

Curriculum Vitae - Kathy M. Takayama

CONTACT INFORMATION

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<http://www.brown.edu/about/administration/sheridan-center/>

EDUCATION

1991 Ph.D. Biochemistry and Molecular Biology, University of Medicine & Dentistry of New Jersey–Robert Wood Johnson Medical School, Piscataway, New Jersey
1984 B.Sc. Biology, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts

PRESENT POSITION

Executive Director
The Harriet W. Sheridan Center for Teaching & Learning, Brown University *and*
Adjunct Professor
Department of Molecular Biology, Cell Biology & Biochemistry, Brown University

President, the International Society for the Scholarship of Teaching and Learning

PROFESSIONAL EXPERIENCE

2010-2013 **Director**, The Harriet W. Sheridan Center for Teaching and Learning; Adjunct Associate Professor of Molecular Biology, Cell Biology & Biochemistry, Brown University
2007-2010 **Associate Director for Life and Physical Sciences**, The Harriet W. Sheridan Center for Teaching and Learning; Adjunct Associate Professor of Molecular Biology, Cell Biology & Biochemistry, Brown University
2002-2007 **Senior Lecturer**, School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, NSW, Australia (April 2002 – tenured)
2001-2002 **Lecturer**, Microbiology and Immunology, School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, NSW, Australia
1995 - 2001 **Australian Research Council Senior Research Associate**, School of Microbiology and Immunology, UNSW, Sydney, NSW, Australia
1991 - 1994 **NIH Postdoctoral Research Fellow**, Department of Biochemistry, University of Wisconsin-Madison, Wisconsin

AWARDS AND FELLOWSHIPS

2008 – 2009 National Academies Education Fellow in the Life Sciences
2005 Australian Society for Microbiology David White Award for Excellence in Teaching
2004 Australian College of Educators State of New South Wales Quality Teaching Award
2003 UNSW Vice Chancellor's Award for Teaching Excellence
2003 – 2004 Carnegie Scholar, Carnegie Foundation for the Advancement of Teaching
2002 – 2003 UNSW Vice Chancellor's Teaching and Research Award
2002 UNSW Innovative Teaching and Educational Technology Fellowship
1991 – 1994 National Institutes of Health Individual Research Fellowship

