

The Principles Of Humane Experimental Technique Is It

Laboratory animals are becoming increasingly important for biomedical research. It is said that approximately 70% of biomedical research is associated with the use of experimental animals. Laboratory animal research not only expands our knowledge of science, but also greatly improves human and animal health. The field of laboratory animal science is ever-growing and changing as new experimental techniques are developed and new animal models are created. It is essential to know not only the biological features of each laboratory animal but also how to use and care for them responsibly in order to perform high-quality experiments. Courses in beginning Laboratory Animal Science are starting to be offered in many universities throughout the world. However, a practical introductory textbook that contains state-of-the-art techniques is still lacking. Fundamentals of Laboratory Animal Science provides comprehensive information on the principles and practices of using laboratory animals for biomedical research. Each individual chapter focuses on a key sub-discipline of laboratory animal science: animal welfare and best humane care practices in the laboratory; the quality control of laboratory animals; the anatomy, physiology, and husbandry of commonly used species; the principles of creating and using animal models for studying human diseases; practical techniques used for laboratory animal experiments; experimental design; and animal experimentation management. Knowledge of this broad spectrum of concepts and skills will ensure research goes smoothly while greatly reducing animal pain and distress. Well-illustrated and thoroughly referenced, this book will serve not only as a standard textbook but also as a handy guide for veterinarians, researchers, animal care staff, administrators, and other professionals who are involved in laboratory animal science.

What kinds of moral challenges arise from encounters between species in laboratory science? Animal Ethos draws on ethnographic engagement with academic labs in which experimental research involving nonhuman species provokes difficult questions involving life and death, scientific progress, and other competing quandaries. Whereas much has been written on core bioethical values that inform regulated behavior in labs, Lesley A. Sharp reveals the importance of attending to lab personnel’s quotidian and unscripted responses to animals. Animal Ethos exposes the rich–yet poorly understood–moral dimensions of daily lab life, where serendipitous, creative, and unorthodox responses are evidence of concerted efforts by researchers, animal technicians, veterinarians, and animal activists to transform animal laboratories into moral scientific worlds.

A report of the Nuffield Council on Bioethics working party investigating the ethical issues of research involving animals.

Science, Medicine, and Animals explains the role that animals play in biomedical research and the ways in which scientists, governments, and citizens have tried to balance the experimental use of animals with a concern for all living creatures. An accompanying Teacher’s Guide is available to help teachers of middle and high school students use Science, Medicine, and Animals in the classroom. As students examine the issues in Science, Medicine, and Animals, they will gain a greater understanding of the goals of biomedical research and the real-world practice of the scientific method in general. Science, Medicine, and Animals and the Teacher’s Guide were written by the Institute for Laboratory Animal Research and published by the National Research Council of the National Academies. The report was reviewed by a committee made up of experts and scholars with diverse perspectives, including members of the U.S. Department of Agriculture, National Institutes of Health, the Humane Society of the United States, and the American Society for the Prevention of Cruelty to Animals. The Teacher’s Guide was reviewed by members of the National Academies’ Teacher Associates Network. Science, Medicine, and Animals is recommended by the National Science Teacher’s Association NSTA Recommends.

