend appropriate terminology, improve clarity, and ensure consistency in scientific narratives. Visualization tools driven by AI help create informative graphs and figures that highlight key trends and anomalies in the data. Moreover, AI can assist in literature searches and citation management, ensuring that researchers incorporate up-to-date and relevant references efficiently. As a result, AI not only accelerates the overall research workflow but also enhances the scientific rigor and communicability of animal-based research findings (Fig 01).

Future Implications

As AI technology advances, researchers must consider its long-term impact on lab animal research. Ethical discussions focus on whether AI can eventually replace animal testing altogether, leading to more humane and efficient research methods.

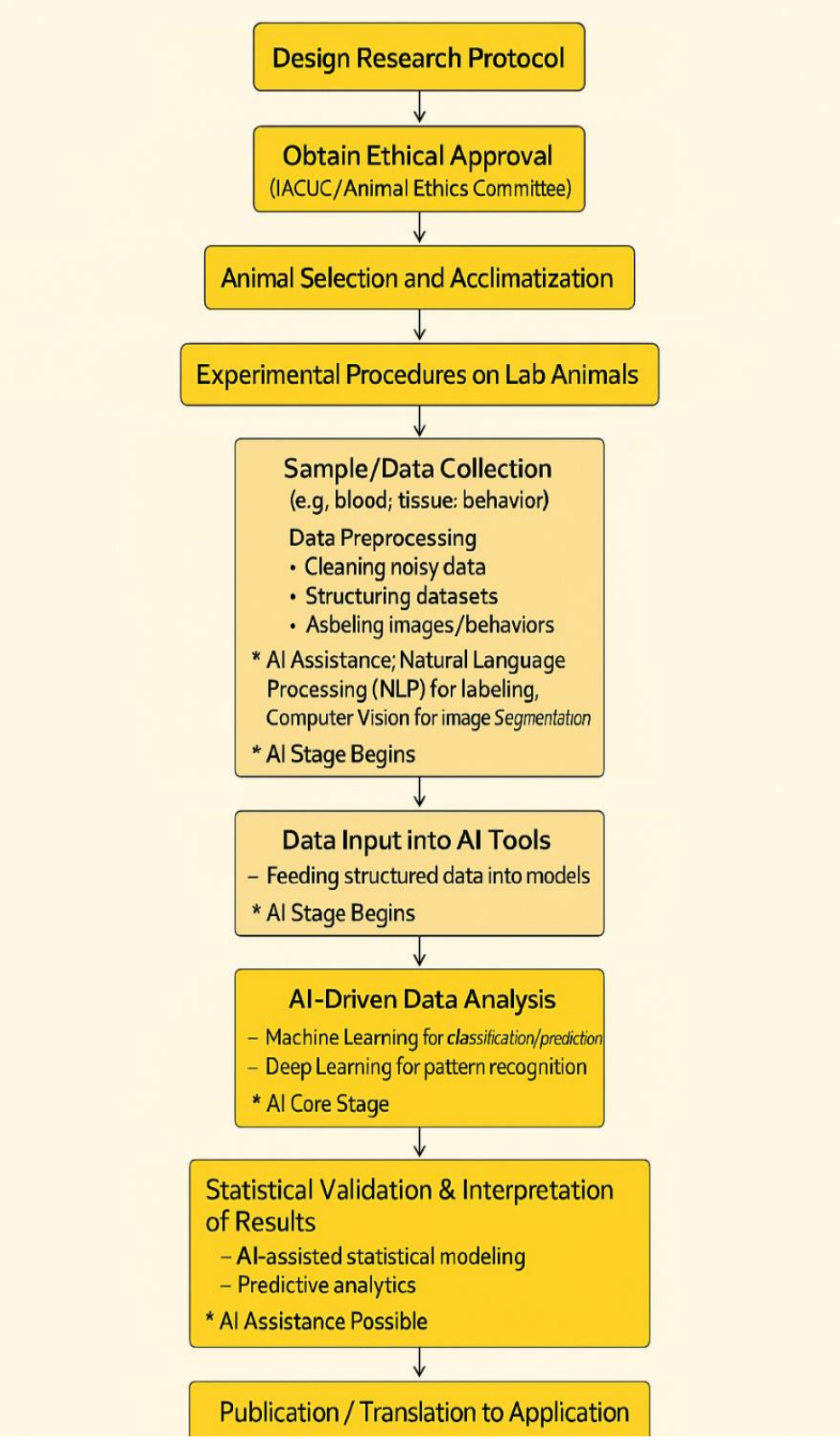


Figure 1: Use of AI in lab animal-related research (Microsoft Copilot, personal communication, June 2025)

References

1. AlZubi, A. A., (2023). Artificial intelligence and its application in the prediction and diagnosis of animal diseases: A review. Indian Journal of Animal Research, 57(10), 1265-1271. https://doi.org/10.18805/IJAR.BF-1684
2. Ezanno, P., Picault, S., Beaunée, G., Bailly, X., Muñoz, F., Duboz, R., Monod, H., & Guégan, J.-F. (2021). Research perspectives on animal health in the era of artificial intelligence. Veterinary Research, 52, 40. https://doi.org/10.1186/s13567-021-00902-4
3. Akinsulie, O. C., Idris, I., Aliyu, V. A., Shahzad, S., Banwo, O. G., Ogunleye, S. C., Olorunshola, M., Okedoyin, D. O., Ugwu, C., Oladapo, I. P., Gbadegoye, J. O., Akande, Q. A., Babawale, P., Rostami, S., & Soetan, K. O. (2024). The potential application of artificial intelligence in veterinary clinical practice and biomedical research. Frontiers in Veterinary Science, 11. https://doi.org/10.3389/fvets.2024.1347550
4. Chen, M., Liu, Y., Tam, C., Chan, H.-Y., Li, X., Chan, C., & Li, W. J. (2020). Wireless AI-Powered IoT Sensors for Laboratory Mice Behavior Recognition. *bioRxiv*. https://doi.org/10.1101/2020.07.23.217190
