

# ORIP

OFFICE OF RESEARCH  
INFRASTRUCTURE PROGRAMS

Division of Comparative Medicine



## ORIP Spotlight: Veterinarian-Scientists

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**NIH** National Institutes of Health  
Office of Research Infrastructure Programs

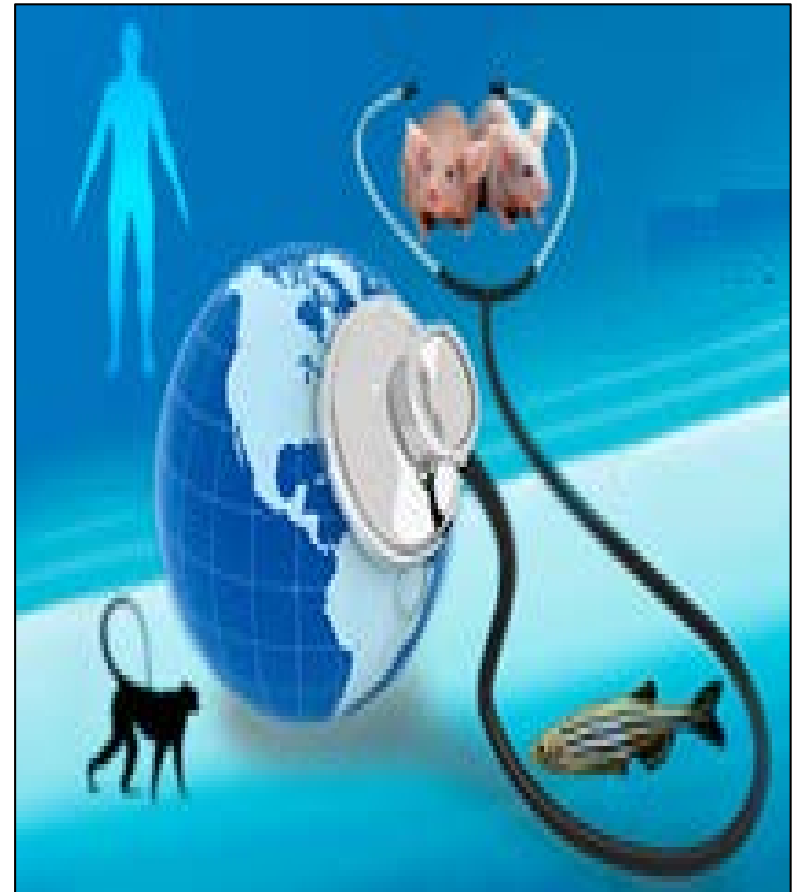
# Physician-Scientists



- Scientists with professional degrees who have training in clinical care and are engaged in independent biomedical research
- Includes individuals with an MD, DO, DDS/DMD, **DVM/VMD**, or nurses with research doctoral degrees who devote the majority of their time to biomedical research
- A physician-scientist workforce that includes practitioners with broad understanding of animal anatomy, physiology, pharmacology, and diseases is paramount for the advancement of many human biomedical health initiatives

# Veterinarian-Scientists & Clinical Veterinarians

- Veterinarian-Scientists
  - Biomedical scientists with a veterinary degree
  - Offer a distinct perspective and expertise through their comparative understanding of disease models
  - Have independent research programs
  - Part of interdisciplinary research leadership and teams
- Clinical Veterinarians
  - Provide research and technical support for biomedical research studies using animal models
  - Deliver laboratory animal maintenance and care



# NIH and Veterinarian-Scientists

- NIH has an interest in developing and expanding a physician-scientist workforce that includes veterinarian-scientists
  - Biomedical Research Workforce Working Group Report (June 2012)
  - Physician-Scientist Workforce Working Group Report (June 2014)
- Veterinarian-scientists comprise ~3% of the total NIH-funded physician-scientist workforce



