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LASAI NEWS LETTER

An Official Annual Bulletin of

LABORATORY ANIMAL SCIENCE ASSOCIATION OF INDIA (LASAI)

Registered office:

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Quote for this issue

I can feel and perceive the sensations of pain, distress and sufferings, like humans; hence, am equally conscious as do they.

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Mission Objectives

Laboratory Animal Science Association of India has been established with an aim to spread the knowledge and perception amongst the laboratory animal personnel and scientific community for consistent development of laboratory animal science with particular emphasis on laboratory animal welfare and ethics making them empathetic towards unvoiced laboratory animals. In general, the efforts of the Association are directed towards achieving following mission objectives:

- To generate awareness amongst scientific community for rational use of animals in research, education and testing programmes
- To promote the human consciousness for ethical upkeep and use of laboratory animals in scientific studies employing the provisions laid down by animal welfare authorities.
- To draw public attention for wider use of alternative methods, such as computer simulations, animal tissue, cell lines and animations before using whole animals in view to minimise the use of animals in research and testing programmes.
- To encourage for the efforts to reduce animal usage and their numbers, replace the use of animals with other non-animal alternative approaches, refine the procedures, and rehabilitate the animals wherever feasible.
- To arrange scientific meetings and group discussions on different issues related with laboratory animal ethics and animal experimentations.
- To organize symposia, seminars and workshops to upgrade public awareness on scientific and ethical issues related with animal experiments.
- To publish scientific literature in the form of Newsletter and disseminate it amongst laboratory animal personnel to sensitize them on proper care and judicious use of animals in research and testing programmes.

Animal Experimentation: Ethical Concerns

The laboratory animal species have served the scientific community as a valuable tool to promote the essentials of knowledge and skill to safeguard human and animal subjects. Developing the science of laboratory animals as a major discipline of biomedical science has required a well-focused and dedicated approach exercised by the people working in science and philosophy streams. Perhaps, the rationale behind this societal endeavour lied in expansion and advancement of human and animal lives what we are seeing at present. As a vital component in deriving reproducible and reliable scientific conclusions, eventually it becomes imperative to bring out improvements in health and wellbeing of laboratory animals. Today, it is estimated that more than 100 million of animals are used every year in scientific studies and drug and pharmaceutical testing programmes throughout the world. Animal species like mice, rats, guinea pigs, rabbits, hamsters, gerbils, mastomys rats, fishes, birds, cats, dogs and primates are commonly used for biological experimentations. Most of these laboratory animals are bred in purpose-built breeding establishments, while some animals like monkeys are caught from the wild and transported to laboratories. In some countries the ill-defined animals captured from streets are used for research which is risky for good science.

Majority of the people linked with animal welfare organizations and animal welfare protectionist groups believe that animal experiments are ethically wrong and the observations of such experiments are more or less misleading. Some moderates accentuate upon improving the conditions and treatment of experimental animals. Nevertheless, the animal protectionists, in general, oppose to conduct any animal experiments that cause animal sufferings, whether in capture, breeding, rearing, confinement, handling or the animal procedure itself. While performing animal experiments, the scientific community with belief in humane approach, constantly appreciates the scientific interests. Despite vast public opposition, use of animals for scientific endeavours will continue in the interest of human and animal lives. Many outdated protocols like skin or eye irritation, skin allergy, poisoning, genetic damage, and birth defects are considered as cruel. These procedures lead to redundant pain and suffering to animals, producing results that cannot even be interpreted with confidence. Various countries have introduced ban in phase wise manner on 'animal testing and sales' of cosmetic and toiletry products. In recent past the investments and support for cutting-edge non-animal testing methods have advanced. Most of the countries have now controlled animal experiments through legislation; however, the level of their enforcement varies greatly from country-to-country. Some countries allow 'self regulation' through animal ethics committees, while others have governmental control, including regulatory approval for painful experiments and frequent inspections. Nonetheless, undercover investigations have shown that even such systems are no guarantee against breaches in the law and cruelty. In research, the laboratory animals are frequently used for a wide range of experimental purposes including:

- Fundamental research to explore the knowledge and facts of life and disease process
- Biomedical research leading to discovery and development of life saving drug entities
- Testing of new drug entities, pharmaceutical and household products
- Education and training to advance the professional skills and warfare research

The **Fundamental research** accounts for the greatest number of animals used. Proponents of animal use claim that fundamental research often contributes indirectly to the development of new active ingredients and therapies. However, anti-vivisectionists believe that the contribution of fundamental research to new drugs and treatments is grossly overestimated. The **Biomedical research** is the second largest area of animal experimentation; it is devoted to the study of prevention and treatment of diseases and genetic and environmental factors related to disease and health. Alternative in-vitro methods using cells, tissues and organs over the past two decades have resulted in use of fewer research animals. Anti-vivisectionists believe that more focus should be placed on preventative medicine as well as promotion of healthier lifestyles. The **Genetic engineering** is the greatest growth area in animal experimentation. It involves manipulation of genes, either within or between species, to produce transgenic animals. Initially, substantial population of animals is required to attempt to obtain a transgenic individual with a particular set of desired traits. These animals are then used to establish a particular genetic line. Genetic engineering can also have severe and unexpected side effects, such as the development of tumors, brain defects, limb and skull deformities, infertility and metabolic disorders. Huge numbers of animals are experimented on, killed and dissected each year in schools and universities worldwide with a claim that 'hands-on' experience is the best way to learn. The opponents on this subject question the lack of ethical justification. Therefore, incorporating the '3Rs' when planning for experiments is very much imperative in current situation.