5. Crispim-Junior, C.F., Marino-Neto, J. (2013). Artificial Neural Networks and Image Features for Automatic Detection of Behavioral Events in Laboratory Animals. In: Folgueras Méndez, J., *et al.* V Latin American Congress on Biomedical Engineering CLAIB 2011 May 16-21, 2011, Habana, Cuba. IFMBE Proceedings, vol 33. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-21198-0_219
6. Wireless AI-Powered IoT Sensors for Laboratory Mice Behavior Recognition. (2022). *IEEE Internet of Things Journal*. https://doi.org/10.1109/jiot.2021.3090583

NEWS AND EVENTS

Panel Discussion on Ethics in Wild and Lab Animal Research

The Sri Lanka Association for Laboratory Animal Science (SLALAS) successfully completed its first workshop for the year 2025 – Panel Discussion on Ethics in Wild and Laboratory Animal Research – on 14th March 2025. This event was conducted in collaboration with Section D of the Sri Lanka Association for the Advancement of Science (SLAAS) and was held at the SLAAS Auditorium, Colombo.

The panel brought together esteemed academics and experts in the field of animal ethics and research. The discussion focused on the ethical challenges and frameworks associated with the use of both laboratory and wild animals in scientific research. The distinguished panel of resource persons included:

- Prof. Mangala Gunatilake from the Department of Physiology, Faculty of Medicine, University of Colombo – who addressed key ethical considerations in laboratory animal research, emphasizing the principles of the 3Rs (Replacement, Reduction, and Refinement) and the importance of Institutional Animal Ethics Committees.
- Prof. Asoka Dangolla, from the Department of Veterinary clinical Science, Faculty of Veterinary Medicine and Clinical Science, University of Peradeniya, shared his extensive experience on ethical issues spanning both wild and laboratory animal research, highlighting practical aspects and challenges encountered in the field.