INVITED KEYNOTE AND PLENARY PRESENTATIONS

- 2015 Keynote speaker, Euro-SoTL Conference: “*Authentic inquiry in STEM through collaborative e-Portfolios*”; University College Cork, Cork, Ireland.
- 2015 Keynote speaker, Nanyang Technological University Annual Learning and Teaching Seminar: Changing Identities in University Teaching; Singapore.
- 2014 Keynote speaker, AAEEBL (Association for Authentic, Experiential and Evidence-Based Learning) Conference: “*Cultivating learning cultures: Reflective habits of mind and the value of uncertainty*”; Boston, MA.
- 2014 Invited speaker, Association of American Universities (AAU) STEM Conference: “*Using collaborative ePortfolios to foster metacognitive inquiry thinking*”; Washington D.C.
- 2014 Invited speaker, Association of American Colleges & Universities (AAC&U) STEM Conference: “*Using collaborative ePortfolios to foster metacognitive inquiry thinking*”; Atlanta, Georgia.
- 2014 Invited plenary, Harvard Business School Dynamic 23rd Annual Women in Business Conference: “*Education Reform Challenges and Solutions from All Angles*”; Cambridge, Massachusetts.
- 2013 Invited plenary, Howard Hughes Medical Institute Science Education Advisory Board: “*Experiments in online teaching and learning at Brown University*”; Bethesda MD.
- 2013 Keynote speaker, eLearning Forum Asia 2013: Learning Outcomes – Impact on Next Generation Learners; Hong Kong.
- 2013 Keynote speaker, AAEEBL (Association for Authentic, Experiential and Evidence-Based Learning) Conference: ePortfolios in an Altered Learning Landscape; Providence, RI.
- 2013 Keynote speaker, Framingham State University, Center for Excellence in Learning, Teaching, Scholarship, and Service; Framingham, Massachusetts.
- 2012 Invited speaker, Rice University: “Teaching Ideas Worth Spreading (with apologies to TED): Learning to teach by learning to learn”; Houston, Texas.
- 2012 Keynote speaker, 2012 Higher Education Research and Development Society of Australasia Annual Conference, Hobart, Australia: “*Cultivating Connections throughout the Academe: Learning to Teach by Learning to Learn*”
- 2011 Keynote speaker, 2011 Centennial Symposium on the Scholarship of Teaching and Learning, Banff, Alberta, Canada: “*Integrative Paths in the Scholarship of Teaching and Learning*”
- 2011 Invited plenary, Harvard University LASPAU: “*Institutional Strategies for Improving Learning*”
- 2011 Invited speaker, Colgate University: “*Visualizations in Teaching and Learning*”; Hamilton, NY.
- 2011 Invited plenary, Hong Kong Institute of Education: “*Supporting Teaching and Learning through e-Portfolios*”
- 2011 Invited plenary, 2011 Nanyang Technological University (NTU) Learning and Teaching Seminar: Our Global Challenge: Preparing Our Students for the 21st Century, Singapore: Crossing Boundaries: “*How Integrative Experiences in Faculty Development can Contribute to Interdisciplinarity*” Singapore.
- 2011 Invited speaker, Yale University, National Academy of Sciences Summer Institute on Undergraduate Education in Biology: “*How People Learn: Visualizations & Scientific Teaching*”
- 2011 Keynote speaker, Babson-Olin-Wellesley 3 College Consortium for Faculty Development: “*Interdisciplinary Conversations in Teaching and Learning*”
- 2011 Keynote speaker, Furman University Teaching and Learning Forum: “*Interdisciplinary Conversations in Teaching and Learning*”
- 2010 Keynote speaker, James Madison University Visiting Scholar: “*Visualizing the Science of Genomics*”
- 2010 Invited speaker, University of Massachusetts-Dartmouth: “*Developing Visual Literacy Across the Disciplines*”
- 2010 Keynote speaker, American Academy for Optometrists Educational Symposium: “*The Scholarship of Teaching & Learning*”
- 2010 Invited plenary, American Society for Microbiology Conference for Undergraduate Educators: “*The Scholarship of Teaching and Learning*”

- 2009 Invited speaker, Harvard University, 10,000 Women Faculty Development Program: Seminar on Effective Teaching and Learning in Business Education: "*Scientific Teaching and the Scholarship of Teaching & Learning*"
- 2009 Invited speaker, Harvard University, LASPAU: Academic and Professional Programs for the Americas: "*Cognitive Diversity in the Classroom: Teaching to Different Learning Styles*"
- 2009 Keynote speaker, Scholarship of Teaching and Learning Commons Conference, Georgia Southern University: "*Communities, voices, and portals of engagement*"
- 2008 Invited plenary, Wellesley College, Pforzheimer Learning and Teaching Center: "*The scholarship of teaching & learning- a microbiologist's journey*"
- 2008 Invited plenary, The Spencer Forum in Art and Design Collegiate Teaching, Rhode Island School of Design: "*Art + Science: Collaborative Research, Teaching & Learning*"
- 2008 Invited plenary, 2008 Lilly East Conference on College and University Teaching, University of Delaware, Newark, Delaware: "*International Perspectives on the Scholarship of Teaching and Learning*"
- 2006 Invited plenary, International Society for the Scholarship of Teaching and Learning Third Annual Conference, Washington DC: "*A framework for mapping collaborative inquiry*"
- 2006 Invited plenary, American Society for Microbiology 106th Meeting, Orlando, Florida: "*Challenging paradigms in Microbiology: New techniques, new perspectives and new approaches to student learning*"
- 2005 Invited plenary, International Gordon Conference on Visualization in Science and Education, Oxford University, UK: "*Learning from 2D vs. 3D molecular visualizations*"
- 2004 Invited plenary, Society for General Microbiology Educational Symposium, Trinity College, Dublin, UK: "*Visualising the science of genomics: an international online collaborative research project*"
- 2004 Invited plenary, The Commonwealth Scientific and Industrial Research Organization Metis 2004 Symposium, National Museum of Canberra, ACT, Australia: "*The symbiotic bacterial light project*"
- 2003 Keynote speaker, International Gordon Conference on Visualization in Science and Education, Oxford University, UK: "*The power of computer-aided 3-dimensional visualisation in teaching genomics and bioinformatics*"

