Location: Gainesville (City) FL (State) Date: 05/22/14

Organization: APK Laboratory of Basic and Clinical Muscle Biology

*Contact Person(s): Leonardo Ferreira, PhD

Must have at least a Bachelor's degree in a related field and a minimum of 2 years' experience within the discipline.

Address: PO Box 118205 (Street/PO Box) Gainesville (City) FL 32611 (State/Zip)

Phone: 352-294-1724 Fax: 352-392-5262

Email: ferreira@hhp.ufl.edu Website: http://apk.hhp.ufl.edu

What semesters is your organization available to accept interns?

☑ Fall (August-December) ☑ Spring (January-April) ☐ Summer (May-August)

Please check the specializations that best pertain to the internship experience offered:

☑ Exercise Physiology ☐ Fitness/Wellness

How many interns do you typically accept per semester? 1-2

Interns must complete a minimum of 35-40 hours per week (520 hours total). List the normal working hours for your organization. Please indicate any evening or weekend time commitments:

8:00am - 5:00pm Monday-Friday; occasional evenings and weekends if experiments demand

Is office space available to interns? ☐ Yes ☑ No Comments: _____

Is a computer/scanner available to interns? ☐ Yes ☑ No Comments: _____

Does your organization offer paid or non-paid internships? ☑ Non-paid ☐ Paid (amount) _____

List other benefits your organization offers interns (i.e. housing, health insurance, travel reimbursement, etc.)

N/a

List required purchases for interning with your site (e.g. parking pass, uniform, back-ground check, etc.):

N/A

List required skills or previous experience necessary for interning with your organization:

Completion of UF-AAALAS Animal Training is preferred.

Special Requirements (i.e. special application, proof of health insurance, immunizations, etc.)
Please note: All interns are required to purchase professional liability insurance coverage for $1,000,000

Tetanus shot current

Provide a bulleted list of duties/responsibilities your organization expects to be fulfilled by interns:

- Prepare reagents and polyacrylamide gels for biochemical assays such as Western Blots and RT-PCR.
- Assist with laboratory organization and preparation for experiments involving tissue and cell collection.
- Perform experiments on skeletal muscle cell signaling pathways related to atrophy, hypertrophy, metabolism, and contractile function in cultured cells, isolated muscles, and live rodents.
- Conduct literature search, read manuscripts, and discuss relevant physiology and biochemistry being investigated in the laboratory.
- Participate in design of experiments. Assist with data collection, analysis, and interpretation.
- Measure protein and mRNA abundance, post-translational modifications, and enzyme activity assays using current methods of molecular biology.
- Acquire and analyze images of skeletal muscle and muscle fiber morphology.
- Provide assistance in manuscript writing, preparation of figures, and journal submission.
- Dissect skeletal muscles for assessment of morphology and function.
- Collect and process blood from rodents for protein content and activity assay.
- Assist with animal care and handling pre and post-surgeries.

Three systems are of special relevant to our research: skeletal muscle, cardiovascular, and respiratory. The intern will need to apply an integrative knowledge of these systems at the tissue, cellular, and molecular level

Please describe a typical day for the intern:

The intern will need to apply the knowledge acquired in the classroom to perform cutting-edge research in physiology.

UF UNIVERSITY of FLORIDA

Interns must be evaluated on at least 6 of the following Student Learning Outcomes (SLO's). Please check each SLO that applies to the duties/responsibilities provided to interns at your organization.

APK Student Learning Outcomes (SLOs)	**Applied Examples** *(These examples used to describe each SLO are not exclusive; they are simply intended to provide clarity to the individual SLOs)*
☑ Integrate principles and methods of math, social sciences, and arts and humanities to applied physiology and kinesiology, wellness, and/or fitness environments.	• Intern can perform body composition calculations. • Intern can identify socioeconomic impacts on health and fitness behaviors. • Intern can calculate target and max heart rates in order to prescribe aerobic exercise.
☑ Identify and relate the nomenclature, structures, and locations of components of human anatomy to health, disease, and physical activity.	• Intern can identify muscles used in specific exercises and name other exercises that use those muscles. • Intern can name specific structures damaged by pathologies like diabetes.
☑ Identify, examine, and explain physiological mechanisms of homeostasis at various levels of an organism (i.e., cells, tissues, organs, systems).	• Intern can explain the baroreflex. • Intern can explain why skeletal muscle cells atrophy when immobilized. • Intern can describe the impact of respiration on blood pH.
☐ Investigate and explain the effects of physical activity on psychological health as well as the perspectives used to enhance adherence to healthier lifestyles.	• Intern can explain how exercise helps depression. • Intern knows where to locate information related to psychological health impacts of various activities. • Intern can identify and properly refer individuals with eating disorders.
☐ Identify and explain the acute and chronic anatomical and physiological adaptations to exercise, training, and physical activity.	• Intern can explain why resting HR and BP are reduced following endurance training. • Intern can identify immediate and long-term benefits of resistance training.
☐ Select and utilize the appropriate scientific principles when assessing the health and fitness of an individual and prescribing physical activity based on those assessments.	• Intern can select a safe fitness test for a cardiac patient. • Intern can perform skinfold testing and use that data to prescribe appropriate amounts of exercise.
☑ Solve applied physiology and kinesiology problems from personal, scholarly, and professional perspectives using fundamental concepts of health and exercise, scientific inquiry, and analytical, critical, and creative thinking.	• Intern can describe which populations might be prone to ankle sprains. • Intern can identify medications which might lead to an impaired ability to perform aerobic exercise. • Intern can prescribe exercise to suit the goals of clients based on fitness assessments.
☑ Collect, compare, and interpret qualitative or quantitative data in an applied physiology and kinesiology context.	• Intern can perform a submaximal VO2 test and use the collected data to classify the subject's level of fitness. • Intern can perform a laboratory experiment and compare their results to other similar studies.
☑ Effectively employ written, oral, visual, and electronic communication techniques to foster inquiry, collaboration, and engagement among applied physiology and kinesiology peers and professionals as well as with patients, clients, and/or subjects.	• Intern can explain to a patient the importance of hydration during exercise. • Intern can generate professional emails to ask scientific or medical questions. • Intern can generate an abstract to present research at a scientific or medical conference.

Would you like to be added to the Department's list of approved sites for future interns? ☑ Yes ☐ No

Name of student requesting completion of the site approval form (if applicable): _____

I have reviewed the APK Undergraduate Internship Policies and Procedures Manual: 05/23/2014
Date

Site Signature: Leonardo Ferreira Digitally signed by Leonardo Ferreira DN: cn=Leonardo Ferreira, o=University of Florida, ou=Dept Applied Physiology and Kinesiology, email=ferreira@hhp.ufl.edu, c=US Date: 2014.05.23 10:46:49 -04'00' Date: 05/23/14

Department Approval: dlrhodes@ufl.edu Digitally signed by dlrhodes@ufl.edu DN: cn=dlrhodes@ufl.edu Date: 2014.05.23 10:52:30 -04'00' Date: 05/23/14