- Prof. Sampath Seneviratne from the Department of Zoology and Environment Sciences, Faculty of Science, University of Colombo, elaborated on ethical frameworks and legal considerations in wild animal research, with reference to national and international guidelines.

The session was moderated by Senior Professor Sugandhika Suresh, from the Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, who ensured a vibrant and engaging discussion that drew the attention of all the participants.

The event not only provided an excellent platform for interdisciplinary dialogue but also contributed to fostering a culture of ethical research practices in Sri Lanka. A diverse auconduct anduding undergraduate and postgraduate students, early-career researchers, and senior academics from various universities and research institutes across the country participated in the event and it provided a vital platform for attendees to enhance their understanding of ethical practices in animal research, promote responsible conduct, and encourage the integration of ethical review processes in scientific investigations involving animals.

To facilitate broader public awareness and dissemination, a summary of this discussion was authored in Sinhala by Dr Varuni Gunathilake and published in the *Vidusara* newspaper.

SLALAS extends its sincere appreciation to all panelists, collaborators, and participants for their valuable contributions towards the success of this important event. The Association looks forward to organizing more such academic forums throughout the year, promoting the responsible and ethical use of animals in science.

Reported by Dr. Anusha Senevirathne, Secretary/ SLALAS

Workshop on Research Project Management: Navigating the Journey from concept to completion

SLALAS successfully conducted a comprehensive and dynamic Workshop on Research Project Management: Navigating the Journey from Concept to Completion on the 17th of May 2025 at the Faculty of Science, University of Colombo with the participation of undergraduate and post graduate students and researchers from various universities and research institutions.

The resource person for the event was Dr. Chamini Kanatiwela De Silva (BSc, PhD, PMP), Deputy General Manager – Clinical Operations, RemediumOne, Colombo-07, who brought a wealth of knowledge and vibrant experience in the field of research project management. Her expertise in both academic and industry-driven clinical research added immense value to the workshop, providing participants with real-world insights and applicable strategies.

The workshop was designed to strengthen the foundational and advanced skills necessary for managing scientific research. As part of SLALAS's continuous commitment to capacity building, this program aimed to empower early career researchers to transform innovative concepts into impactful and ethically sound scientific projects.

The one-day event provided a step-by-step guide on the key strategies of a research project — from idea generation and proposal development, through implementation, monitoring, and successful completion. Key focus areas included:

- Framing the research question and aligning with national/institutional priorities
- Designing feasible timelines and resource plans
- Understanding ethics and regulatory compliance research with special reference to Laboratory Animal research

- Managing risks, data, personnel, and communication
- Final reporting, dissemination, and publication strategies

A special focus was placed on practical challenges faced by Sri Lankan researchers, with real-world case studies that allowed participants to brainstorm and reflect on strategies for overcoming obstacles in their own projects.

Participants expressed their positive feedback about the clarity and confidence they gained from the workshop. Through this initiative, SLALAS continues to promote a research culture rooted in accountability, strategic thinking, and ethical responsibility. The association remains dedicated to supporting researchers at all career stages to become not only scientific innovators but also competent project leaders.

Reported by Dr. Anusha Senevirathne, Secretary/ SLALAS

Workshop on Lab Animal Ethics and Culture of Care

SLALAS, in collaboration with Uva Wellassa University, hosted a timely and insightful workshop titled "Lab Animal Ethics and the Culture of Care" on the 27th of May 2025 at the Uva Wellassa University premises.

This workshop represented a significant milestone in SLALAS's continued efforts to advance ethical research practices and uphold high standards in laboratory animal care and use within Sri Lanka. The event attracted a diverse group of participants, including academics, undergraduate and postgraduate students, as well as researchers actively involved in preclinical studies. Notably, academic staff and students from the Sabaragamuwa University of Sri Lanka also took part in the workshop, further contributing to the collaborative and interdisciplinary nature of the event.

