Curriculum Vitae

Kenneth O. Long

Professional Preparation

Education

B.A. 1976, Physiology and Behavioral Biology. San Francisco State University, San Francisco, CA.

Ph.D. 1984, Physiology and Cell Biology. University of California, Santa Barbara, CA.

Postdoctoral

1987 -1989 Post-Doctoral Fellow/Research Scientist, Retinitis Pigmentosa Foundation Joint University of Pennsylvania - NIH Program.

1984-1987 Post-Doctoral Trainee, Vision Training Grant, University of Pennsylvania Philadelphia, PA.

Appointments

Faculty

1996- present: Associate Professor, Biology, California Lutheran University

1989-1996: Assistant Professor, Biology, California Lutheran University

Courses Taught on a routine basis

Human Anatomy and Physiology, 2 Semester sequence. (Lecture and Lab) -- no longer offered. Course was split into separate Human Anatomy and Human Physiology courses.

Human Physiology/Human Physiology Lab

Vertebrate Physiology (Lecture and Lab)

Comparative Anatomy (of Vertebrates), Lecture and Lab

Neurobiology, later changed to Introduction to Neuroscience (Lecture and Lab)

Scientific Literature (Major Capstone)

New Course Developed for 2016

Animal Behavior

Previous Courses Taught

Cell Biology

Developmental Biology

Evolution (co-taught, sabbatical replacement)

Junior Honors (sabbatical replacement)

Senior Honors (sabbatical replacement)

Faculty Committees

Educational Policies and Planning Committee

Athletic

Human and Animal Subjects

Institutional Hearing Board

Academic Standards

Science Division Coordinator 6/2012 - 5/2015

Biology Department Chair 6/2013 - 5/2016 (Sabbatical in Fall of 2015)

Publications
Significant Publications

Long, K.O. and S.K. Fisher. The distributions of photoreceptors and ganglion cells in the California ground squirrel, Spermophilus beecheyi. J.Comp. Neurol. 221:329-340. 1983.

Long, K.O., Fisher, S.K., Fariss, R.N., and Anderson, D.H. Disc shedding and autophagy in the cone dominant ground squirrel retina. Exp. Eye Res. 43:193-205, 1986.

Philp, N.J., Chang, W., and Long, K. Light stimulated protein movement in rod photoreceptor cells of the rat retina. FEBS Lett. 225:127-132, 1987.

Long, K., Philp, N., Gery, I. and Aguirre, G. S-antigen in a hereditary visual cell disease: Immunocytochemical and immunological studies. Invest. Ophthalmol. Vis. Sci. 29:1594-1607, 1988.

Long, K. O. and Aguirre, G.D. The cone matrix sheath in the normal and diseased retina: Cytochemical and biochemical studies of peanut agglutinin-binding proteins in cone and rod-cone degeneration. Exp.Eye Res. 52:699-713,1991.

Wiggert, B., Kutty, G., Long, K.O., Inouye, L., Gery, I., Chader, G.J., and Aguirre, G.D. Interphotoreceptor retinoid-binding protein (IRBP) in progressive rod-cone degeneration (prcd)--biochemical, immunocytochemical and immunologic studies. Exp. Eye Res. 53:389-398, 1991.

Off-campus Research Presentations with Undergraduate* Co-Authors.

Argento*, J.M. and J. Reed. (K. Long, Mentor) The Interphotoreceptor matirx of the ground squirrel retina. Southern California Conference on Undergraduate Research. California Institute of Technology, Pasadena, CA. November 6, 1993.

Long, K. and J. Argento*. Interphotoreceptor matrix of the cone dominant ground squirrel retina. 4th Annual Neuroscience Research Institute Scientific Meeting. U.C. Santa Barbara, May 23, 1994.

Long, K.O., Elam*, M.D, and Fisher, S.K. Desulfination enhances peanut agglutinin labeling of the interphotoreceptor matrix. Invest. Ophthalmol. Visual Sci. (Suppl.) 36:S510, 1995. (Poster presentation at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, Fl, May 1995).

Crump*, J and K. Long, "Development of Neuroscience Lab Exercises Utilizing the SpikerBox and Biopac Data Acquisition System." Presented at the Faculty for Undergraduate Research Poster session at the annual meeting of the Society for Neuroscience, November 14, 2011, Washington DC.

Rice*, S.P. and K.O. Long. " Localization of the ABCA4 flippase in developing photoreceptors." Presented at the Faculty for Undergraduate Research Poster session at the annual meeting of the Society for Neuroscience, November 17, 2014, Washington DC.

Rice*, S. (K. Long, Mentor) "Localization of the ABCA4 phospholipid flippase in developing photoreceptors." Southern California Conference for Undergraduate Research, Cal State University Fullerton, November 22, 2014.

Rice*, S. (K. Long, Mentor) "Localization of the ABCA4 phospholipid flippase in developing photoreceptors." Annual West Coast Biological Sciences Undergraduate Research (WCBSUR), Point Loma Nazarene University, San Diego, CA. April 25, 2015.

Sharkey*, C, Enders*, J, and Long, K.O. "The effect of amino acids on the feeding response of freshwater snails, *Lymnaea stagnalis* and *Helisoma trivolvis*." Presented at the Faculty for Undergraduate Research Poster session at the annual meeting of the Society for Neuroscience, November 13, 2016, San Diego, CA.

