# The Tuskegee University Animal Care and Use Committee

**(IACUC)**

# TU-ACUC Organization

University President and CEO
Dr. Mark Brown

Dr. Vijay Rangari
Institutional Official
Assoc. Vice President of Research

Dr. Marcia Martinez
Chair and Member, Dept. of Biology

Dr. Nar Gurung
Co-Chair, and Member
Dept. of Agricultural and Environmental Sciences, CAENS

Dr. Thomas Graham
Attending Vet.
Dept. of Pathobiology

Dr. Jannette R. Bartlett
Member
Dept. of Agricultural and Environmental Sciences-CAENS

Dr. David McKenzie
Member
Dept. of Large Animal Clinical Sciences

Dr. Abdelrahman Mohamed
Member
Dept. of Pathobiology

Chief Wilbert Anderson
Member, Non-Scientist

Mr. W. Christian
Member, Non-Affiliate

Mrs. Shakeya Tate
Administrative Assistant

# Mission of the IACUC

- Oversees and evaluates the entire animal use program at Tuskegee University
  - To ensure the humane care and treatment of animals used in research teaching and testing.
- Ensures that TU is in compliance with the policies of the Animal Welfare Act (AWA) the Public Health Service (PHS) and the U.S. Department of Agriculture (USDA)
- Serve as the local oversight arm for APHIS/AC, NIH/OLAW, and AAALAC
- Represent the Institution and the Community

# Federal Law Governing Animal Care and Use

- **Animal Welfare Act (AWA)**
  - Signed into law by President Lyndon B. Johnson on August 24, 1966.
  - Main federal law in the United States
    - Regulates the treatment of animals in research and exhibition
  - Designed to protect animals from cruelty
    - Governs the following areas: Research; Testing; Teaching; Exhibition; Transport; Sale; Handling; Use by dealers;
  - Protects warm-blooded animals
    - Exceptions include – Rats, mice and birds

- Research using mice rats and birds is protected by the Department of HHS/PHS/OLAW

- Consequences of noncompliance with the Animal Welfare Act
  - Banned from owning animals
  - Face unlimited fines
  - Sent to prison for up to 5 years

# Definition of Acronyms

- APHIS/AC – Animal and Plant Health Inspection Service/Animal Care program
  - Protects and improves the health quality and marketability of the nation's animals, animal products and veterinary biologics.
  - Responsible for protecting research animals on USDA funded projects
  - Enforces the Animal Welfare Act by inspecting laboratories and monitoring compliance with animal research regulations

- NIH/OLAW – Office of Laboratory Animal Welfare at the National Institutes of Health
  - Responsible for ensuring the humane care and use of animals in research, testing, and training funded by the Public Health Service

- AAALAC – Association for Assessment and Accreditation of Laboratory Animal Care
  - International accreditation program