The workshop was enriched by the expertise of distinguished resource persons, including Prof. Mangala Gunatilake, Founding President of SLALAS and Professor in the Department of Physiology, Faculty of Medicine, University of Colombo; Dr. Mayuri Thammitiyagodage, Former Head of the Animal Centre at the Medical Research Institute, Colombo; Dr. Kalpani Rathnayake, Senior Lecturer in the Department of Cosmetic Science, Faculty of Health Sciences, CINEC Campus, Malabe; and Dr. Sachini Amarasekara, Senior Lecturer in the Department of Zoology and Environmental Sciences, Faculty of Science, University of Colombo.

The successful coordination of the event was made possible through the dedicated efforts of Dr. Prabuddha Manjula, Senior Lecturer, Department of Animal Sciences at Uva Wellassa University and who is also an Executive Committee (ExCo) member of SLALAS. His commitment and meticulous organization were instrumental in ensuring the smooth execution and overall success of the workshop.

Participants engaged in lively discussions on topics such as housing and handling of laboratory animals, refinement of experimental techniques, and institutional responsibilities in ensuring animal welfare. The sessions emphasized that cultivating a "Culture of Care" is not just an institutional obligation but a personal commitment of each researcher and animal handler. The value of humane science, built on empathy and scientific integrity, was a recurring theme throughout the workshop.

The workshop was well received by all attendees, who praised its relevance, depth, and practical applicability. It served as both an educational forum and a call to action, urging research professionals to embrace and uphold the highest ethical standards in laboratory animal science.

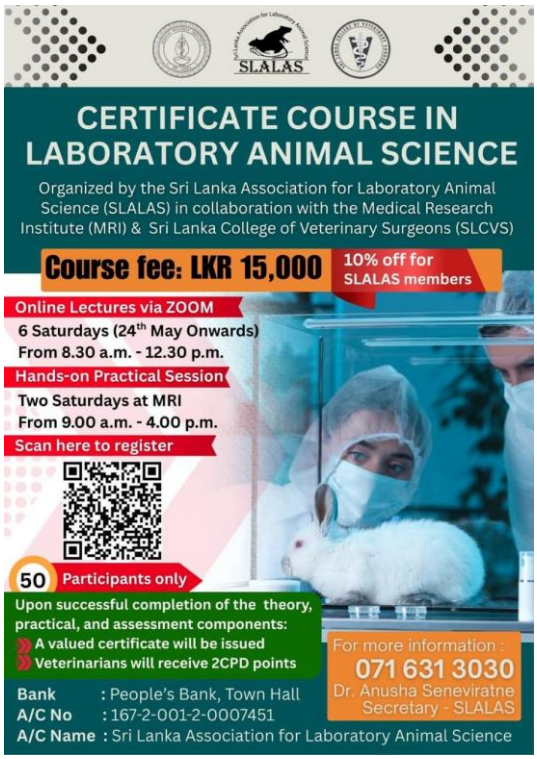
Reported by Dr. Anusha Senevirathne, Secretary/ SLALAS

Certificate course in Laboratory Animal Science

The Certificate Course in Laboratory Animal Science, an annual event organized by SLALAS, was successfully initiated this year in collaboration with the Medical Research Institute (MRI) and the Sri Lanka College of Veterinary Surgeons (SLCVS). This comprehensive course is designed to equip participants with essential theoretical knowledge and practical training in the field of laboratory animal research, addressing the increasing demand for expertise in preclinical testing while adhering to internationally recognized standards of animal welfare and ethics.

The course comprises two main components:

- An online lecture series delivered via Zoom over six consecutive Saturdays, commencing from 24th May 2025, from 8.30 a.m. to 12.30 p.m. These sessions provided participants with foundational insights into laboratory animal science, ethical considerations, regulatory frameworks, animal welfare and humane use of animals in research.
- Hands-on practical training, conducted over two full-day sessions at the Medical Research Institute (MRI), is designed to offer participants valuable experience in laboratory animal handling, welfare monitoring, and sample collection procedures under expert supervision.