Undergraduate Biology Curriculum Presentations or Workshops Given

Beyond the Case Study: Using Diseases as Themes in Introductory Anatomy and Physiology. Baltimore, MD. Annual Meeting of the Human Anatomy and Physiology Society. June 1999

Case Studies in Parkinson's Disease. Poster presentation at the Annual Meeting of the Human Anatomy and Physiology Society. June 2001.

Neurophysiology Laboratory Exercises Using the Cockroach Ventral Nerve Cord. Poster presented at the annual meeting of the Human Anatomy and Physiology Society. June 2003,

Development of Physiology Exercises using Biopac Data Acquisition Systems. (Experiments posted on Biopac Systems website, https://www.biopac.com/education-curriculum/)

Cockroach Ventral Nerve Cord Action Potential, BSL Pro Lesson #A06
Earthworm Action Potential, BSL Pro Lesson #A08
Earthworm Smooth Muscle, BSL Pro Lesson #A15

External Textbook Reviews

2012 Reviewed 10 lab exercises in "Laboratory Manual for Human Anatomy and Physiology," 2nd edition, by Terry Martin. 2013. McGraw Hill Publishers.

2015 Reviewed Chapter 16, "Neurons, Nerves and Nervous Systems" for first edition of "Environmental Physiology: Animals in their natural habitats," by Butler, P.J., J.A. Brown, D.G. Stephenson and J.R. Speakman. Oxford University Press.

Major Grants at CLU

Principal Investigator. National Science Foundation, Research in Undergraduate Institutions. "Characterization of the Interphotoreceptor Matrix of the Cone-Dominant Ground Squirrel Retina." Steven K. Fisher, co-P.I. $91, 647. 5/92 – 10/94.

Co-P.I. National Science Foundation, Course, Curriculum and Laboratory Improvement. "Equipment for an Investigative Introductory Biology Laboratory." David Marcey, P.I., Barbara Collins, Andrea Huvard and Dennis Revie, co-P.I.s. $42, 486. 4/1/02 – 3/31/05.

Principal Investigator. Pittsburgh National Conference Grant, Interdisciplinary Applications of Compact UV/VIS Spectrophotometers. Grady Hanrahan, Co-PI. $10,000 . 2007.

Major Curricular Workshops Attended

Enlivening teaching: Using discipline-based cases and classroom research to improve learning and teaching. A Working Conference for College Faculty. Sponsored by the Center for Case Studies at Pace University, held at the University of British Columbia, Vancouver, BC, August 5-9, 2000

Introduction to FUN* Electrophysiological Labs, Bowdoin College, Maine. July 27-30, 2006. Learned electrophysiological preps using crayfish and snail neurons. (*Faculty for Undergraduate Neuroscience)

"SnailFest" Invertebrate Neurophysiology Workshop at Emory University, Atlanta GA, July 31-Aug 2, 2015. Three-day workshop using aquatic snails (*Lymnaea and Helisoma*) for intra- and extra-cellular recordings with the emphasis on using the preps in undergraduate neurophysiology labs.

Faculty Mentor for Swenson Science Summer Research Fellowship Students

Crump, J. "Establishment and Utilization of Spiker Box-Biopac Interface for Neuroscience Curriculum." Summer, 2011.

Rice, S. "Localization of the ABCA4 phospholipid flippase in developing photoreceptors." Summer, 2014.

Sharkey, Christina. Behavioral and Electrophysiological Studies on the Aquatic Snail, *Lymnaea stagnalis*. Summer, 2016.

Faculty Mentor for Senior Honors Theses
(Note: Presentations of research were given on-campus at annual Festival of Scholars)

Schrage, Kelsey. "The effects of adrenergic agonists and antagonists on the ventral nerve cord of the cockroach." 2013

Smith, Rachel. "Light and dark adaptations of central ganglion ring in aquatic snail, *Lymnaea stagnalis*. " 2013

Rohach, Lauren. "Determining whether commercial antibodies bind to glutamate receptors in *Lymnaea stagnalis*. " 2014.

Adetyan, Hasmik (Jasmine) "Localization of he phospholipid flippase, ABCA4, in the developing chicken retina." 2015.

Rice, Sharena. "The localization of the ABCA4 phospholipid flippase in developing photoreceptors." 2015.

STEM Education Conferences Attended

2013 SoCAL PKAL Network Meeting. "Interdisciplinarity and Assessment: Two Necessary Parts of STEM Education."February 2, 2013, University of Redlands

Transforming STEM Education: Inquiry, Innovation, Inclusion, and Evidence
A Network for Academic Renewal Conference (PKAL/AACU)
October 31–November 2, 2013, San Diego, California

2014 PKAL Southern California (SoCAL) Regional Network Meeting
"STEM Education Effectiveness: From Curricular Frameworks to Student Research"
February 1, 2014, California State Polytechnic University, Pomona.

Professional Memberships

- Human Anatomy and Physiology Society (HAPS)
- Society for Neuroscience (SfN)
    - Faculty for Undergraduate Neuroscience (Satellite groups of SfN)
- American Physiological Society (APS)
- American Association of Anatomists (HAPS Affiliate Membership)