Jennifer L. Garrison, Ph.D.

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EDUCATION

University of California, San Francisco 2007
Ph.D. in Chemistry and Chemical Biology
Thesis advisor: Dr. Jack Taunton
"Small molecule modulation of protein secretion"

University of California, Berkeley 1998
B.A. in Molecular Cell Biology

APPOINTMENTS AND RESEARCH EXPERIENCE

Assistant Professor, **Buck Institute for Research on Aging** 2014-
Assistant Adjunct Professor, **Cellular and Molecular Pharmacology, UCSF** 2014-
Assistant Adjunct Professor, **Leonard Davis School of Gerontology, USC** 2014-

Postdoctoral Fellow, The Rockefeller University 2007 – 2013
Laboratory of Neural Circuits and Behavior
Advisor: Dr. Cornelia Bargmann
Exploring neuromodulatory signaling and behavior in *C. elegans*.

Graduate Fellow, University of California, San Francisco 2001 - 2007
Department of Cellular and Molecular Pharmacology
Advisor: Dr. Jack Taunton
Defining the mechanism of action of a small molecule inhibitor of protein biogenesis.

Research Associate, University of California, San Francisco 1998 – 2001
Advisor: Dr. James Marks
Developing internalizing antibodies against EGFR family members.

Undergraduate Research Assistant, University of California, San Francisco 1996 – 1998
Advisor: Dr. Cara Marks
Determining the X-ray structure of two oncogenic receptors, HER2 and uPAR.

Undergraduate Research Assistant, NASA Ames Research Center 1994 - 1996
Design, fabrication, and testing of miniature implantable biosensors.

HONORS AND AWARDS

Faculty Instructor, MBL Woods Hole Neurobiology Advanced Training Course 2017
Maximizing Investigators' Research Award (MIRA) for Early Stage Investigators (5 years) 2016
Finalist, McKnight Technological Innovations in Neuroscience Award 2016
American Federation of Aging Research Grant for Junior Faculty 2016
Allen Institute for Brain Science Next Generation Leaders Advisory Council (3 year tenure) 2015
Alfred P. Sloan Foundation Research Fellowship in Neuroscience 2014
Glenn Foundation Award for Research in Biological Mechanisms of Aging 2014
Summer NIA Training Course in Experimental Aging 2014
R00 Pathway to Independence Award (NIH NIGMS R00GM092859) 2013
K99 Pathway to Independence Award (NIH NIGMS K99GM92859) 2010
Helen Hay Whitney Postdoctoral Fellowship 2008
Harvey Karp Discovery Award, The Rockefeller University 2007
Andrew Braisted Poster Award, Chemical Biology in the Bay Area Symposium 2006
Achievement Rewards for College Scientists (ARCS) Predoctoral Fellowship 2005
National Science Foundation Predoctoral Fellowship 2002

PUBLICATIONS

Garrison JL and Knight ZA, Linking smell to metabolism and aging. *Science* **358***,* 718 (2017).

Garrison JL, Macosko EZ, Bernstein S, Pokala N, Albrecht DR, Bargmann CI, An ancient role for oxytocin/vasopressin-related peptides in reproductive behavior. *Science* **338***,* 540 (2012).

Knight ZA, Tan K, Birsoy K, Schmidt S, **Garrison JL**, Wysocki RW, Emiliano A, Ekstrand MI, Friedman JM, Molecular profiling of activated neurons by phosphorylated ribosome capture. *Cell* **151**,1126 (2012).

Lakkaraju AK, Thankappan R, Mary C, **Garrison JL**, Taunton J, Strub K, Efficient secretion of small proteins in mammalian cells relies on Sec62-dependent posttranslational translocation. *Mol Biol Cell* **14**, 2712 (2012).

McGrath PT, Xu Y, Ailion M, **Garrison JL**, Butcher RA, and Bargmann CI, Parallel evolution of domesticated *Caenorhabditis* species targets pheromone receptor genes. *Nature* **477**, 321 (2011).