This structured approach ensures a well-rounded learning experience, combining academic rigor with practical relevance to support ethical and effective animal research practices in Sri Lanka.

Reported by Dr. Anusha Senevirathne, Secretary/ SLALAS

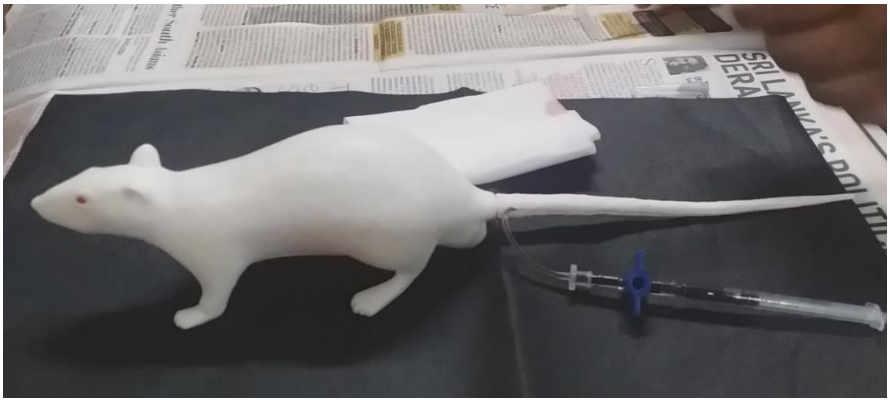
Training in Laboratory Animal procedures using Alternative Models

The global scientific community has increasingly recognized the value of using alternative models in laboratory animal training. In Sri Lanka, this movement was spearheaded by Prof. Mangala Gunatilake, the founding president of SLALAS. She played a pivotal role in introducing alternative training models, including rat simulators and suturing models, to the local research community.

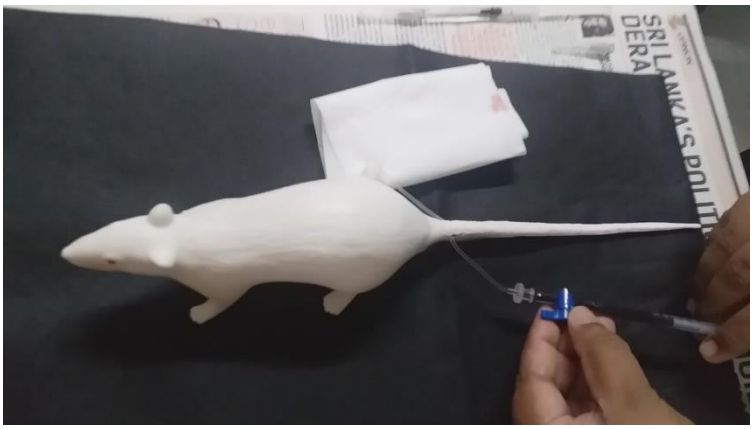
On 16th June 2025, Prof. Gunatilake, in collaboration with the 3Rs Centre in Laboratory Animal Science in Sri Lanka, conducted a specialized training program focusing on the use of alternative models in laboratory animal procedures. Approximately ten postgraduate students from the University of Sri Jayewardenepura participated in this one-day session.

The training comprised two core components: lateral tail vein blood collection in rats and practicing common suture patterns used in laboratory animal procedures.

For the first session, rat simulators—imported from Japan and accurately sized to mimic real Wistar rats—were used. Red-colored ink, simulating blood, was circulated through tubing along the tail, allowing students to practice blood collection using 1 mL syringes. Through this exercise, participants gained a clear understanding of the anatomical location of the lateral tail veins, the appropriate depth for needle insertion, and the correct technique for venipuncture for sample collection and giving injections.



Rat Model/ Rat simulator



Red color ink was circulated through the tubing along the tail

Blood sample collection using 1 mL syringe

In the second session, locally developed suture models were used. These allowed students to practice standard suture patterns commonly employed in laboratory animal research.