OTHER INVITED TALKS, WORKSHOPS AND CONFERENCE PRESENTATIONS

- 2014 International Consortium for Educational Development Conference, "*Catalyzing Institutional Change by Targeting Departments: Connecting Learning Outcomes Across the Curriculum*", Stockholm, Sweden
- 2014 International Consortium for Educational Development Conference, "*Integrating metacognition into disciplinary thinking through ePortfolios*", Stockholm, Sweden
- 2014 London Symposium, "*Using MOOCs on Campus: Blended Learning and Beyond*" (with J. Melson), London, UK
- 2013 International Society for the Scholarship of Teaching and Learning Annual Conference: "*Preserving the hybrid spaces of SoTL: Cross-disciplinary exchange as catalysts for creativity*" (with D. Reichard), Raleigh, North Carolina
- 2013 Professional and Organizational Development Network in Higher Education 36th Annual Conference: "*Catalyzing Institutional Change: Connecting Learning Outcomes across the Curriculum*" (with C. Cardamone), Pittsburgh, Pennsylvania
- 2013 Association of American Colleges & Universities Annual Conference: "*Innovations in Collaborative Faculty Development*" (with J. Ottenhoff, K. Wirth & D. Schodt), Atlanta, Georgia
- 2013 Coursera Partners' Conference: "Flipping the classroom: using open learning to improve on-campus teaching", University of Pennsylvania.
- 2013 Providence College: "*Developing MOOCs at Brown University*"
- 2012 University of Ghana-Brown University Partnership to address HIV/AIDS in Ghana: "*How People Learn*", University of Ghana, Accra, Ghana
- 2012 University of Fukui: "*The role of faculty development in higher education*", Fukui, Japan.
- 2012 Invited speaker, School of Medicine, University of Tasmania: "*Visualizations in Teaching and Learning*"; Hobart, Australia.