Regarding **Replacement** as an alternative to animal testing, it has been argued that the **preventative medicine** is the best alternative method, which prevents disease occurrence and promotes health. In a strict sense, prevention of diseases includes vaccinations, but it is obvious that in production of vaccines often requires animals for safety and potency testing. **Computer simulations** (as in silico research) have contributed to breakthroughs in simulation and virtual reality research. Databases and simulations are helpful in storing information about existing chemicals, including the effects of certain drugs, human clinical research and epidemiological data. Sharing databases can avoid lot of duplicate tests.

The **synthetic models and mannequins**, although do not necessarily need computer input but aid in significant reduction of animal usage in study and experimentations. **In vitro research** involves the study of cells, tissues and organs, which are separated and maintained isolated in an artificial environment such as in a test tube, outside the living animal or human body. However, the established cell lines initially require animals as donors, but later no more animals are required. **Human tissue banks** are now being developed in some countries, but there are many legal and ethical obstacles, which prevent easy implementation. While the role of animal experimentation in human medical advancement is overestimated, the **role of autopsies and pathology** (research on dead human bodies) has contributed tremendously to important medical discoveries. Recent development in biomedical research includes the **use of stem cells**, which are precursor cells or mother cells that have the capacity for both replication and differentiation which give rise to various morphologically recognizable precursors of different blood cell lines. Human stem cell research is very promising, as no animals are required anymore and the cells have the potential to be used in different types of applications.

The '**Reduction**' as alternative to animal testing may include : * Reducing the breeding surplus to decrease total number of animals to be used for experiment purposes; * Applying proper experimental design to minimize number of animals for use; * Applying appropriate statistics, so that fewer animals can be used, and more data can be generated; * Conducting literature search to review existing alternative method; * Sharing data and harmonization between different laboratories to avoid unnecessary duplications; * Involving Ethical Review Committees for expertise on how to advise on using fewer animals in research; * Reviewing testing guidelines and regulations on a regular basis to implement new methods that use fewer animals in research and testing programmes. The **Refinement** alternative to animal testing may include: * Applying anaesthesia, analgesia or humane endpoints (ending suffering at an earlier stage); * Promoting welfare by enriching the environment, socializing by housing animals in groups, providing nesting material or hiding places, food enrichments such as scattering food in the cage or putting it on top of the cage, which makes it harder to obtain, stimulating more natural behaviour; * Providing a reward after an animal has performed a task or cooperated with scientific procedures; * Education and training to create awareness on the '3Rs', and training people specifically in humane principles and techniques including animal handling and basic procedures. In many countries a basic level of training is mandatory for scientists or investigators before performing experiments on animals.

News and Views

The National Symposium on "New Paradigms in Laboratory Animal Science in an Era of Advanced Biomedical Research" jointly organised by LASAI and IVRI was held on January 28-29, at Indian Veterinary Research Institute, Izatnagar (UP), India. The symposium was aimed at disseminating current information on rationale use of laboratory animals in education, research and testing programmes. Participants from academia, research institutions and industries joined the event and shared their experiences. Over 300 delegates from all over the country participated in two-day deliberations, which focused various disciplines of laboratory animal science in many scientific sessions convened.



Scene at Inaugural session of LASAI conference at IVRI



Dr R. Verma, President, LASAI, felicitating the Chief Guest



LASAI Executives at concluding session

The symposium was inaugurated on 28th January 2011 by Chief Guest, Prof. P K Uppal, Former Founder Director, National Research Centre on Equines, Hissar. Prof. Dr Nadhim S Abdulaziz Jakhsi, Cultural Counsellor, Embassy of the Republic of Iraq, and Dr Lal Krishna, Former Assistant Director General (Animal Health), ICAR graced the occasion as Guests of Honour. The seminar was co-sponsored by CSIR, CPCSEA, ICAR, IVRI and the LASAI. At the end of the scientific streams the General Body meeting and EC meeting of LASAI were also convened. Dr N V Giridharan, who joined the meeting as Vice President of LASAI happily announced to host the next LASAI Annual Conference at NIN, Hyderabad. In the AGB meeting the LASAI members unanimously elected different office bearers of the Association including New Executive Body & Advisory Council.

