Christopher J. Chang
Professor of Chemistry and Molecular and Cell Biology, University of California, Berkeley
Investigator, Howard Hughes Medical Institute
Member, Helen Wills Neuroscience Institute
Faculty Scientist, Chemical Sciences Division, Lawrence Berkeley National Laboratory
Adjunct Professor of Pharmaceutical Chemistry, University of California, San Francisco
532A Latimer Hall, University of California, Berkeley, CA 94720
Phone: 510-642-4704, Email: chrischang@berkeley.edu

Education and Training
Caltech, B.S./M.S. 1997, Chemistry (Advisor: Harry B. Gray)
Université Louis Pasteur, Fulbright 1998, Chemistry (Advisor, Jean-Pierre Sauvage)
MIT, Ph.D. 2002, Inorganic Chemistry (NSF/Merck Graduate Fellow, Advisor: Daniel G. Nocera)
MIT, Postdoc, Chemistry, 2002-2004 (Jane Coffin Childs Fellow, Advisor: Stephen J. Lippard)

Positions
Member, Helen Wills Neuroscience Institute, 2013-present
Professor of Chemistry, UC Berkeley, 2012-present
Professor of Molecular and Cell Biology, UC Berkeley, 2012-present
Co-Director, Chemical Biology Graduate Program, UC Berkeley, 2012-present
Associate Professor of Chemistry, UC Berkeley, 2009-2012
Adjunct Professor of Pharmaceutical Chemistry, UCSF, 2008-present
Investigator, Howard Hughes Medical Institute, 2008-present
Assistant Professor of Chemistry, UC Berkeley, 2004-2009
Faculty Scientist, Chemical Sciences Division, Lawrence Berkeley Lab, 2004-present

Honors
24. Baekeland Award, American Chemical Society, 2013
23. Noyce Prize for Excellence in Undergraduate Teaching, 2013
22. ACS Nobel Laureate Signature Award in Graduate Education, 2013
21. RSC Chemistry of Transition Metals Award, 2012
20. ACS Eli Lilly Award in Biological Chemistry, 2012
19. Wilson Prize, Harvard University, 2011-2012
18. Miller Institute Research Professor, 2011-2012
17. Society for Biological Inorganic Chemistry Early Career Award, 2011
16. ACS Cope Scholar Award, 2010
15. Novartis Early Career Award, 2009
14. Astra Zeneca Excellence in Chemistry Award, 2009
13. Howard Hughes Medical Institute Investigator, 2008
12. Technology Review TR35 Young Innovator, 2008
11. Bau Award in Inorganic Chemistry, 2008
10. Hellman Faculty Award, 2008
9. Amgen Young Investigator Award, 2008
8. Paul Saltman Award, Metals in Biology Gordon Research Conference, 2008
7. ACS Organic Young Investigator, 2007
6. Alfred P. Sloan Fellowship, 2007
5. Packard Fellowship, 2006
4. NSF CAREER Award, 2006
3. Beckman Young Investigator, 2005
2. American Federation for Aging Resesarch Award, 2005
1. Dreyfus New Faculty Award, 2004