The Ethics of Research Involving Animals

Philosophy, Regulation, and Laboratory Applications

Guide for the Care and Use of Laboratory Animals

A Circle of Discovery: Teacher's Guide

Animal Experimentation and the Three Rs

Regulations and Recommendations for the Care and Use of Animals in Research

This volume is the first to present a framework of general principles for animal research ethics together with an analysis of the principles' meaning and moral requirements. This new framework of six moral principles constitutes a more suitable set of moral guidelines than any currently available, including the influential framework presented in the Principles of Humane Experimental Technique published in 1959 by zoologist and psychologist William M. S. Russell and microbiologist Rex L. Burch. While other accounts have presented specific directives to guide the use of animals in research, Tom L. Beauchamp and David DeGrazia here offer a set of general moral principles that are adequate to the task of evaluating biomedical and behavioral research involving animals today. Their comprehensive framework addresses ethical requirements pertaining to societal benefit—a critical consideration in justifying the harming of animals in research—and features a thorough program of animal welfare protection. In doing so, their principles bridge the gap between the concerns of the research community and the animal-protection community. The book is distinctive in featuring commentaries on the framework of principles by eminent figures in animal research ethics from an array of relevant disciplines: veterinary medicine, biomedical research, biology, zoology, comparative psychology, primatology, law, and bioethics. The seven commentators—Larry Carbone, Frans de Waal, Rebecca Dresser, Joseph Garner, Brian Hare, Margaret Landi, and Julian Savulescu—scrutinize Beauchamp and DeGrazia’s principles in terms of both their theoretical cogency and practical implications, evaluating their relevance to the medical and scientific professions. The range of ethical issues encompassed in Principles of Animal Research Ethics will be useful to professionals in the biomedical and behavioral sciences and will also appeal to individuals and scholars interested in bioethics, animal ethics, and applied ethics generally.

Responsibility for the care of experimental animals. Laboratory animal facilities. The environment. Farm animal facilities and environment. Laboratory animal care. Special practices. Health and safety responsibilities. Standards for experimental animal surgery. Anesthesia. Euthanasia.

The Welfare of Animals used in Research: Practice and Ethics gives a complete and balanced overview of the issues surrounding the use of animals in scientific research. The focus of the book is on the animal welfare implications and ethics of animals in research. It covers the topics with sufficient depth to show a real understanding of varied and complex subjects, but conveys the information in a beautifully reader-friendly manner. Key features: Provides those who are not working in the field with a reasonable understanding as to why and how animals are used in research. Gives an introduction to the ethical issues involved in using animals, and explains how these are addressed in practice. Details the advances in animal welfare and the use and development of the 3Rs principles, and how these have become fundamental to the everyday use and regulation of animals used in research. The focus is on principles making it suitable for an international audience. This book is a useful introduction to the issues involved in laboratory animal welfare for those who intend to work in research involving animals. It is also useful to prospective animal care staff and animal welfare scientists, and to those involved in ethical review. It will help inform debate amongst those who are not involved in experimentation but who are interested in the issues. Published as a part of the prestigious Wiley-Blackwell – UFAW Animal Welfare series. UFAW, founded 1926, is an internationally recognised, independent, scientific and educational animal welfare charity. For full details of all titles available in the series, please visit the UFAW Animal Welfare series website.

Animal Experimentation: Working Towards a Paradigm Change critically appraises current animal use in science and discusses ways in which we can contribute to a paradigm change towards human-biology based approaches.

Alternatives to Animal Testing

Recognition and Alleviation of Pain and Distress in Laboratory Animals

Working Towards a Paradigm Change

A Contribution to the Humane Use and Care of Animals and to the Quality of Experimental Results

The Welfare of Animals Used in Research

Public Health Service Policy on Humane Care and Use of Laboratory Animals

This open access book presents recent advances in the pure sciences that are of significance in the quest for alternatives to the use of animals in research and describes a variety of practical applications of the three key guiding principles for the more ethical use of animals in experiments – replacement, reduction, and refinement, collectively known as the 3Rs. Important examples from across the world of implementation of the 3Rs in the testing of cosmetics, chemicals, pesticides, and biologics, including vaccines, are described, with additional information on relevant regulations. The coverage also encompasses emerging approaches to alternative tests and the 3Rs. The book is based on the most informative contributions delivered at the Asian Congress 2016 on Alternatives and Animal Use in the Life Sciences. It will be of value for those working in R&D, for graduate students, and for educators in various fields, including the pharmaceutical and cosmetic sciences, pharmacology, toxicology, and animal welfare. The free, open access distribution of Alternatives to Animal Testing is enabled by the Creative Commons Attribution license in International version 4: CC BY 4.0.