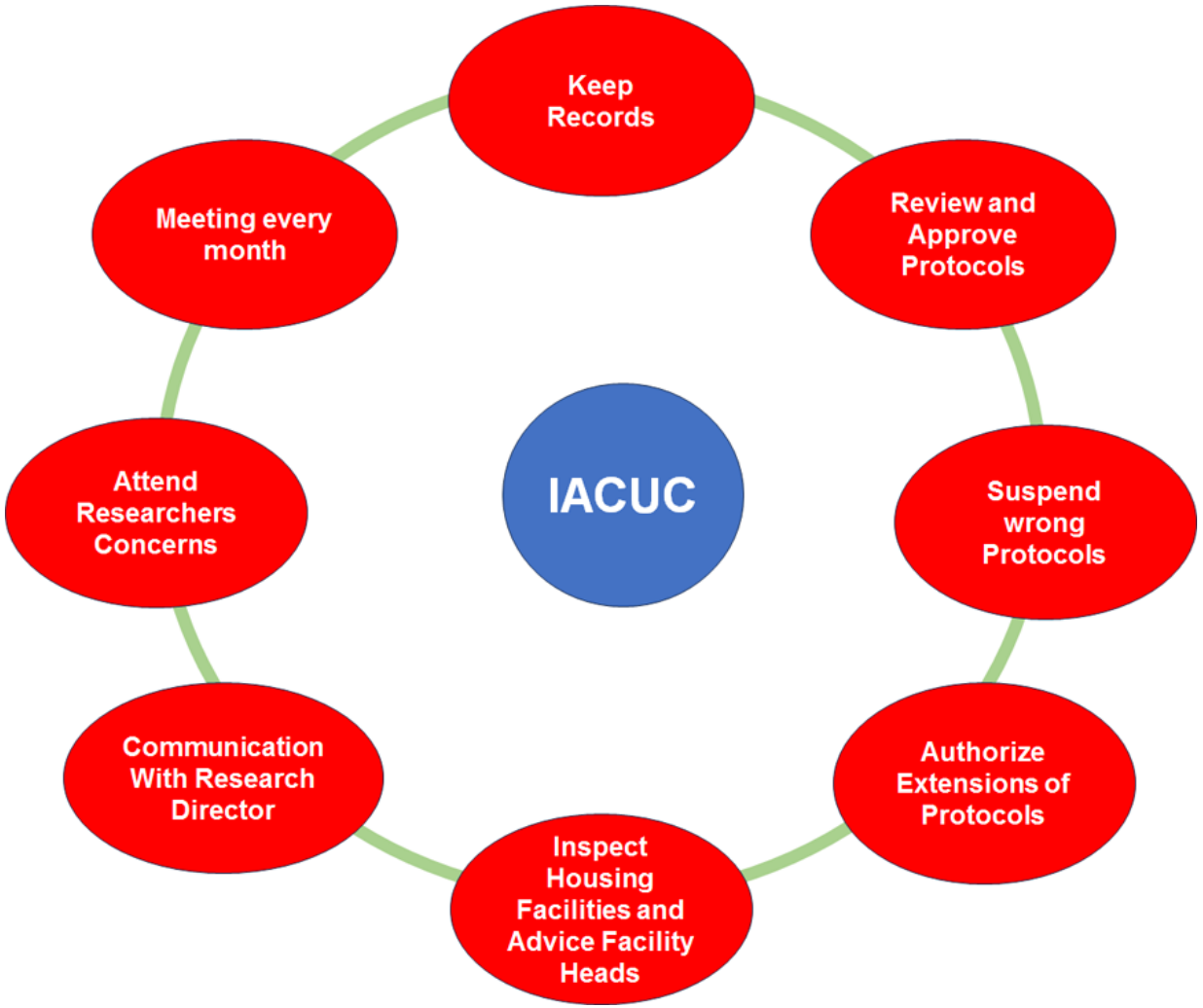
- HHS – Human Health and Human Services
  - Enhance the health and well-being of all Americans

# Federal Law Governing Animal Care and Use

- **Health Research Extension Act (HREA) of 1985**
  - Presents guidelines to address the following:
    - Use of tranquilizers, analgesics, anesthetics, paralytics, and euthanasia,
    - Appropriate pre-surgical and post-surgical veterinary medical and nursing care for animals.
  - HREA requires facility inspections
  - HREA requires record keeping
  - HREA requires reporting

- The Department of Health and Human Services (DHHS), Office of Laboratory Animal Welfare (OLAW) ensures that institutions maintain HREA guidelines.
  - Mandatory and surprise inspections by officials of all facilities receiving federal funds for research, testing and teaching
    - Include reviews of randomly selected protocols submitted to the IACUC