Overall, the training provided a valuable hands-on learning experience. Students expressed great appreciation for the opportunity to practice essential techniques without compromising animal welfare. They found the alternative models both educational and ethically responsible, enabling them to develop their skills in a humane and effective manner.

Practicing suture patterns

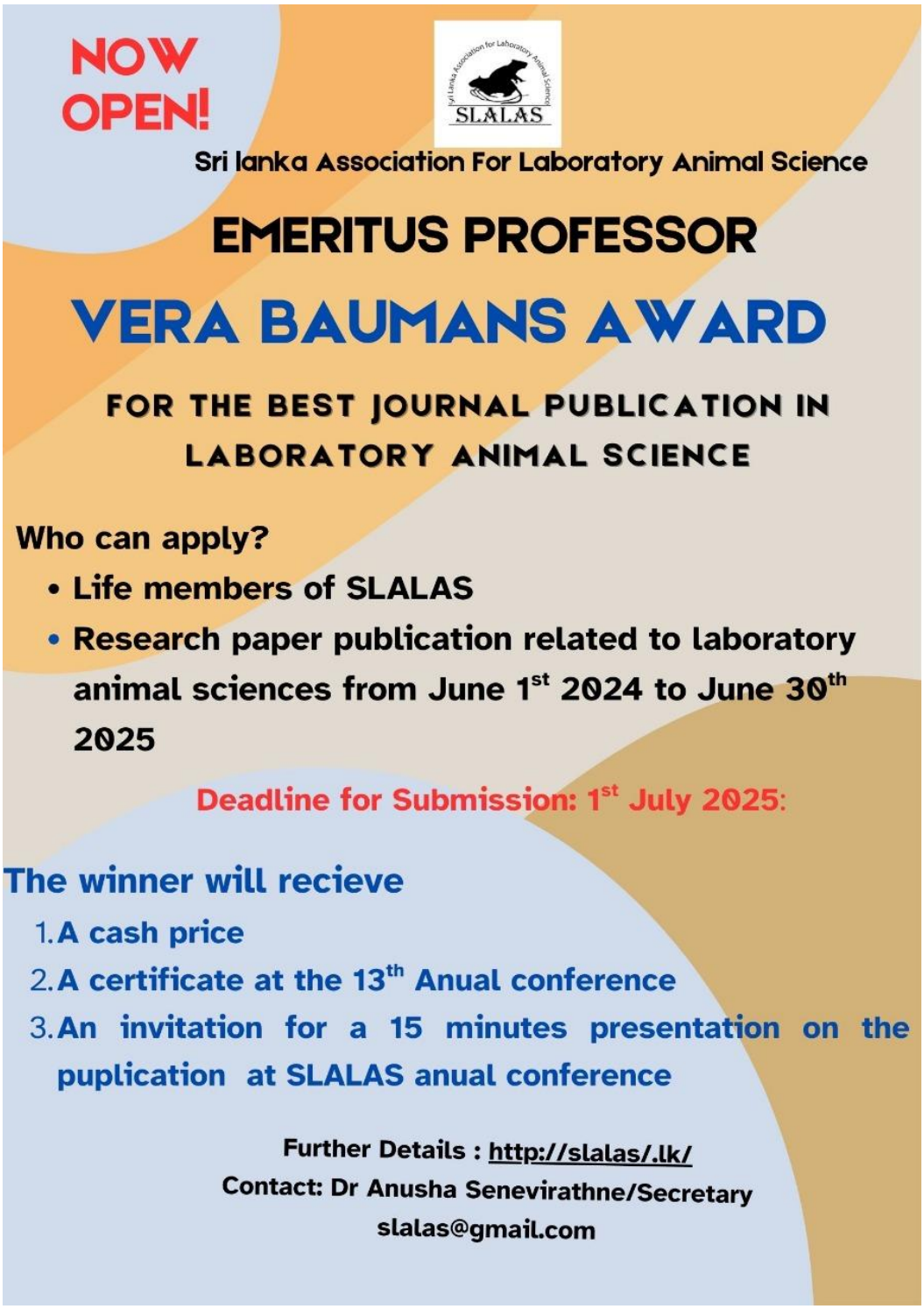
Students participated in the session

Reported by Dr. Hasanthi Rathnadiwakara, Editor/ SLALAS

Emeritus Professor Vera Baumans award

This award is awarded to the best research paper on animal-based research.