Principles of Animal Research is the first publication to offer a broad look at animal research science for a student, early researcher, or technician. Offering guidance for all aspects of the research experience, including the research and development of a thesis, model selection, experimental design, IACUC protocol preparation, and animal husbandry and technical procedural needs, the book is a necessary addition to every student, technician, and researcher’s education. Provides background material for students to understand the broader backdrop against which animal research is undertaken Includes ethical and regulatory information Covers commonly used animal models and the process to choose a model for biomedical research

AAP Prose Award Finalist 2018/19 Management of Animal Care and Use Programs in Research, Education, and Testing, Second Edition is the extensively expanded revision of the popular Management of Laboratory Animal Care and Use Programs book published earlier this century. Following in the footsteps of the first edition, this revision serves as a first line management resource, providing for strong advocacy for advancing quality animal welfare and science worldwide, and continues as a valuable seminal reference for those engaged in all types of programs involving animal care and use. The new edition has more than doubled the number of chapters in the original volume to present a more comprehensive overview of the current breadth and depth of the field with applicability to an international audience. Readers are provided with the latest information and resource and reference material from authors who are noted experts in their field. The book: - Emphasizes the importance of developing a collaborative culture of care within an animal care and use program and provides information about how behavioral management through animal training can play an integral role in a veterinary health program - Provides a new section on Environment and Housing, containing chapters that focus on management considerations of housing and enrichment delineated by species - Expands coverage of regulatory oversight and compliance, assessment, and assurance issues and processes, including a greater discussion of globalization and harmonizing cultural and regulatory issues - Includes more in-depth treatment throughout the book of critical topics in program management, physical plant, animal health, and husbandry. Biomedical research using animals requires administrators and managers who are knowledgeable and highly skilled. They must adapt to the complexity of rapidly-changing technologies, balance research goals with a thorough understanding of regulatory requirements and guidelines, and know how to work with a multi-generational, multi-cultural workforce. This book is the ideal resource for these professionals. It also serves as an indispensable resource text for certification exams and credentialing boards for a multitude of professional societies Co-publishers on the second edition are: ACLAM (American College of Laboratory Animal Medicine); ECLAM (European College of Laboratory Animal Medicine); IACLAM (International Colleges of Laboratory Animal Medicine); JCLAM (Japanese College of Laboratory Animal Medicine); KCLAM (Korean College of Laboratory Animal Medicine); CALAS (Canadian Association of Laboratory Animal Medicine); LAMA (Laboratory Animal Management Association); and IAT (Institute of Animal Technology).

This volume covers the following topics: moral standings of animals, history of the methods of argumentation, knowledge of the animal mind, nature and value of regulatory structures, and how respect for animals can be converted from theory to action in the laboratory.

International Animal Research Regulations

Eighth Edition

The Three Rs and the Humanity Criterion

Principles of Animal Research Ethics

The International Encyclopedia of Primatology, 3 Volume Set

Inequality in a Rapidly Changing World

Scientific advances in our understanding of animal physiology and behavior often require theories to be revised and standards of practice to be updated to improve laboratory animal welfare. This new book from the Institute for Laboratory Animal Research (ILAR) at the National Research Council, Recognition and Alleviation of Distress in Laboratory Animals, focuses on the stress and distress which is experienced by animals when used in laboratory research. This book aims to educate laboratory animal veterinarians; students, researchers, and investigators; animal care staff, as well as animal welfare officers on the current scientific and ethical issues associated with stress and distress in laboratory animals. It evaluates pertinent scientific literature to generate practical and pragmatic guidelines. Recognition and Alleviation of Distress in Laboratory Animals focuses specifically on the scientific understanding of the causes and the functions of stress and distress, the transformation of stress to distress, and the identification of principles for the recognition and alleviation of distress. This book discusses the role of humane endpoints in situations of distress and principles for the minimization of distress in laboratory animals. It also identifies areas in which further scientific investigation is needed to improve laboratory animal welfare in order to adhere to scientific and ethical principles that promote humane care and practice.

