

Cleveland Metroparks Zoo Science Program Update





Improving tree kangaroo population sustainability through diet & nutrition

- ▶ CMZ generates/maintains tree kangaroo reproductive hormone database
- ▶ Utilized unique animal training to generate vital nutritional information for species
- ▶ Established new AZA diet recommendations
- ▶ Applying this research approach to other species



**TREE
KANGAROO
CONSERVATION
PROGRAM**
PAPUA NEW GUINEA



Diet, behavior, and health of colobine monkeys

- ▶ Multi-institutional assessment of health concerns in colobus monkeys
- ▶ Evaluate the variation in diet and leafy browse offerings for colobus monkeys and langurs among AZA facilities
- ▶ Determine the relative impact of phylogeny, diet, and environment on the composition of the gut microbiome and markers of gastrointestinal health
- ▶ Work with AEM TAG to improve diets and health of these populations across AZA



Gorilla health and behavior

- ▶ Regurgitation and reingestion behavior
 - ▶ Recent graduate Kaylin Tennant examined insulin response via oral sugar tests (first assessments ever conducted on gorillas!)
 - ▶ As a post-doctoral research fellow, Tennant will assess salivary insulin levels and rates of R/R across the AZA population
- ▶ Heart disease research
 - ▶ Defined normal echocardiographic parameters
 - ▶ Identified association between adiposity and heart disease in male gorillas
 - ▶ Discovered gorilla gut microbiome composition is associated with heart disease



Artwork: Claire Merchlinsky for The Atlantic



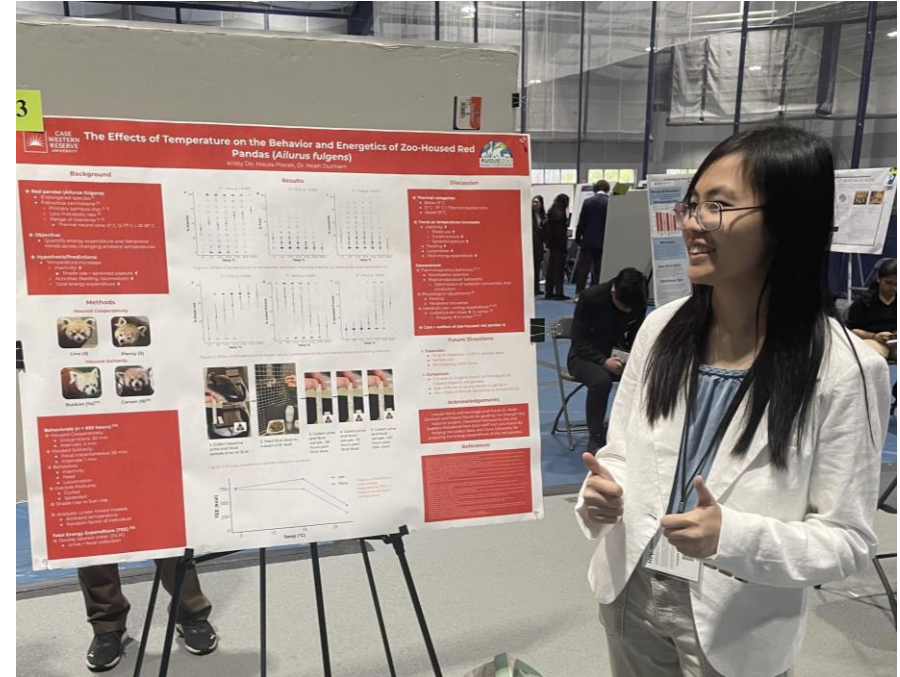
**THE
GREAT
APE
HEART
PROJECT**



Teaching

- ▶ Undergraduate, graduate, and professional student courses





Mentorship & Training

- ▶ 3 post-doctoral research fellows
- ▶ 6 Ph.D. level scientists through joint program with CWRU
- ▶ 5 CWRU undergraduate capstone student projects completed in last 5 years
- ▶ 1-2 students/summer - Veterinary students through relationship with OSU
- ▶ 10-12 students/year in Dian Fossey Gorilla Fund Memoirs Program
- ▶ Summer behavior science project training for Zoo Crew teens