- 2012 Invited speaker, University of Sydney: *“Scaffolding for a Successful Inquiry-based Learning Experience”*; Sydney, Australia.
- 2012 Professional and Organizational Development Network in Higher Education 35th Annual Conference: *“Targeting Junior Faculty: Responsive & Effective Strategies for Teaching Centers”* (with C. Bo-Linn & J. Bandy), Seattle, Washington
- 2012 Professional and Organizational Development Network in Higher Education 35th Annual Conference: *“Faculty Development in a World of Constant Change”* (with C. Cook, M. Marincovich & D. Langley), Seattle, Washington
- 2011 Gordon Conference on Visualization in Science and Education: *“Toward a Pedagogical Framework for Visual Literacy”*, Bryant University, Rhode Island
- 2011 Invited speaker, University of New South Wales: *“How People Learn: Visualizations in Teaching and Learning”*; Sydney, Australia.
- 2009 Professional and Organizational Development Network in Higher Education 34th Annual Conference: *“Developing visual literacy across the disciplines: from metacognition to metavisualization”*, Houston, Texas
- 2009 Invited speaker, University of Massachusetts-Dartmouth, Center for Teaching Excellence: *“The Scholarship of Teaching and Learning: Dialogue and Engagement across Disciplines”*
- 2009 Brown University, Dept of Pathology, Pathology Research and Teaching Rounds Seminar: *“Strategies for Problem-Based Learning”*
- 2009 Brown University, Undergraduate Biological Sciences Seminar: *“Giving an Effective Presentation”*
- 2008 Invited speaker, New Mexico State University: i) Department of Biology: *“Pasteur and the prepared mind - Scientific inquiry and the scholarship of teaching & learning”*; and ii) Teaching Academy: *“Scaffolding for a successful inquiry-based learning experience”*
- 2008 American Association of College and Universities Engaging Science, Advancing Learning Conference: *“Enhancing Student Engagement in Collaborative Inquiry - Thinking about Thinking”*, Providence, Rhode Island
- 2006 Australian Society for Microbiology Annual Conference, Educational Special Interest Group Workshop: *“Authentic Inquiry in Microbiology Education”*, Queensland, Australia
- 2006 Carnegie Academy for the Scholarship of Teaching and Learning Colloquium on the Scholarship of Teaching and Learning: Evidence, Impact and Momentum: *“Mapping student learning throughout the collaborative inquiry process: the progressive e-poster”*, Madison, Wisconsin
- 2005 Carnegie Academy for the Scholarship of Teaching and Learning Colloquium on the Scholarship of Teaching and Learning: Evidence of Student Learning: *“The Visual Learner: Challenges and Approaches in the Sciences”*, Atlanta, Georgia
- 2005 Invited speaker, International Society for the Scholarship of Teaching and Learning Second Annual Conference, Vancouver, BC: *“Mapping SoTL advocacy and leadership: the Living Diagram”*
- 2005 Invited speaker, National Uniserve Conference on Science Teaching and Learning, The University of Sydney, Australia
- 2004 Invited speaker, American Society for Biochemistry & Molecular Biology/ International Union of Biochemistry & Molecular Biology Conference
- 2004 Invited solo exhibition, “Metis” Curated Exhibition of Science and Art: The Symbiotic Bacterial Light Project, Canberra Contemporary Art Space, ACT, Australia.
- 2002 American Society for Microbiology Conference for Undergraduate Educators: *“The power of visualization in teaching genomics and bioinformatics: Mutations in HIV envelope proteins and their consequences for vaccine design”*, Salt Lake City, Utah
- 2002 Invited speaker, Australian Society for Microbiology Annual Scientific Meeting, Melbourne, Australia: *“The power of visualization in teaching genomics”*
- 2001 Invited Presenter, International Gordon Conference on Science Education & Visualization, Massachusetts, USA: *“Science education through real-life applications and visualization in the classroom”*

EDITORIAL BOARDS

- 2010 – 2014 Research Editor, *The Journal of Microbiology and Biology Education* (ASM Press, Washington DC)
- 2007 – 2010 Editorial Board, *The Journal of Microbiology and Biology Education* (ASM Press, Washington DC)
- 2006 – present Editorial Board, *International Journal for the Scholarship of Teaching and Learning*: <http://www.georgiasouthern.edu/ijstol/>
- 2006 - 2007 Editorial Review Panel, *The Journal of Microbiology and Biology Education*
- 2001 - 2003 Editorial review panel for MERLOT (Multimedia Educational Resource for Learning and Online Teaching)
- 2004 – 2005 Editorial Review Board, *MountainRise*, international e-journal on the scholarship of teaching and learning: <http://mountainrise.wcu.edu/edBoard.html>

PROFESSIONAL LEADERSHIP

- 2014 – 2015 President, The International Society for the Scholarship of Teaching and Learning
- 2014 – present Chair, Online Course Subcommittee, Brown University College Curriculum Council
- 2013 – present International Advisor, Ireland National Forum for Enhancing Teaching and Learning
- 2009 – 2011 College Board Advanced Placement (AP®) Biology Curriculum Development & Assessment Committee
- 2008 – 2011 Executive Committee: National Institutes of Health, Division of International Training and Research - Fogarty International Grant Award: “Framework Programs for Global Health”, Brown University
- 2008 – 2011 Co-Chair, Biology Scholars Program Scholarship of Teaching and Learning Transitions Residency, Washington DC (<http://biologyscholars.org/page03a.shtml>).
- 2007 – 2011 Steering Committee and Facilitator: Biology Scholars Program Scholarship of Teaching and Learning Institute (BiologyScholars.org), Washington DC
- 2007 Conference Chair and Organizer, International Society for the Scholarship of Teaching and Learning, Sydney, Australia
- 2005 – 2007 Regional Vice President (Australasia), International Society for the Scholarship of Teaching and Learning
- 2004 Founding Committee, International Society for the Scholarship of Teaching and Learning
- 2004 Co-organizer, Australian Society for Microbiology Annual Conference, Pre-conference Educational Special Interest Group Workshop