Laboratory Animal Welfare provides a comprehensive, up-to-date look into the new science of animal welfare within laboratory research. Animals specifically considered include rodents, cats and dogs, nonhuman primates, agricultural animals, avian animals and aquatic animals. The book examines the impact of experiment design and environment on animal welfare, as well as emergency situations and euthanasia practices. Readers will benefit from a review of regulations and policy guidelines concerning lab animal use, as well as information on assessing animal welfare. With discussions of the history and ethics of animals in research, and a debate on contemporary and international issues, this book is a go-to resource for laboratory animal welfare.

A scientist examines the origins and evolutionary significance of play in humans and animals.

The welfare of laboratory animals, as well as the ethical issues involved in the humane use of animals for scientific purposes, are discussed in this new revised edition. Information is included on the biology and husbandry of animal models; on behavior, stress and well-being; genetic and microbiological standardization; health monitoring; anaesthesiology; animal alternatives; ethics. This book addresses all of the aspects that scientists need to know when considering the design of an animal experiment. Replacement, reduction and refinement of animal experiments are the guiding principles for its contents.

The Genesis of Animal Play

Recognition and Alleviation of Pain in Laboratory Animals

Science, Medicine, and Animals

Essential Principles and Practices

Practice and Ethics

Handbook of Laboratory Animal Science, Volume I

The Principles of Humane Experimental TechniqueUniv Federation for Animal WelfareThe Principles of Humane Experimental TechniqueThe Three Rs and the Humanity CriterionReduction, Refinement, ReplacementThe Principles of humane experimental technique by W. M. Russel and R. L. BurchAnimal ExperimentationWorking Towards a Paradigm ChangeHuman-Animal Studies

Animals are widely used in neuroscience research to explore biological mechanisms of nervous system function, to identify the genetic basis of disease states, and to provide models of human disorders and diseases for the development of new treatments. To ensure the humane care and use of animals, numerous laws, policies, and regulations are in place governing the use of animals in research, and certain animal regulations have implications specific to neuroscience research. To consider animal research regulations from a global perspective, the IOM Forum on Neuroscience and Nervous System Disorders, in collaboration with the National Research Council and the Institute for Laboratory Animal Research, held a workshop in Buckinghamshire, UK, July 26–27, 2011. The workshop brought together neuroscientists, legal scholars, administrators, and other key stakeholders to discuss current and emerging trends in animal regulations as they apply to the neurosciences. This document summarizes the workshop.

The use of animals in research adheres to scientific and ethical principles that promote humane care and practice. Scientific advances in our understanding of animal physiology and behavior often require theories to be revised and standards of practice to be updated to improve laboratory animal welfare. Recognition and Alleviation of Pain in Laboratory Animals, the second of two reports revising the 1992 publication Recognition and Alleviation of Pain and Distress in Laboratory Animals from the Institute for Laboratory Animal Research (ILAR), focuses on pain experienced by animals used in research. This book aims to educate laboratory animal veterinarians; students, researchers and investigators; Institutional Animal Care and Use Committee members; and animal care staff and animal welfare officers on the current scientific and ethical issues associated with pain in laboratory animals. It evaluates pertinent scientific literature to generate practical and pragmatic guidelines for recognizing and alleviating pain in laboratory animals, focusing specifically on the following areas: physiology of pain in commonly used laboratory species; pharmacologic and non-pharmacologic principles to control pain; identification of humane endpoints; and principles for minimizing pain associated with experimental procedures. Finally, the report identifies areas in which further scientific investigation is needed to improve laboratory animal welfare.

Scientific experiments using animals have contributed significantly to the improvement of human health. Animal experiments were crucial to the conquest of polio, for example, and they will undoubtedly be one of the keystones in AIDS research. However, some persons believe that the cost to the animals is often high. Authored by a committee of experts from various fields, this book discusses the benefits that have resulted from animal research, the scope of animal research today, the concerns of advocates of animal welfare, and the prospects for finding alternatives to animal use.

The authors conclude with specific recommendations for more consistent government action.

