

Undergraduate Research Opportunities

Kin 304W

Week 13: April 2, 2013

Today's Outline

1. Format of Kin 304W final exam
2. Undergraduate research opportunities
3. Making data stick!
4. Course evaluations

Format of Kin 304W Final Exam

- 10 x 2-mark questions = 20 marks. Combination of fill in the blank, simple calculations, one-word answers.
- 5 x 10-mark questions = 50 marks. 1-page answers. Discuss, describe, and/or define.
- 2 x 15-mark questions = 30 marks. 2-page answers. Integrative. Combine concepts about study design and analysis.

Undergraduate Research Opportunities

- Directed studies
 - Kin 496 (3 credits)
 - tends to be literature-based
 - Kin 498 (3 credits)
 - tends to be more 'hands-on' research

- Honours thesis
 - Kin 497 (3 credits) - proposal
 - Kin 499 (12 credits) - research thesis

Undergraduate Research Opportunities

- Co-op work terms
 - 4- or 8-month placements



- NSERC and VPR Undergraduate Student Research Awards
 - Applications due January each year
 - Placements occur in Summer, Fall, and Spring semesters
- Volunteer
 - Check Symplicity
 - Talk to faculty members

Tenure Track Research Faculty

- BPK has 21 research faculty
 - 5 Assistant Professors
 - 6 Associate Professors
 - 10 Professors
- We are expected to dedicate
 - 40% effort to teaching
 - 40% effort to research
 - 20% effort to service

Tenure Track Research Faculty

Research clusters

- Neuromechanics

- Donelan, Hoffer, Mackey, Marigold, Robinovitch, Wakeling

- Chronic Disease

- Brooks-Wilson, Finegood, Lear, Mackey, Rosin, Vieira

- Cardiovascular Physiology

- T. Claydon, V. Claydon, Poburko, Ruben, Tibbits

- Neuroscience

- Bawa, Krieger, Marigold, Ruben, Parkhouse

- Environmental Physiology

- Blaber, White

Dr. Andrew Blaber



- Associate Professor
- Aerospace Physiology Laboratory
- Physiological responses and adaptations to terrestrial and space environments
- Kin 205
- Kin 301
- Kin 484 - Altitude and Aerospace Physiology

Dr. Angela Brooks-Wilson



- Associate Professor
- Cancer Genetics Lab
- BC Cancer Agency & UBC
- Cancer genetics, genetics of healthy aging, lymphoma,
- Kin 140
- Chair of Graduate Program Committee

Dr. Thomas Claydon



- Assistant Professor
- Molecular Cardiac Physiology Group
- Cardiac ion channel behaviour and pathophysiology, cardiac rhythm, fluorescence-based electrophysiology
- Kin 305
- Kin 412 - Molecular and cellular cardiology

Dr. Victoria Claydon



- Assistant Professor
- Cardiovascular Physiology Laboratory
- iCORD
- Cardiovascular physiology and pathophysiology; altitude physiology; cerebrovascular control; autonomic nervous system; spinal cord injury.
- Kin 305
- Kin 444 - Cardiac Disease: Pathophysiology and Assessment

Dr. Will Cupples



- Professor
- Kidney function, autoregulation
- Kin 306

Dr. Max Donelan



- Associate Professor
- Locomotion Laboratory
- Physiology of locomotion, metabolic cost of gait, neural control of locomotion, sensorimotor control, mathematical modeling
- Spin-off company, Bionic Power
- Kin 308 - Experiments and Models in Systems Physiology

Dr. Diane Finegood



- Professor
- Chronic Disease Systems Modeling Lab
- Obesity, chronic disease prevention, complex systems
- Kin 417 - Obesity, Adipocyte Function and Weight Management
- March 2012: President and CEO of the Michael Smith Foundation for Health Research (on leave from SFU)

Dr. Andy Hoffer



- Professor
- Neurokinesiology Lab
- Neuroprostheses, rehabilitation of movement disorders, diaphragm pacing
- 2 spin-off companies
- Kin 448 - Rehabilitation of Movement Control

Dr. Charles Krieger



- Professor
- Brain Research Lab
- ALS, protein kinases, neurological disease, neuron death, motoneurons
- Kin 306
- Kin 446 - Neurological Disorders

Dr. Scott Lear



- Professor
- Community Health Research Team
- Harbour Centre and FHS
- Cardiac rehab, obesity, lifestyle management, physical activity
- Teaches in FHS not BPK

Dr. Dawn Mackey



- Assistant Professor
- Aging and Population Health Lab
- Centre of Hip Health and Mobility
- Aging, mobility, disability, physical activity, osteoporosis, falls, epidemiology
- Kin 304

Dr. Dan Marigold



- Assistant Professor
- Sensorimotor Neuroscience Lab
- Neural control of movement, visuomotor control, locomotion, falls
- Kin 207
- Kin 306
- Kin 415 - Neural Control of Movement

Dr. Wade Parkhouse



- Professor
- Metabolic Biochemistry Lab
- Exercise physiology, biochemistry
- Dean of Graduate Studies
- Kin 430 - Human Energy Metabolism

Dr. Stephen Robinovitch



- Professor
- Injury Prevention and Mobility Lab
- Biomechanics, falls and fall-related injuries in elderly, technology for injury prevention
- Kin 201
- Kin 402 - Mechanical Behavior of Biological Tissues

Dr. Damon Poburko



- Assistant Professor
- Molecular Cardiac Physiology Group
- Structure and function of vascular smooth muscle, mitochondrial physiology, synaptic physiology
- Kin 305

Dr. Miriam Rosin



- Professor
- Cancer Prevention Lab
- BC Cancer Agency & UBC
- Cancer detection, biomarkers of carcinogenesis, community outreach for oral cancer prevention
- Kin 431 - Integrative Cancer Biology

Dr. Peter Ruben



- Professor
- Associate Dean of Science, Research and Graduate Studies
- Molecular Cardiac Physiology Group
- Biophysics of ion channels, sodium channels, congenital disease
- Kin 205

Dr. Glen Tibbits



- Professor & Chair
- Molecular Cardiac Physiology Group
- Cardiac contractility, congenital heart disease, calcium regulation in the heart
- Kin 412 - Molecular and Cellular Cardiology

Dr. Amandio Vieira



- Associate Professor
- Nutrition and Metabolism Lab
- Nutrition and metabolism, dietary antioxidants, cellular and nutrient transport
- Kin 110
- Kin 311

Dr. James Wakeling



- Associate Professor
- Neuromuscular Mechanics Laboratory
- Muscle mechanics, muscle architecture, muscle coordination, muscle performance
- Kin 208
- Kin 301

Dr. Mathew White



- Associate Professor
- Lab for Exercise and Environmental Physiology
- Human temperature regulation, control of breathing, energy expenditure
- Kin 110
- Kin 305
- Kin 312

Environmental Medicine and Physiology Unit (EMPU)

- Sherri Ferguson, Director
- www.sfu.ca/empu



- EMPU accepts undergrad and grad students to work as “inside tenders” - research assistants who work inside the hyper/hypobaric chamber
- Training 2x/year for those interested.
- If you have an interest in aerospace, diving or hyperbaric medicine, contact Sherri or stop by the lab for a tour.