KINESIOLOGY RESEARCH FORUM

October 23rd | 12:30 PM – 2:00 PM | Henry Angus 334

REGISTER AT:
HTTPS://TINYURL.COM/REGISTER-RESEARCH-FORUM
ATTENDANCE

https://tinyurl.com/2018kinresearch
QUIZ

• How many research areas are there within the School of Kinesiology?
• 5
QUIZ

• What are the five research areas called?
  • Biological and Physiological
  • Indigenous Studies
  • Neuromechanical
  • Psychological Studies
  • Socio Cultural
WHERE TO FIND INFORMATION ON RESEARCH?

Undergraduate Research Opportunities in Kinesiology

There are many exciting ways that undergraduate students can learn, get involved, and gain experience, through the wide range of exciting research opportunities within the School of Kinesiology at UBC.

Attend a Kin research info session:
- Kin Lab Welcome
- Kin Research Forum

Become a research assistant:
- Volunteer in a Kinesiology research lab; there are many Kinesiology labs looking for part-time volunteers to assist with ongoing research projects
- NSERC Undergraduate Student Research Awards (USRA): apply for a summer research assistant position with an NSERC funded Kinesiology researcher
- Work Learn International Undergraduate Research Awards: apply for a summer research assistant position with eligible Kinesiology researchers. Note: only International Students are eligible to apply.

Enroll in the 4th year course “Project in Kinesiology” (Kin 499): This course is designed to provide Kin students with 4th year standing, the opportunity to conduct a research project under the supervision of a KIN Faculty Member.

Participate as a subject in a research study
School of Kinesiology Distinguished Seminar Speaker Series: “A Conversation Around Female Sports Fandom”

Posted: October 16, 2018

Event Details
- Start: 31 October 2018 12:00 PM
- End: 31 October 2018 2:00 PM
- Venue: Michael Smith Labs, Room 101
- Categories: Seminars
The School of Kinesiology has a vibrant research program and we are continually looking for people interested assisting with, or in being subjects in, our research projects. The following is a list of some of our current projects. Follow the links to find out more about how to become involved in these studies.

Is your Kinesiology research lab or group looking for participants? If you'd like it posted here please fill out this form. Please note that only research studies in Kinesiology will be posted.

<table>
<thead>
<tr>
<th>Date Posted</th>
<th>Project Title</th>
<th>Principal Investigator</th>
<th>End Date</th>
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<tr>
<td>10/16/2018</td>
<td>Disability in the Gym: Perceptions and Understandings About Individuals with Disabilities</td>
<td>Dr. Andrea Bundon</td>
<td>01/10/2019</td>
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<tr>
<td>05/15/2018</td>
<td>Diaphragm Fatigue and Dyspnea</td>
<td>Dr. Jordan Guenette</td>
<td>12/01/2018</td>
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<tr>
<td>04/09/2018</td>
<td>Women in Paralympic Sport: Past, Present and Future</td>
<td>Dr. Andrea Bundon</td>
<td>12/21/2018</td>
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VISIT A LAB CRAWL

Friday, November 16, 2018

• ICORD (International Collaboration On Repair Discoveries)
• Human Locomotion Research Lab
• Translational Integrative Physiology Laboratory

3:00pm – 4:30pm

Register: https://tinyurl.com/kin-labcrawl-term1-2018
MOTOR SKILLS LAB

Dr. Nikki Hodges
MOTOR SKILLS LAB
Motor Skills Lab (MSL) – rm 300, WMG
‘the penthouse’

http://msl.kin.educ.ubc.ca/
What we study?
“PRACTICE”

Physical practice
Observation / Perceptual practice

http://msl.kin.educ.ubc.ca
What we study?

“PRACTICE”

Physical practice
Practice variability, decisions & dyad learning
Instructions & feedback, motivation
Practice histories of elite performers

Observation /perceptual practice
Observational learning
Perceptual training/anticipation/tactics

http://msl.kin.educ.ubc.ca
What we study?

“PRACTICE”

Physical practice

Practice variability, decisions & dyad learning
Instructions & feedback, motivation
Practice histories of elite performers

http://msl.kin.educ.ubc.ca
How people learn together?
Turn taking or simultaneous practice
Role of errors in learning (motivational and informational)
Easy-to-difficult task progressions
Hours outside of team practice from a young age distinguish National vs. Varsity women.
What we study?