Maifeld SV, MacKinnon AL, **Garrison JL**, Sharma A, Kunkel EJ, Hegde RS, and Taunton J, Secretory protein profiling reveals TNF-α inactivation by selective and promiscuous Sec61 modulators. *Chemistry and Biology* **18**, 1082 (2011).

Bautista DM, Sigal YM, Milstein AD, **Garrison JL**, Zorn JA, Tsuruda PR, Nicoll RA, and Julius D, Pungent agents from Szechuan peppers excite sensory neurons by inhibiting two-pore potassium channels. *Nature Neuroscience* **11**, 772 (2008).

MacKinnon AL, **Garrison JL**, Hegde RS, and Taunton J, Photo-leucine incorporation reveals the target of a cyclodepsipeptide inhibitor of cotranslational translocation. *J Am Chem Soc* **129**, 14560 (2007).

Knight ZA, **Garrison JL**, Chan K, King DS, and Shokat KM, A remodelled protease that cleaves phosphotyrosine substrates. *J Am Chem Soc* **129**, 11672 (2007).

Rutkowski DT, Kang SW, Goodman AG, **Garrison JL**, Taunton J, Katze MG, Kaufman RJ, and Hegde RS, The role of p58IPK in protecting the stressed endoplasmic reticulum. *Mol Biol Cell* **18**, 3681 (2007).

Kang SW, Rane NS, Kim SJ, **Garrison JL**, Taunton J, and Hegde RS, Substrate-specific attenuation of protein translocation during acute ER stress defines a pathway of pre-emptive quality control. *Cell* **127**, 999 (2006).

Oyadomari S, Yun C, Fisher EA, Kreglinger N, Krebich G, Oyadomari M, Harding HP, Goodman AG, Harant H, **Garrison JL**, Taunton J, Katze MG, and Ron D, Co-translocational degradation protects the stressed endoplasmic reticulum from protein overload. *Cell* **126**, 727 (2006).

Garrison JL, Kunkel EJ, Hegde RS, and Taunton J, A substrate-specific inhibitor of protein translocation into the endoplasmic reticulum. *Nature* **436**, 285 (2005).

Horak E, Heitner T, Robinson MK, Simmons HH, **Garrison JL**, Russeva M, Furmanova P, Lou J, Zhou Y, Yuan QA, Weiner LM, Adams GP, and Marks JD, Isolation of scFvs to *in vitro* produced extracellular domains of EGFR family members. *Cancer Biotherapy and Radiopharmaceuticals* **20**, 603 (2005).

Heitner T, Moor A, **Garrison JL**, Marks CB, Hasan T, and Marks JD, Selection of cell binding and internalizing epidermal growth factor receptor antibodies from a phage display library. *J Immunological Methods* **248**, 17 (2001).

Somps CJ, **Garrison JL**, Madou MJ, Hines JW, Gibbs DL, and Harrison MR, Electrochemical performance of an ion selective, polymeric membrane following chronic implantation in rat subcutaneous tissue. *Sensors and Actuators B* **35-36**, 222 (1996).