The Morality of Human-Animal Encounters in Experimental Lab Science

Use of Laboratory Animals in Biomedical and Behavioral Research

Past, Present and Future

The Design of Animal Experiments

Impact on Neuroscience Research: Workshop Summary

The UFAW Handbook on the Care and Management of Laboratory and Other Research Animals

Clear guidelines on the proper care and use of laboratory animals are being sought by researchers and members of the many committees formed to oversee animal care at universities as well as the general public. This book provides a comprehensive overview of what we know about behavior, pain, and distress in laboratory animals. The volume explores: Stressors in the laboratory and the animal behaviors they cause, including in-depth discussions of the physiology of pain and distress and the animal's ecological relationship to the laboratory as an environment. A review of euthanasia of lab animals--exploring the decision, the methods, and the emotional effects on technicians. Also included is a highly practical, extensive listing, by species, of dosages and side effects of anesthetics, analgesics, and tranquilizers.

The seminal reference on the care of laboratory and captiveanimals, The UFAW Handbook on the Care and Management ofLaboratory and Other Research Animals is a must-have for anyoneworking in this field. The UFAW Handbook has been thedefinitive text since 1947. Written for an international audience,it contains contributions from experts from around the world. The book focuses on best practice principles throughout, providingcomprehensive coverage, with all chapters being peer reviewed byanonymous referees. As well as addressing the husbandry oflaboratory animals, the content is also of great value to zoos andaquaria. Changes for the eighth edition: Revised and updated to reflect developments since publicationof the previous edition. New chapters on areas of growing concern, including: the 3Rs;phenotyping; statistics and experimental design; welfareassessment; legislation; training of people caring for lab animals;and euthanasia. All material combined into one volume for ease ofreference. This book is published on behalf of UFAW (The UniversitiesFederation for Animal Welfare), with whom we also publish theUFAW/Wiley-Blackwell Animal Welfare Book Series. This majorseries of books provides an authoritative source ofinformation on worldwide developments, current thinking and bestpractice in the field of animal welfare science and technology. Fordetails of all of the titles in the series see <http://www.wiley.com/go/ufaw> www.wiley.com/go/ufaw/a.

This open access book provides original, up-to-date case studies of “ethics dumping” that were largely facilitated by loopholes in the ethics governance of low and middle-income countries. It is instructive even to experienced researchers since it provides a voice to vulnerable populations from the fore mentioned countries.

Ensuring the ethical conduct of North-South collaborations in research is a process fraught with difficulties. The background conditions under which such collaborations take place include extreme differentials in available income and power, as well as a past history of colonialism, while differences in culture can add a new layer of complications. In this context, up-to-date case studies of unethical conduct are essential for research ethics training.

Laboratory Animals: Regulations and Recommendations for the Care and Use of Animals in Research, Second Edition, is the only publication to offer a global compilation of standards on the care, welfare and use of animals in research. The book provides updated information that will be of great interest to professionals across laboratory animal science and biomedical research. Users will find a broad picture of the regulations required in other areas of the world that will be essential to appropriately manage animal care and use programs. Offers a worldwide view and global compilation of regulations, guidelines and recommendations for laboratory animal research Provides insight into factors that play key roles in the regulatory framework for countries and geographic regions Compares and contrasts regulations in different regions Written in layman’s terms to easily understand legislation and regulations

Laboratory Animals

Theœ Principles of humane experimental technique by W. M. Russel and R. L. Burch

The IACUC Handbook

Reflections on Bioethics

Recognition and Alleviation of Distress in Laboratory Animals

The Principles of Humane Experimental Technique

Proceedings of the conference, "The Use of Animals in High School Biology Classes and Science Fairs," held in September of 1979 are presented. Sixteen articles reflect the views of educators, psychologists, and veterinarians on various perspectives of the controversial topic of using animals in elementary and secondary school science classrooms. (Author/CS)

This report examines the links between inequality and other major global trends (or megatrends), with a focus on technological change, climate change, urbanization and international migration. The analysis pays particular attention to poverty and labour market trends, as they mediate the distributional impacts of the major trends selected. It also provides policy recommendations to manage these megatrends in an equitable manner and considers the policy implications, so as to reduce inequalities and support their implementation.