Applications are called from the life members of SLALAS who have been members for minimum 3 years.



NEW MEMBERS – YEAR 2025 (January – June)

Life Members

Name	Educational Qualification	Current position and Institution
U.S. Layan Rasanjula	Bsc(Hons) Biomedical Science	Research Assistant, University of Ruhuna
Dr Dulan Jayasekara	PhD in Zoology	Lecturer, University of Sri Jayewardenepura
Dr Egwin JulieEugene	PhD	Senior Lecturer, International College of Business & Technology (ICBT)
Ms Hiruni Malshani Weerasinghe	BSc. (Honours) Degree in Zoology	MPhil student and a Research Assistant of University of Sri Jayewardenepura

International Members

Name	Educational Qualification	Current position and Institution
Prof. Gregory Lawson	PhD	Board Qualified and Lab Animal Vet

UPCOMING EVENTS

AFLAS has called for nominations from the members of SLALAS to represent the association at the AFLAS scientific congress, to be held from 22nd October 2025 in China.

As such, SLALAS have called for applications from the entire membership for the following awards by the AFLAS.

1. AFLAS Outstanding Research Award (One nominee from each member association)

This award is given to scientists or technical experts who have made outstanding achievements in basic research, applied research and promoting technological progress in laboratory animal science. This includes significant innovation or contribution in areas such as laboratory animal science research, technology development, education and training, welfare and ethics, alternative methods, and science popularization. Recipients should have broad academic influence in Asia and even globally.

2. AFLAS Remarkable Contribution Award (One nominee from each member association)

This award is given to individuals who have made outstanding contributions to the establishment, development, and management of AFLAS, as well as to those who have provided services to AFLAS member organizations and contributed to the growth and strengthening of AFLAS.

3. AFLAS Youth Progress Award (One nominee from each member association)

This award is given to young laboratory animal science and technology workers under the age of 45 who have achieved outstanding results in various fields of laboratory animal science and technology research.

Accordingly, received applications were carefully evaluated by an impartial committee chaired by Dr Sachini Amarasekara, former president of SLALAS and council member of AFLAS.

Based on the evaluation, the following members were selected and nominated for the above awards by SLALAS.

1. **AFLAS Outstanding Achievement Award** – Prof. Mangala Gunatilake
2. **AFLAS Remarkable Contribution Award** – Dr. Mayuri Thammitiyagodage
3. **AFLAS Youth Progress Award** – Mr. K.V.K. Gunathilaka

Applications were also called by the members for the **Advanced Training Course in Laboratory Animal Welfare** offered by AFLAS.

Based on the evaluation of the applications received, Dr. Ramani Karunakaran was selected for the AFLAS training course.

SLALAS would like to congratulate the four nominees who have been selected to represent SLALAS at the 10th AFLAS congress in 2025.

UPCOMING EVENTS

Workshop on Histopathology in Laboratory Animals: Techniques, Interpretation, and Applications

Planned to be organized in September 2025 in Collaboration with the Faculty of Veterinary Medicine and Animal Science, University of Peradeniya

Workshop on ARRIVE guidelines -August 2025-Online workshop

Workshop on Zebrafish as an alternative model for higher animal-based research-in collaboration with the MRI

SLALAS Oratorical Competition – September 2025

Call for Abstracts for the 13th International Conference and Scientific Sessions 2025/2026

ACKNOWLEDGEMENT

The President, Dr. Varuni Gunathilake for her support

The Executive committee members, for their contributions to the newsletter

The Authors for submitting articles for the newsletter