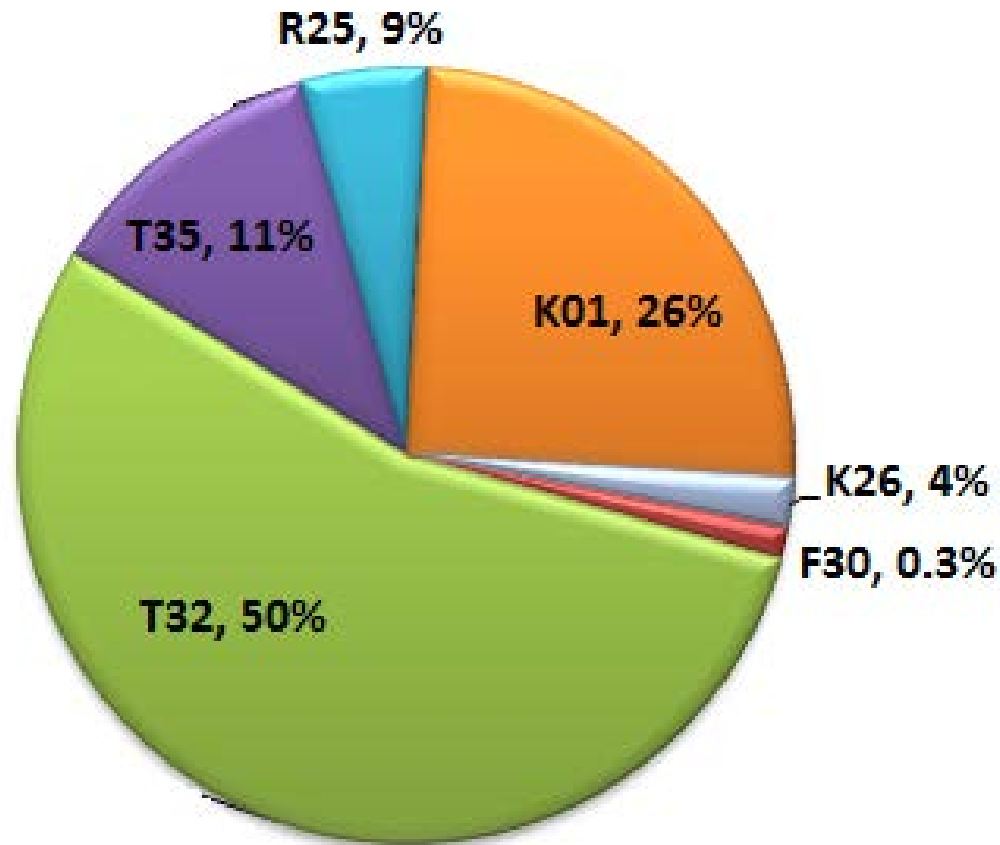
Bolker. 2012. *Nature* 491(7422):31-33

# ORIP and Veterinarian-Scientists

- In contrast to other NIH Institutes and Centers, training grants and career development programs funded by ORIP are solely intended to assist veterinarian-scientists
- These opportunities supported by ORIP provide veterinary students and veterinarians with mentored research experiences that enable them to become independent investigators
- ORIP-supported veterinary-scientist trainees are engaged in research training related to comparative medicine, biomedical research, and translational sciences

# Overview of ORIP Training Grants and Career Development Programs

## Training Portfolio - FY 2016



# Career Development

- ORIP supports *Special Emphasis Research Career Award (SERCA) K01* grants for developing veterinarian-scientists
  - Provide a mentored research experience that enables veterinarians to become independent investigators in research related to comparative medicine, biomedical research, and translational sciences
- In FY 2016, ORIP supported 27 SERCA K01 grants



Strategy 1



**Train veterinary scientists as translational researchers.**

Veterinary scientists, biomedical scientists with a veterinary degree, can offer a distinct perspective and expertise to translational biomedical research through their comparative understanding of disease models. Veterinary scientists can make unique recommendations regarding the development, refinement, and reproducibility of disease models and optimize laboratory animal maintenance and care. However, because hurdles continue to impede the entry of veterinarians into basic and applied research careers, ORIP will

- Identify and address challenges and opportunities for veterinary scientists to acquire the skills needed to participate in biomedical research.
- Collaborate with NIH ICs to develop programs that capitalize on the specialized expertise of veterinary scientists (e.g., pathology, emerging infectious diseases, and epidemiology).
- Promote biomedical research collaborations between physicians and veterinary scientists.
- Train veterinary scientists to lead activities that integrate biomedical findings across model species (e.g., multidisciplinary training programs).
- Support dual-degree training programs for veterinary scientists.

"Veterinary scientists... offer a distinct perspective and expertise to translational biomedical research..."

20 Strategic Plan: Infrastructure for Innovation

# Career Development

- Participants at a 2015 workshop convened by ORIP identified need for transition support between K01 and first R01 grant for developing veterinary scientists
- ORIP seeks to enhance the ability of its SERCA K01 recipients to conduct research as they transition to becoming independent researchers
  - *PAR-17-301 Limited Competition: Small Grant Program for ORIP Special Emphasis Research Career Award (SERCA) K01 Recipients (R03)*
  - Concept clearance by Council in September 2016
  - Posted June 5, 2017
  - First application due date is February 13, 2018



# Retention of Veterinarian-Scientists

- Debt - #1 barrier to starting and sustaining a research career
  - Mean educational debt load for graduating veterinarians is ~\$143,000, with some individuals owing >\$300,000
- Loan repayment program (LRP) established by Congress
  - Designed to recruit and retain highly qualified health professionals into biomedical or biobehavioral research careers
  - Repays up to \$35,000 annually of a researcher's qualified educational debt in return for a commitment to engage in NIH mission-relevant research
- ORIP is one of 24 NIH ICOs that participate in LRP program
  - Supports contract applications from veterinarian-scientists

# Speaker Introduction

## **Mechanism of Vitamin E Deficient Neurodegeneration in Small and Large Animal Models**

Carrie Finno, DVM, PhD

Assistant Professor

Population Health & Reproduction

School of Veterinary Medicine

University of California, Davis

**Recipient of SERCA K01 supported by ORIP focused on**

*“Molecular pathogenesis of alpha-tocopherol associated neuroaxonal dystrophy in animal models”*