# How is the Mission of the IACUC Accomplished?



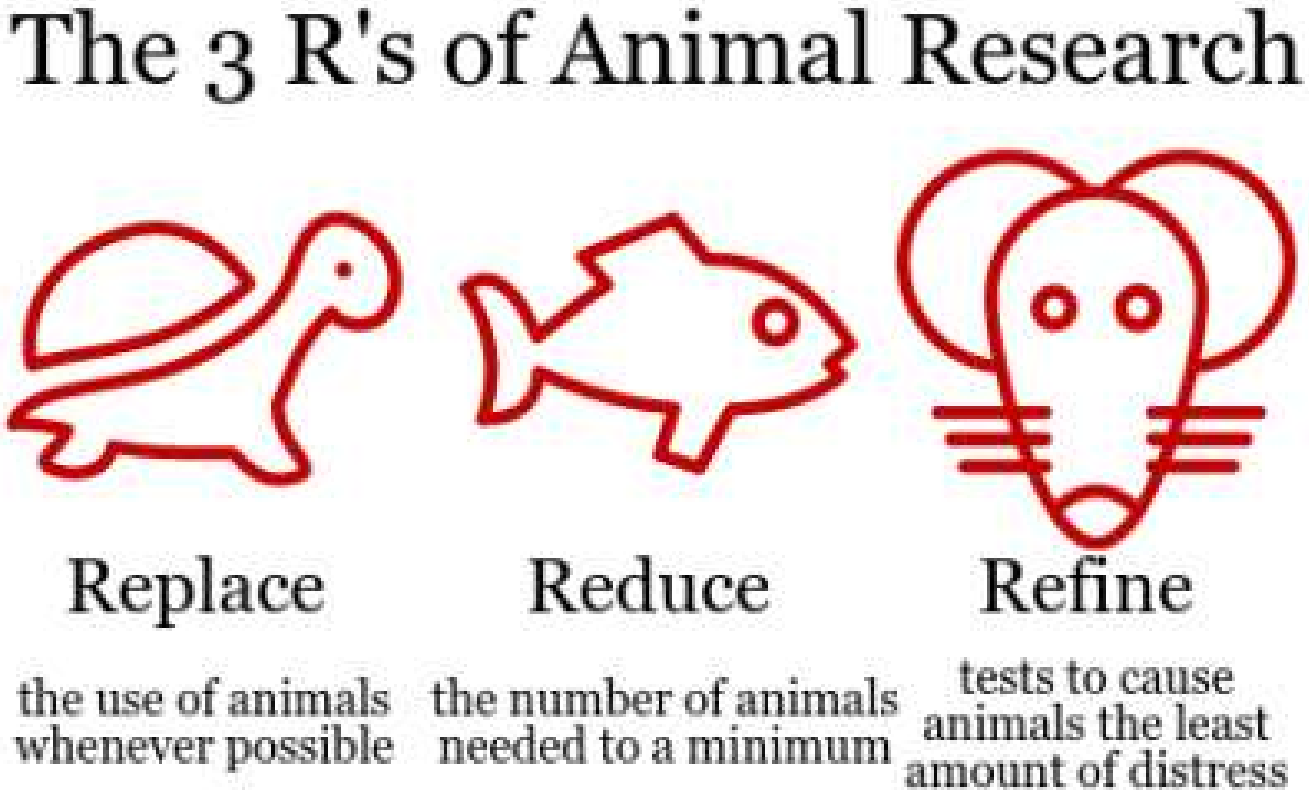
# Protocol Application Process

- Application forms can be obtained from Mrs Shakeya Tate, Administrative Assistant (Phone – 334-727-8234; Email – state@tuskegee.edu)
- Complete and sign protocol form
  - Must also obtain signatures from your Department Chair and the attending Veterinarian
- Submit completed protocol to the IACUC Assistant Manager Mrs. Tate (Email – state@tuskegee.edu)
  - Must submit Two copies of completed application
    - A hard copy with required signatures
    - An electronic copy saved as a word file
- All applications must be submitted no less than 10 days before IACUC Review Meeting
- Date of IACUC Review Meetings
  - Always the LAST FRIDAY of every month
    - Exceptions
      - Thanksgiving Holiday
      - Christmas Break

# Things to Consider When Completing Your Application

- Approval from other committees must be obtained before protocol submission to the IACUC
  - Radiation; Human use; Biosafety; Intellectual property
- Project start and end dates
  - Reasonable start date beginning after date of approval
  - End date no more than 3 years after start date
- Total number of animals requested
  - Must always match the number used in the experimental design
- Experimental design should contain enough detail to describe use of all animals requested
  - Consider using tables or flow charts where possible
- All drugs used on animals must be listed and their purpose described
  - Information on surgical and post surgical care must be provided
- Euthanasia must be justified and method of euthanasia described

# Things to Consider When Completing Your Application



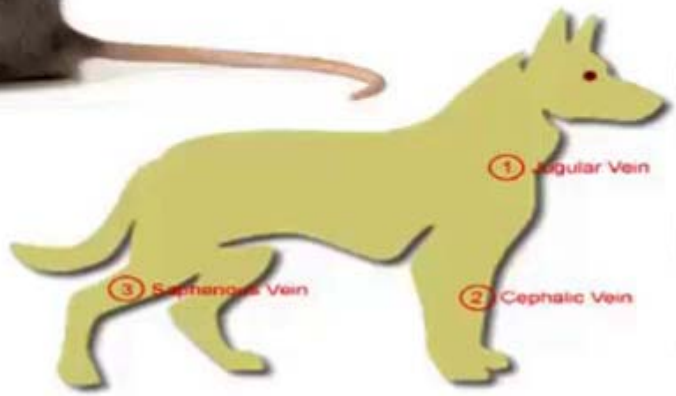
# Things to Consider When Completing Your Application
## (Blood Collection)

- Method of blood collection should be described in the protocol
  - Methods differ and is dependent on animal species
- In general, blood can be withdrawn from venous or arterial vessels or from heart chambers
- Method used should be the least stressful to the animal
- Adequate training is required for blood collection from any animal
- Frequency of blood collection and volume to be collected is very important.
  - Example for rodents should not be more than once every two weeks.
  - Maximum volume of blood collected should not be more than 10% of total body volume
  - After blood draw replacement of fluids is a good practice (eg. Injection with sterile saline)

