S. Ryan Oliver, Ph.D.

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EDUCATION

Ph.D., Biophysics Graduate Program, The Ohio State University (OSU), Columbus, OH 2009
B.S., Biology (Minor: Chemistry), Shawnee State University, Portsmouth, OH 2005

TEACHING & RESEARCH EXPERIENCE

Term Instructor, Department of Chemistry and Biochemistry, UAF, Fairbanks, AK 2015-Present

- Instructor for Chem F103X, Chem F105X, Chem F106X, and BIO100X Fall, Spring, and Summer semesters 2015-2016
- Responsible for undergraduate computer labs and several department instruments used in undergraduate coursework

Adjunct Professor, Community & Technical College, UAF, Fairbanks, AK Summer 2015

- Instructor for Bio F100X.
- Responsible for lecture production and delivery, homework, exam creation and lab

Adjunct Professor, Department of Chemistry and Biochemistry, UAF, Fairbanks, AK Spring 2015

- Instructor for Chem sF103X and Chem F105X.
- Responsible for lecture production and delivery, homework and exam creation for 200 students

Postdoctoral Researcher, Swartz Lab, EPFL, Lausanne, Switzerland 2010-2014

- Developed a novel *in vivo* application to identify populations of adipocytes and immune cells sampling lymph via a fluorescent lipid tracer in mouse intestinal lymphatics.
- Developed an intravital microscopy method for observing real-time lymph transport to the mesenteric lymph node and rate of lymph leakage from collecting lymphatics in mice.
- Supervised four graduate students, advising on experiment design and analysis.
- Initiated collaborations with scientists in an international arena
- Presented technical findings at several seminars and conference meetings.
- Guest Lecturer, Cancer Bioengineering course (several lectures), 2013

Doctoral Researcher, Clanton Lab, OSU, Columbus, OH; U. of FL, Gainesville FL 2005-2009

- Investigated skeletal muscle contractile function and intestinal permeability during hyperthermia to determine their thermal tolerance, and discovered the influence of eicosanoid metabolism on hyperthermic tissue
- Adapted an everted gut sac model and applied eicosanoid inhibitors/antioxidants to assess mouse intestinal permeability mechanism during hyperthermia.
- Teaching assistant, Biology 101 (OSU), answering student questions and running labs.
- Undergraduate Student Mentor, University of Florida, Gainesville, FL - Oversaw and instructed an undergraduate student on lab techniques/experiment design, 2009
- Guest Lecturer, "Reactive Oxygen Species: Can't live with them, can't live without them." Cell Biology, Shawnee State University, Portsmouth OH, 2007
- Presented research at seminars and national conferences, as well as guest lectures.

Undergraduate Researcher, Shawnee State University, Portsmouth, OH 2002-2005

- Assessed binding characteristics of two mutated strains of *Streptococcus Pyogenes* to A549 human lung fibroblasts using staining and light microscopy.
- Learning center tutor in Biology, Anatomy & Physiology, Microbiology, and Physics

FUNDING

INBRE Faculty Pilot Grant – University of Alaska Fairbanks	$75,000	Sept 2016 – Aug 2017
INBRE Curriculum Development Grant – UAF	$15,000	July 2016
Provost Instructional Equipment Award – UAF	$1,480	May 2016
Provost Instructional Equipment Award – UAF	$2,484.25	May 2016
URSA-ITE – UAF	$10,000	May 2016

PUBLICATIONS

Kilarski, W., E. Güç, J. C. M. Teo, **S. R. Oliver**, A. Lund and M. A. Swartz. Intravital immunofluorescence for visualization of the microcirculatory and immune microenvironment in the mouse ear dermis. *PLoS ONE* 2013. 8(2): e57135.

Oliver, S. R., N.A Phillips, V.L. Novosad, M.P. Bakos, E.E.Talbert, and T.L. Clanton. Hyperthermia induces injury to the intestinal mucosa in the mouse: evidence for an oxidative stress mechanism. *Am J Physiol Regul Integr Comp Physiol*. 2012.

Oliver, S. R., V. P. Wright, N. Parinandi, and T. L. Clanton. Thermal tolerance of contractile function in oxidative skeletal muscle: no protection by antioxidants but reduced tolerance with eicosanoid enzyme inhibition. *Am. J. Physiol. Regul. Integr. Comp. Physiol*. 2008. Nov; 295(5): R1695-705.

Professional Development

New Faculty Orientation	Aug 2015
Student Mentoring Training for Faculty (7 hr)	Aug 2015
Designing a Flipped Learning Experience (7.5 hr)	Aug 2015
Syllabus Design (1 hr)	Aug 2015
How to deal with challenging students (1 hr)	Aug 2015
Advising 101 (1 hr)	Mar 2016

SKILLS

Laboratory: Nanoparticle manipulation, cell line care (A549, C2C12, lymphatic endothelial cells, adipocytes), RT-PCR, western blot, flow cytometry and FACS, whole muscle extraction for functional assessment, fluorescence and UV/vis spectroscopy, noneverted and everted gut sac preparation, histology and immunohistochemistry methods, animal husbandry and breeding, animal surgery, necropsy

Imaging Techniques: Whole tissue fluorometry, microscopic techniques (including 2-photon, confocal, wide field, stereomicroscopy, electron microscopy and fluorescent), intravital microscopy of intestine and lymph nodes, whole animal imaging

Data Analysis and software: Jump statistical package (SAS), Sigmaplot, ImageJ (Fiji), IMARIS, Microsoft Office, Windows/Mac, LabView, FlowJo (flow cytometry analysis), PyRat (animal monitoring software), Photoshop, Illustrator

Live Specimen Handling: Sprague Dawley Rats, WT and Transgenic Mice, Bacterial Cultures

PROFESSIONAL ACTIVITY

Reviewer, American Journal of Physiology: Regulatory, Integrative and Comparative Physiology
Member, American Physiological Society (APS)
Member, Federation of American Societies for Experimental Biology (FASEB)