Animals in the News

- **Baby wild animals usually don't need help:** The baby eastern screech owls still have their down; their feathers haven't come in. A baby bird of prey that cannot grasp with its feet needs to be placed back in its original nest or in an artificial nest in the same tree. If the baby can grip with its feet, like these siblings can, it should be placed on a branch near the nest. The parents will continue to care for it.
- **Cracking the mystery of color change in animals:** University of Kerala focused on identifying the chromosome responsible for the genetic mutation in the grey squirrel, and the resultant color change. "Apparently, one of the genes in the animal acted as a switch to activate the change in pigmentation," explains a CSIR Research Emeritus Scientist, who heads the project.
- **American Story: No more monkey business:** In Britain and the US, there are active discussions about the real value of primate research. Government agencies that fund biomedical and behavioural research are starting to ask questions. A caged primate cannot change what happens to it. Only a human can.
- **New institute to probe human-animal interactions:** A new institute aimed at studying human-animal interactions has opened in Austria. The Messerli Research Institute, a joint venture between the University of Veterinary Medicine, Vienna (Vetmeduni Vienna), the University of Vienna, and the Medical University of Vienna (Austria). The institute will be dedicated to investigating human-animal interactions.

Announcements

- **Dr. P. Suresh, Head, NCLAS, NIN, Hyderabad has delightfully accepted the responsibility of organizing next Annual Programme and Convention of LASAI along with World Laboratory Animal Day celebrations, on April 24-25, 2012 at NIN, Hyderabad, as consented by Dr N.V. Giridharan, former Head, NCLAS.**
- **The 5th Asian Federation of Laboratory Animal Science Associations Congress (AFLAS 2012)** which will be held on 10-12 October 2012 in Bangkok. All interested individuals are cordially invited to submit abstracts for presentation in the scientific sessions and poster exhibition via the online abstract submission system. **Please visit the website:** <http://www.aflas2012.org/>

New Executive Committee Effective from year 2011

President	Dr. Rishendra Verma, IVRI Izatnagar
Vice Presidents	Dr. N.V. Giridharan, NIN Hyderabad Dr. D.C. Purohit, IITR Lucknow
Secretary General	Dr. D.S. Upadhyay, CDRI Lucknow
Additional Secretary General	Dr. A.K. Srivastava, CDRI Lucknow
Zonal Secretaries	Dr. P.K. Yadav, AIIMS New Delhi Dr. Ramanamurthy, NCCS Pune Dr. Neeraj Khatri, IMTECH Chandigarh Dr. S.P. Muthukumar, CFTRI Mysore Dr. Mitali T., Piramal Life Sciences, Mumbai Dr. Rakesh Shukla, CDRI Lucknow Sri. Karunesh Rai, CDRI Lucknow
Treasurer	
Executive Members	Dr. N.K. Goyal, CRI Kasauli, Dr. Bind Raj B., IVRI Izatnagar, Dr. Sandeepa Bhan, Panacea Biotech, Chandigarh, Er. Vivek Sharma, Pranilok, Lucknow, Dr. Sikha Yadav, NIBR, Noida, Dr. C. Nath, CDRI Lucknow, Dr. Dilip Mondhe, IIIM Jammu, Dr. Ramesh Sharma, CDRI Lucknow, Dr. V.P. Singh, IGBI New Delhi, Dr. S.K. Verma, AH Department Lucknow, Dr. V.K. Tewari, JRF Valvada, Dr. A.M. Saxena, LU Lucknow, Dr. Praveen Kumar Atul, NIM, New Delhi, Dr. Sandeep Pundir, Syngene Bangalore

Advisory Council of LASAI

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|------------------------------|--|
| • Dr. K.R. Bhardwaj, Lucknow | • Dr. Ram Raghubir, Lucknow |
| • Dr. D.P. Buduk, Mumbai | • Dr. BML Vermani, Lucknow |
| • Dr. D.N. Sharma, Noida | • Sri S. Hariharan Hyderabad |
| • Dr. N.D. Sharma, Lucknow | • Dr. Arvind K. Srivastava, Lucknow AH |
| • Dr. P. Saibaba, Mysore | • Dr. M.K. Goverdhan, Pune |

Future Plans

- Strengthening the LASAI by generating membership from India/ and abroad
- Generation of funds through donations, membership and advertisements to work for animal ethics and good science
- To organize symposia, workshops and meetings rendering services of LASAI for betterment of laboratory animal science
- Publication of LASAI activities and its' circulation to the scientific public for awareness on rational use lab animals
- To educate the researchers to minimize animal use in experiments
- To train people providing them skills for humane care and ethical use of animals
- Extending knowledge on production of defined and healthy animal models for research and testing purposes
- To affiliate the LASAI with other international agencies to work coherently for the cause of laboratory animal science, and animal welfare
- To apprise animal users about animal welfare guidelines especially the CPCSEA, the role and responsibility of IAEC and various "Rs" principles.
- To provide consultancy on creation of new research animal facilities for research and development purposes