Laboratory animal testing provides most of our current knowledge of human physiology, microbiology, immunology, pharmacology, and pathology. From studies of genetics in fruit flies to studies of cellular processes in genetically modified mice to recent dramatic developments in genetics, translational research, and personalized medicines, biomedical

The International Encyclopedia of Primatology represents the first comprehensive encyclopedic reference focusing on the behaviour, biology, ecology, evolution, genetics, and taxonomy of human and non-human primates. Represents the first comprehensive encyclopedic reference relating to primatology Features more than 450 entries covering topics ranging from the taxonomy, history, behaviour, ecology, captive management and diseases of primates to their use in research, cognition, conservation, and representations in literature Includes coverage of the basic scientific concepts that underlie each topic, along with the latest advances in the field Highly accessible to undergraduate and graduate students in primatology, anthropology, and the medical, biological and zoological sciences Essential reference for academics, researchers and commercial and conservation organizations This work is also available as an online resource at www.encyclopediaofprimatology.com

Guide to the Care and Use of Experimental Animals

The Design and Statistical Analysis of Animal Experiments

Use of Animals in High School Biology Classes and Science Fairs

Animal Experimentation

Reduction, Refinement, Replacement

The book Reflections on Bioethics is an effort that brings together works grouped into five sections: "Bioethics and Health", "Bioethics and Education", "Bioethics and Technology", "Bioethics in the Use of Experimental Animals",and "Selected Topics of Bioethics". In each of these sections, the fundamental concepts of bioethics and their relationship with each of these branches of knowledge are covered. The purpose is to give the reader a specific document of topics, it is not intended to be a treaty because the study of any of the five sections is very broad. However, this is an effort that manages to combine in interdisciplinary subjects that are fundamental for professionals of all fields of knowledge.

A respected resource for decades, the Guide for the Care and Use of Laboratory Animals has been updated by a committee of experts, taking into consideration input from the scientific and laboratory animal communities and the public at large. The Guide incorporates new scientific information on common laboratory animals, including aquatic species, and includes extensive references. It is organized around major components of animal use: Key concepts of animal care and use. The Guide sets the framework for the humane care and use of laboratory animals. Animal care and use program. The Guide discusses the concept of a broad Program of Animal Care and Use, including roles and responsibilities of the Institutional Official, Attending Veterinarian and the Institutional Animal Care and Use Committee. Animal environment, husbandry, and management. A chapter on this topic is now divided into sections on terrestrial and aquatic animals and provides recommendations for housing and environment, husbandry, behavioral and population management, and more. Veterinary care. The Guide discusses veterinary care and the responsibilities of the Attending Veterinarian. It includes recommendations on animal procurement and transportation, preventive medicine (including animal biosecurity), and clinical care and management. The Guide addresses distress and pain recognition and relief, and issues surrounding euthanasia. Physical plant. The Guide identifies design issues, providing construction guidelines for functional areas; considerations such as drainage, vibration and noise control, and environmental monitoring; and specialized facilities for animal housing and research needs. The Guide for the Care and Use of Laboratory Animals provides a framework for the judgments required in the management of animal facilities. This updated and expanded resource of proven value will be important to scientists and researchers, veterinarians, animal care personnel, facilities managers, institutional administrators, policy makers involved in research issues, and animal welfare advocates.

Written for animal researchers, this book provides a comprehensive guide to the design and statistical analysis of animal experiments. It has long been recognised that the proper implementation of these techniques helps reduce the number of animals needed. By using real-life examples to make them more accessible, this book explains the statistical tools employed by practitioners. A wide range of design types are considered, including block, factorial, nested, cross-over, dose-escalation and repeated measures and techniques are introduced to analyse the experimental data generated. Each analysis technique is described in non-mathematical terms, helping readers without a statistical background to understand key techniques such as t-tests, ANOVA, repeated measures, analysis of covariance, multiple comparison tests, non-parametric and survival analysis. This is also the first text to describe technical aspects of InVivoStat, a powerful open-source software package developed by the authors to enable animal researchers to analyse their data and obtain informative results.