114 Total Publications, h-index 46, (Ten Significant Publications Listed)

10. "Cell-trappable Fluorescent Probes for Endogenous Hydrogen Sulfide Signaling and Imaging H_2O_2-Dependent H_2S Production", Lin, V. S.; Lippert, A. R.; Chang, C. J. *Proc. Natl. Acad. Sci. USA* **2013**, *110,* 7131-7135.
9. "A Molecular MoS_2 Edge Site Mimic for Catalytic Hydrogen Generation", Karunadasa, H. I.; Montalvo, E.; Sun, Y.; Majda, M.; Long, J. R.; Chang, C. J. *Science* **2012**, *335*, 698-702.
8. "Near-infrared fluorescent sensor for in vivo copper imaging in a murine Wilson disease model", Hirayama, T.; Van de Bittner, G. C.; Gray, L. W.; Lutsenko, S.; Chang, C. J. *Proc. Natl. Acad. Sci. USA* **2012**, *109*, 2228-2233.
7. "Calcium-dependent copper redistributions in neuronal cells revealed by a fluorescent copper sensor and X-ray fluorescence microscopy", Dodani, S. C.; Domaille, D. W.; Nam, C. I.; Miller, E. W.; Finney, L. A.; Vogt, S.; Chang, C. J. *Proc. Natl. Acad. Sci. USA* **2011**, *108*, 5980-5985.
6. "Nox2 Redox Signaling Maintains Essential Cell Populations in the Brain", Dickinson, B. C.; Peltier, J.; Stone, D.; Schaffer, D. V.; Chang, C. J. *Nature Chem. Biol.* **2011**, *7*, 106-112.
5. "Imaging Hydrogen Peroxide Production in Living Mice with a Chemoselective Bioluminescent Reporter", Van de Bittner, G. C.; Dubikovskaya, E. A.; Bertozzi, C. R.; Chang, C. J. *Proc. Natl. Acad. Sci USA* **2010**, *107*, 21316-21321.
4. "Aquaporin-3 Mediates Hydrogen Peroxide Uptake to Regulate Downstream Intracellular Signaling", Miller, E. W.; Dickinson, B. C.; Chang, C. J. *Proc. Natl. Acad. Sci USA* **2010**, *107*, 15681-15686.
3. "Molecular Imaging of Hydrogen Peroxide Produced for Cell Signaling", Miller, E. W.; Tulyathan, O.; Isacoff, E. Y.; Chang, C. J. *Nature Chem. Biol.* **2007**, *3*, 263-267.
2. "A Selective Turn-On Fluorescent Sensor for Imaging Copper in Living Cells", Zeng, L.; Miller, E. W.; Pralle, A.; Isacoff, E. Y.; Chang, C. J. *J. Am. Chem. Soc.* **2006**, *128*, 10-11.
1. "A Selective, Cell-Permeable Optical Probe for Hydrogen Peroxide in Living Cells", Chang, M. C. Y.; Pralle, A.; Isacoff, E. Y.; Chang, C. J. *J. Am. Chem. Soc.* **2004**, *126*, 15292-15293.

Patents (With Additional 13 Applications Pending)

4. "Molecular Cobalt Pentapyridine Catalysts for Generating Hydrogen from Water", Long, J. R., Chang, C. J., Sun, Y., US PCT Appl. (2013), US 61/488,016.
3. "Fluorogenic Probes for Reactive Oxygen Species", Chang, C. J.* US PCT Appl. (2010), US 7,842,823.
2. "Pro-Fluorescent Probes", Chang, C. J. PCT Int. Appl. (2009), WO 2009152102.
1. "Fluorogenic Probes for Reactive Oxygen Species", Chang, C. J. PCT Int. Appl. (2007), WO 2007050810.

Over 160 Invited Seminars Since 2005

Teaching Summary (Required 75-90 Lectures Per Year)

Chem 103 (Inorganic Chemistry); Chem 250B (Inorganic Spectroscopy); Chem 254 (Bioinorganic Chemistry); Chem 271C/MCB212C (Chemical Biology); MCB 290 (Redox Biology)

Service and Synergistic Activities

10. Member, Faculty of 1000, Chemical Biology and Bioinorganic Chemistry, 2013-present
9. Editorial Board, Chemical Society Reviews, 2012-present
8. Chair, Bioinorganic Subdivision, ACS Division of Inorganic Chemistry, 2012
7. Ad Hoc Member, NIH, SBCA Study Section, 2010, 2011
6. Editorial Advisory Board, ChemBioChem, 2011-present
5. Guest Editor, Current Opinion in Chemical Biology, 2010 and 2013
4. Editorial Advisory Board, Chemical Science, 2009-present
3. Editorial Advisory Board, Chemical Society Reviews, 2009-2011
2. Member, Society of Biological Inorganic Chemistry
1. Member, American Chemical Society