“PRACTICE”

Observation / perceptual practice

Observational learning

Perceptual training/anticipation/tactics
What we “see” is directly related to what we can do and our action experiences

Action-simulation
Motor-Only training
Press with “throwing arm”
Interferes with decision
Motor Skills Lab: msl.kin.educ.ubc.ca
School of Kinesiology, UBC
Psychology of Exercise,
Health & Physical Activity Lab

Dr. Mark Beauchamp
Location of our group
Ponderosa Annex C 101-2
2012 West Mall
(including our research journal room)
Olympic studies- from then to now
power, politics, performance

Athens 1896
Paris 1920
Munich 72
Mexico 1968
PARIS 2024
Physical Culture Projects
People

- Dr. Patricia Vertinsky: Distinguished University Scholar, Professor Kinesiology

- Victoria Felkar, PhD
- Cassandra Wells, PhD
- Kimberley Ekstrand, MA
- Aishwarya Ramachandran, MA
- Olivia Lam, BKIN
- Bo Wang, Professor, Capital University
Robyn Mildren, Gregg Eschelmuller, Tim Inglis

Human Neurophysiology Laboratory
School of Kinesiology

Metatarsal stimulation
I. Noisy Tendon Vibration
NTV and Single motor unit recording
II. Human Microneurography

- 0.2 mm diameter
- 50 mm length
Neural Control of Posture and Movement Lab

Dr. Mark Carpenter
Research Goals

• Understand physiological and psychological factors that contribute to falls

• Improve methods to diagnose and discriminate between origins of balance disorders

• Develop treatments and exercise programs that may best improve balance deficits
Location of the Laboratory
Methods for measuring balance control

- Forces acting on the body - kinetics
- How the body moves - kinematics
- Activity in the muscles - EMG
- Activity in the brain - (EEG)
Fear of Falling and Postural Control

- to examine how changes in fear, anxiety and arousal may directly contribute to balance deficits and falls.

Those with fear of falling twice as likely to fall in the future (Cumming et al. 2000)
Fear of Falling and Postural Control

• to examine how changes in fear, anxiety and arousal may directly contribute to balance deficits and falls.
Sensori-motor contributions to balance disorders

- identify the specific factors that contribute to healthy balance and deficits associated with aging, Parkinson’s disease, vestibular loss and spinal cord injury.
Current Opportunities

Research Subjects needed for studies on:

• Postural threat effects on balance perception
  – Real and VR induced visual stimuli
  – Sub-threshold movements of the support-surface

• How do height-related postural changes adapt over time?

• Weighting of proprioceptive and visual control of balance

If interested, please see me after, or contact me:
mark.carpenter@ubc.ca
Current Opportunities

Volunteers:

• Assisting with data collection, and analysis for ongoing projects
  – anxiety effects on posture,
  – Balance deficits involving vestibular loss, Parkinson’s disease,
  – Minimum 8 hours per week (can incl. Saturdays)

*If interested, please see me after, or contact me:*
mark.carpenter@ubc.ca
For more information see our website:
Origins of Balance Deficits and Falls

Researchers within this cluster study the mechanistic principles of healthy balance control and origins of balance deficits and falls.

NEWS & EVENTS

- Sensory-Motor Aging Workshop | CAG2018 Pre-Conference Workshop
- OBDAF Conference and Workshop November 29-30th: Our largest meeting to date!
Population Physical Activity Lab

• What physical activity policies, programs and practices work, for whom, and under what conditions.
• Generating evidence on real-world interventions.
• Incorporating a range of disciplinary perspectives and research designs, theoretical and methodological approaches.
• Engaging partners from within and outside of the health sector in order to accelerate population-oriented solutions.

Guy Faulkner: www.kin.ubc.ca/pop-palab
Current Projects: National/Provincial in Scope

- Carrot – do incentives increase physical activity participation?
- Mind Fit – does physical activity reduce depression among teenagers?
- Run to Quit – does the addition of physical activity assist smoking cessation?
- UPnGO with ParticipACTION – testing a mobile physical activity intervention in the workplace
Health and Integrative Physiology (HIP) Lab

Dr. Bill Sheel
Cycling at 90% max

**Trials**
- i) Control
- ii) Resistors (↑Wb)
- iii) PAV (↓Wb)

**Blood flow**
- Quadriceps
- Respiratory muscles
- Indocyanine green

EMG - muscle activation
INTERNATIONAL COLLABORATION ON REPAIR DISCOVERIES (ICORD)
CURRENT AND PAST EXPERIMENTS

MAX step height
Obstacle height
AVG step height

3 meters
Lead Limb  Trail Limb

# of Saccades

Step -5  Step -4  Step -3  Step -2  Step -1

AB
SCI

Step-5  Step-4  Step-3  Step-2  Step-1

Lead limb  Trail limb
CURRENT AND PAST EXPERIMENTS

proprioceptive sense

Error Score (deg) = Actual Position – Target Position
THE HUMAN LOCOMOTION RESEARCH LABORATORY

Research to improve mobility, health, and quality of life for people with spinal cord injury

PI: Dr. Tania Lam

Graduate Students
• Abdullah Alghamdi
• Raza Malik
• Alison Williams

Undergraduate Students
• Maya Sato-Klemm

Laboratory Technician
• Gevorg Eginyan

Co-op Students
• Mason Chow

Email: lamlab@icord.org
https://tinyurl.com/2018researchforum