INVITED TALKS

2018 Department of Neurobiology, University of Wisconsin, Madison, WI.
2018 Department of Physiology & Pharmacology, OHSU, Portland, OR.
2018 *Young Investigators Symposium*, LKC Medicine, NTU Singapore
2017 KU Leuven Department of Biology Seminar Series, Leuven, Belgium
2017 MBL Advanced Training Course in Neurobiology, Cell Biology Section, Woods Hole, MA.
2017 Neuroscience and Behavior Seminar Series, University of California, Santa Barbara
2016 Keynote Speaker, Leibniz Institute on Aging Annual Retreat, Luisenthal, Germany
2015 *Showcase Symposium 2015*, Allen Institute for Brain Science, Seattle, WA.
2014 *Cellular Function in Aging Meeting*, Biomedical Neurosciences Institute (BNI), Santiago Chile
2014 *Bay Area Worm Meeting*, Stanford University
2013 Departments of Chemistry and Molecular & Cell Biology, UC Berkeley
2013 Cardiovascular Research Institute, UCSF
2013 Division of Biology, California Institute of Technology
2013 Division of Chemistry and Chemical Engineering, California Institute of Technology
2012 Institute for Neurodegenerative Disease, UCSF
2012 Department of Systems Biology, Harvard Medical School
2010 *Neuronal Development, Synaptic Function, and Behavior C. elegans Meeting,* U Wisconsin
2006 *NSF Alliances for Graduate Education and the Professoriate Colloquium*, UCSF
2005 *UCSF Chemical Biology - Biophysics Retreat*, Asilomar Conference Center, Monterey, CA.
2005 *Gordon Research Conference: Protein Transport Across Cell Membranes*, New London, NH.
2005 *Chemistry and Chemical Biology Day in the Bay Area Symposium*, UCSF
1996 *Bay Area Science Symposium,* Los Altos, CA.

POSTERS

2017 *American Federation of Aging Meeting*, Santa Barbara, CA.
2010 *HHMI Neurons, Systems, and Neural Disease Meeting,* Janelia Farm Research Campus.
2006 *Chemistry and Chemical Biology Day in the Bay Area Symposium*, UCSF.
2005 *American Society for Cell Biology (ASCB) Annual Meeting*, San Francisco, CA.
2003 *American Association for Cancer Research (AACR) Annual Meeting*, Washington D.C.
2001 *American Association for Cancer Research (AACR) Annual Meeting*, New Orleans, LA.
1999 *Receptor Tyrosine Kinases,* FASEB Summer Research Conference, Snowmass, CO.
1999 *Breast Cancer SPORE National Meeting,* Rockville, MD.

SERVICE

2018 - Academic Editorial Board, PLOS One
2017 - Scientific Advisory Board Member, Systems1 Bioscience, Inc.
2017 Lead Organizer, Bay Area Worm Meeting 2017
2017 - Faculty Advisor, *Double X's* group for the advancement of women in science
2017 Poster Judge, *C. elegans* International Meeting 2017
2015 - Alzheimer's Association Research Grant (AARG) Peer Reviewer
2015 American Federation for Aging Research Grant for Junior Faculty Selection Committee
2014 - Referee for peer-reviewed journals: Aging Cell, PLOS Genetics, Scientific Reports

TEACHING EXPERIENCE

Faculty Instructor, Cell Biology Section
MBL Woods Hole Neurobiology Advanced Training Course, summer 2017
Responsibilities: Developed course content and taught hands-on experiments in neuronal cell biology.

Lecturer, Buck/USC Biology of Aging PhD Program
GERO601, fall 2015, 2016, 2017 (ongoing)
Responsibilities: Developed course content and taught sessions on the Aging Brain for PhD students.

Visiting Assistant Professor, Bard College
Research Design and Methods, spring 2008
Responsibilities: Developed course content and taught all sessions of the Research Design and Methods Course for undergraduate students in the Bard-Rockefeller Semester in Science program.

Laboratory Mentor, Rockefeller Summer Science Outreach Program, summer 2009, 2010, 2011
Responsibilities: Trained and supervised a high school student participating in the Rockefeller Summer Science Program to work full time in the laboratory and conduct experiments.

Graduate Student Instructor, University of California, San Francisco
Advanced Organic Chemistry (PC113), fall 2003
Responsibilities: Taught periodic lectures and a weekly problem solving session in advanced organic chemistry for a class of 120 pharmacy school students.

Volunteer Instructor for the TRIAD Alliance for Gender Equitable Teaching, 1998-1999
Luther Burbank Middle School, with the UCSF Science & Health Education Partnership (SEP).
Responsibilities: Developed and conducted an after-school science club for junior high school students designed to encourage girls to explore science through hands-on experimentation.