A balanced, accessible discussion of whether and on what grounds animal research can be ethically justified. An estimated 100 million nonhuman vertebrates worldwide—including primates, dogs, cats, rabbits, hamsters, birds, rats, and mice—are bred, captured, or otherwise acquired every year for research purposes. Much of this research is seriously detrimental to the welfare of these animals, causing pain, distress, injury, or death. This book explores the ethical controversies that have arisen over animal research, examining closely the complex scientific, philosophical, moral, and legal issues involved.

Defenders of animal research face a twofold challenge: they must make a compelling case for the unique benefits offered by animal research; and they must provide a rationale for why these benefits justify treating animal subjects in ways that would be unacceptable for human subjects. This challenge is at the heart of the book. Some contributors argue that it can be met fairly easily; others argue that it can never be met; still others argue that it can sometimes be met, although not necessarily easily. Their essays consider how moral theory can be brought to bear on the practical ethical questions raised by animal research, examine the new challenges raised by the emerging possibilities of biotechnology, and consider how to achieve a more productive dialogue on this polarizing subject. The book's careful blending of theoretical and practical considerations and its balanced arguments make it valuable for instructors as well as for scholars and practitioners.

Animals in Education

Applied Ethics in Animal Research

Principles of Animal Research for Graduate and Undergraduate Students

Ethics Dumping

Case Studies from North-South Research Collaborations

Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research

Ever since its establishment by USDA regulation in the mid-1980s, the Institutional Animal Care and Use Committee (IACUC) has evolved as the premier instrument of animal welfare oversight within research institutions in the United States. As biomedical research continuously grows, the role and impact of the IACUC has increased in scope and complexity

Where there is no alternative to the use of animals in biomedical research, it is important that experiments are well designed and correctly analysed in order to minimise pain and maximize the chance of getting scientifically valid results. Experiments that use too few animals may fail to pick up biologically important effects, while those who use them incorrectly or wastefully may get invalid results while subjecting the animals to unnecessary pain, distress or lasting harm. The Design of Animal Experiments is intended for all research scientists who use laboratory animals, with the aim of helping them to design their own experiments more effectively and/or to improve their ability to communicate with professional statisticians when necessary. It covers all randomised controlled experimental designs likely to be needed in laboratory animal research, with worked examples showing how they can be statistically analysed. It suggests the more widespread use of randomised block designs and shows how both males and females can be included in an experiment without the need to increase the total number of animals by using factorial designs. It also includes guidance on the choice of experimental animals. The book covers the learning outcomes of Module 10 and part (ii) of Module 11 of education and training under Directive 2010/63/EU.

Expanding on the National Research Council’s Guide for the Care and Use of Laboratory Animals, this book deals specifically with mammals in neuroscience and behavioral research laboratories. It offers flexible guidelines for the care of these animals, and guidance on adapting these guidelines to various situations without hindering the research process. Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research offers a more in-depth treatment of concerns specific to these disciplines than any previous guide on animal care and use. It treats on such important subjects as: The important role that the researcher and veterinarian play in developing animal protocols. Methods for assessing and ensuring an animal’s well-being. General animal-care elements as they apply to neuroscience and behavioral research, and common animal welfare challenges this research can pose. The use of professional judgment and careful interpretation of regulations and guidelines to develop performance standards ensuring animal well-being and high-quality research. Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research treats the development and evaluation of animal-use protocols as a decision-making process, not just a decision. To this end, it presents the most current, in-depth information about the best practices for animal care and use, as they pertain to the intricacies of neuroscience and behavioral research.

The Ethics of Animal Research

Management of Animal Care and Use Programs in Research, Education, and Testing

World Social Report 2020

Fundamentals of Laboratory Animal Science

Proceedings of Asian Congress 2016

Principles of Laboratory Animal Science