# Blood Collection Sites

**Tail or Ear vein or medial canthus of Eye**
Rat and Mice

**Ear vein in pigs and Rabbits**




**Saphenous, Cephalic or Jugular vein**
Dogs and Cats

**Jugular vein**
Ruminants and Equines

Scholar Idea

# Things to Consider When Completing Your Application

- Physical restraint
  - The use of manual or mechanical means to limit some or all of an animal's normal movement for the purpose of examination, collection of samples, drug administration, therapy, or experimental manipulation.
  - Method used must be approved by the IACUC, must be the shortest amount of time allowable for the experiment and cause the least amount of stress to the animal.
- Surgical and Post-Surgical Care
  - Must be clearly described and executed by trained personnel.
- Administration of Drugs to research animals
  - Must be clearly listed along with concentrations, method of administration and purpose
  - Safety precautions must be described for personnel and animals for all hazardous materials
- Euthanasia
  - All methods must be justified and approved by the IACUC
  - Two methods must be described to determine death
  - Disposal of animal carcasses must be described

# IACUC Approved Methods of Euthanasia

| Methods | Acceptable[a] | Acceptable with conditions[a] |
|---|---|---|
| Aquatic invertebrates | - Immersion in anesthetic solution (magnesium salts, clove oil, eugenol, ethanol) | - Adjunctive methods (second step) include 70% alcohol and neutral-buffered 10% formalin, pithing, freezing, boiling |
| Amphibians | - As appropriate by species—Injected barbiturates, dissociative agents and anesthetics as specified, topical buffered tricaine methanesulfonate or benzocaine hydrochloride | - As appropriate by species—Inhaled anesthetics as specified, $CO_2$, penetrating captive bolt or firearm, manually applied blunt force trauma to the head, rapid freezing |
| Cats | - Intravenous barbiturates, injected anesthetic overdose, Tributame, T-61 | - Barbiturates (alternate routes of administration), inhaled anesthetic overdose, CO[b], $CO_2$[b], gunshot[b] |
| Cattle | - Intravenous barbiturates | - Gunshot, penetrating captive bolt |
| Dogs | - Intravenous barbiturates, injected anesthetic overdose, Tributame, T-61 | - Barbiturates (alternate routes of administration), inhaled anesthetic overdose, CO[b], $CO_2$[b], gunshot[b] |
| Equids | - Intravenous barbiturates | - Penetrating captive bolt, gunshot |
| Nonhuman primates | - Injected barbiturates or anesthetic overdose | - (as appropriate by species): Inhaled anesthetic, CO, $CO_2$ |
| Poultry | - Injected barbiturates and anesthetic overdose | - $CO_2$, CO, $N_2$, Ar, cervical dislocation (as anatomically appropriate), decapitation, manual blunt force trauma, electrocution, gunshot, captive bolt |
| Rabbits | - Intravenous barbiturates | - Inhaled anesthetic overdose, $CO_2$, cervical dislocation (as anatomically appropriate), penetrating captive bolt |
| Reptiles | - As appropriate by species—Injected barbiturates, dissociative agents and anesthetics as specified | - As appropriate by species—Inhaled anesthetics as specified, $CO_2$, penetrating captive bolt or firearm, manually applied blunt force trauma to the head, rapid freezing for animals < 4 g |
| Rodents | - Injected barbiturates and barbiturate combinations, dissociative agent combinations<br>- Inhaled anesthetics, $CO_2$[c] | - Inhaled anesthetics, $CO_2$, CO, tribromoethanol, ethanol, cervical dislocation, decapitation, focused beam microwave irradiation |
| Small ruminants | - Injected barbiturates | - Gunshot, penetrating captive bolt |
| Swine | - Injected barbiturates | - $CO_2$, CO, $N_2$, Ar, gunshot, electrocution, nonpenetrating captive bolt, manually applied blunt force trauma |

[a]Source: Modified from AVMA Guidelines for the Euthanasia of Animals: 2013 Edition, p 99 (14)
[b]Not recommended for routine use
[c]Routine use in Korea

# After the IACUC Protocol Review

- Approved applications
  - Principal Investigator is given a certificate signed by the IACUC chair
  - A copy of the certificate should be displayed in the work space; animal housing unit and/or be available on demand if required by IACUC members and facility inspectors

- Applications requiring modifications before approval
  - Application is returned to the Principal Investigator with a list of the corrections requested by the IACUC
  - Corrections made to a protocol must be resubmitted for review by the IACUC to obtain approval

- Applications rejected
  - Any protocol that repeats published and established experiments without justification
  - Any protocol that proposes unjustifiable and unrelieved pain or stress to living animals
  - Any protocol that will cause harm to research personnel and IACUC staff