SERVICE and PROFESSIONAL ACTIVITIES

- 2014 – present Provost’s Rapid Planning Group for Online Learning
- 2012 – 2013 Provost’s University Strategic Planning Committee for Online Learning, Brown University
- 2012 – 2013 Brown University Medical School Faculty Development Oversight Committee
- 2013 Brown University Meiklejohn Leadership Training Workshop Director
- 2012 – 2014 Brown Executive Scholars Training Program Mentor
- 2011 – present Library Advisory Board, Brown University
- 2011 – 2013 Academic Technology Steering Committee, Brown University
- 2010 – present NIH Initiative to Maximize Student Diversity Advisory Board, Brown University
- 2009 Ethical and Responsible Conduct of Research Curriculum Development Committee, Brown University, Office of the Vice President for Research, the Graduate School and the Dean of the College
- 2009 – 2010 Writing Advisory Board, Brown University, Dean of the College
- 2008 – present Undergraduate Science Resource Center Advisory Board, Brown University, Dean of the College

2008	National Science Foundation Review Panel: Biology Course, Curriculum and Laboratory Improvement Program
2008	2008 National Academies Summer Institute on Undergraduate Education in Biology (University of Wisconsin-Madison)
2006	UNSW Faculty of Science Teaching Review Panel for Academic Promotion
2006	UNSW Academic Women in Leadership Program
2006	Program Committee, International Society for the Scholarship of Teaching and Learning 2006 Conference, Washington DC, US
2005 – 2007	Dean's Gender Equity Advisory Committee, UNSW Faculty of Science
2005 – 2007	Sydney Network of University Science Educators
2005	Program Committee, International Society for the Scholarship of Teaching and Learning 2005 Conference, Vancouver, British Columbia
2005	Australian College of Educators Quality Teaching Award Assessor
2004	Selection Committee, UNSW Vice Chancellor's Award for Teaching Excellence
2004 – 2005	American Association for Higher Education Conference Review Panel
2004	External Peer Evaluation of Teaching Workshop for Australian Universities, Sydney Australia
2003 – 2005	International affiliate of The Consortium for Research and Evaluation of Advanced Technologies in Education, New York University Steinhardt School of Education
2003	Member, UNSW Vice-Chancellor's Academic Strategic Planning Advisory Group
2002	Strategic Plan Working Group, UNSW Faculty of Science
2002 – 2007	Advisory Committee for the UNSW Gifted Education, Research, Resource and Information Centre (GERRIC)
2003 – 2005	Co-chair, Curriculum Revision Committee, UNSW School of Biotechnology and Biomolecular Sciences
2002 – 2003	Executive Committee, UNSW Clive and Vera Ramaciotti Centre for Gene Function Analysis
2002 – 2003	Member, Board of Directors, UNSW Tigger's Place Childcare Centre
1999	Dean's Working Committee on the development of the BSc Communication Degree at UNSW
1987 – 2013	Massachusetts Institute of Technology (MIT) Educational Counselor

PROFESSIONAL SOCIETY MEMBERSHIPS

International Society for the Scholarship of Teaching and Learning
Professional and Organizational Development Network in Higher Education
American Society for Microbiology
Australian Society for Microbiology

PUBLICATIONS

Journal articles in the Scholarship of Teaching and Learning:

- **Takayama, K.** (2014) A metacognitive approach to mapping collaborative inquiry through e-portfolios. AAC&U Peer Review, vol 16 no. 1 <http://aacu.org/peerreview/2014/winter/takayama>
- **Takayama, K.** (2010) Facilitating group discussions: understanding group development and dynamics. *POD Essays on Teaching Excellence*, vol 21 no. 1. <http://podnetwork.org/content/uploads/V21-N1-Takayama.pdf>
- **Takayama, K.** (2010) Catalyzing interdisciplinary and integrative thinking through the scholarship of teaching and learning. *Microbiology Australia*, vol 31 no. 1
- **Takayama, K.** (2009) Communities, Voices and Portals of Engagement. *International Journal for the Scholarship of Teaching and Learning*, vol 3 no. 2 (July 2009).
- **Takayama, K. & Wilson, J.** (2005) Mapping student learning throughout the collaborative inquiry process: the progressive e-poster. [*Proceedings of the Blended Learning in Science Teaching and Learning Symposium, The University of Sydney, 2005*](#), 111-116.
- Whitaker, N. & **Takayama, K.** (2004) Computer-aided visualisation in teaching genomics and bioinformatics. *FASEB Journal*, 18, 6-7.

- **Takayama, K.** (2004) Three-dimensional visualizations in teaching genomics and bioinformatics: Mutations in HIV envelope proteins and their consequences for vaccine design. *Microbiology Education*, 5, 3 - 12.
- **Takayama, K.** (2004) Visualising the science of genomics: cognitive and social interactions that promote learning in an online collaborative research project. *Proceedings of the Scholarly Inquiry in Flexible Science Teaching and Learning Symposium*, The University of Sydney, 2004, 65-71.
- **Takayama, K.** (2003) Visualising the Science of Genomics – an international online research project. *Microbiology Australia*, 24, 32 - 33.

Book Chapters:

- **Reichard, D. & Takayama, K.** (2012) Exploring Student Learning in Unfamiliar Territory: A Humanist and a Scientist Compare Notes, in *The Scholarship of Teaching and Learning In and Across the Disciplines*, Kathleen McKinney (ed.), Bloomington: Indiana University Press.
- **Takayama, K.** (2005) Teaching visualizing the science of genomics, in *Visualization in Science Education*, John K. Gilbert (ed.), Dordrecht: Springer, pp 217-251.

Scientific Journal articles:

- Erce, M.A., Low, J.K., March, P.E., Wilkins, M., **Takayama, K.** (2009) Identification and functional analysis of RNase E of *Vibrio angustum* S14 and two-hybrid analysis of its interaction partners. [Biochimica et Biophysica Acta \(BBA\)- Proteins and Proteomics, 1794, 1107–1114.](#)
- McDougald D., Gong L., Srinivasan S., Hild E., Thompson L., **Takayama K.**, Rice S.A., Kjelleberg S. (2002) Defences against oxidative stress during starvation in bacteria. *Antonie van Leeuwenhoek International Journal of General and Molecular Microbiology*, 81, 3-13.
- Gong, L., **Takayama, K.** & Kjelleberg, S. (2002) Role of *spoT*-dependent ppGpp accumulation in the survival of light-exposed starved bacteria. [Microbiology, 148, 559-570.](#)
- McDougald, D., Gong, L., Srinivasan, S., Hild, E., Thompson, L., **Takayama, K.**, Rice, S., and Kjelleberg, S. (2001) Defences against oxidative stress during starvation in marine bacteria. *Proceedings from the Ninth International Symposium on Microbial Ecology*.
- **Takayama, K.** & Kjelleberg, S. (2000) The role of RNA stability during bacterial stress responses and starvation. [Environmental Microbiology, 2, 355-365.](#)
- Hild, E., **Takayama, K.**, Olsson, R. & Kjelleberg, S. (2000) Evidence for a role of *rpoE* in stressed and unstressed cells of marine *Vibrio angustum* strain S14. [Journal of Bacteriology, 182, 6964-6974.](#)
- Srinivasan, S., Ostling, J., Charlton, T., de Nys, R., **Takayama, K.**, and Kjelleberg, S. (1998) Extracellular signal molecule(s) are involved in the carbon starvation response of marine *Vibrio* sp. strain S14. [Journal of Bacteriology, 180, 201-209.](#)
- Thieringer, H., **Takayama, K.**, Kang, C. and Inouye, M. (1995) Antisense RNA-mediated inhibition of mouse hepatitis virus replication in L2 cells. *Antisense Research and Development*, 5, 289-294.
- Wickens, M. and **Takayama, K.** (1994) RNA:Deviant-or emissaries. *Nature*, 367, 17-18.
- **Takayama, K.** and Inouye, M. (1990) Antisense RNA. *CRC Critical Reviews in Biochemistry*, 25, 155-184.
- **Takayama, K.**, Kuriyama, S., Weiss, S., Chada, K., Inouye, S. and Inouye, M. (1989) Antisense RNA - mediated inhibition of viral infection in tissue culture and transgenic mice. *Proceedings from the UCLA Symposium on the Molecular Biology of RNA*, T. Cech, Ed., 94, 299-310.
- **Takayama, K.** and Inouye, M. (1989) Antisense RNA: a versatile and specific regulator. *Pharmaceutical Technology*, 13, 18-22.
- **Takayama, K.** and Inouye, M. (1988) Antisense RNA as a tool for regulation of gene expression. *Proceedings from the 8th International Biotechnology Symposium*, 1, 97-112.
- **Takayama, K.**, Weiss, S., Kuriyama, S., Chada, K., Inouye, S., Hirashima, A., Sawaki, S., Mizuno, T., Houba-Herlin, N. and Inouye, M. (1988) Antisense RNA as a tool in viral immune systems. *Current Communications in Molecular Biology, Antisense RNA and DNA*, 29-34.
- **Takayama, K.**, Houba-Herlin, N. and Inouye, M. (1987) Overproduction of an antisense RNA containing the *oop* RNA sequence of bacteriophage I induces clear plaque formation. *Mol. Gen. Genet.*, 210, 184-186.

Other Refereed Work:

Takayama, K. and Nicholson, J. (2004) The Symbiotic Bacterial Light Project: Luxcorp. Installation, Canberra Contemporary Art Space. Invited solo exhibition for the CSIRO Metis Arts-Science Festival. May 15 - June 19, 2004, Canberra, ACT Australia.

Other publications:

Takayama, K. (2009) Research and teaching as a postgraduate student: emphasizing integration over balance. *Australian Society for Microbiology Student Newsletter*, July 2009.

Takayama, K. (2005) The future of life science research: teaching our future scientists. *Australian Life Scientist*, March/April 2005, p.12.

TEACHING

- 2013 – ongoing *Certificate V: Principles & Practice in Reflective Mentorship* (Graduate students; enrollment ~10), Brown University, Sheridan Center for Teaching and Learning
- 2009 – ongoing *Certificate IV: Teaching Consultant Program* (Graduate students, postdocs, faculty; enrollment ~40), Brown University, Sheridan Center for Teaching and Learning
- 2007 – 2012 *Certificate III Program: Professional Development Seminar for Life & Physical Sciences* (Graduate students & Postdoctoral fellows; enrollment ~15), Brown University, Sheridan Center for Teaching and Learning
- 2007 – 2012 *Certificate I: Sheridan Teaching Seminar* (Graduate students, Postdoctoral fellows, faculty & staff; enrollment ~140) Brown University, Sheridan Center for Teaching and Learning
- 2001 – 2007 *Fundamentals of Microbiology and Immunology* (2nd year course, 270 students), University of New South Wales (UNSW), Australia.
- 2001 – 2002 *Viruses and Disease* (3rd year course, 60 students), University of New South Wales, Australia.
- 1997 – 2007 *Environmental Microbiology* (3rd year course, 70 students), University of New South Wales, Australia
- 1997 – 2005 *Microbial Physiology- a Molecular Approach* (3rd year course), University of New South Wales, Australia

GRANTS AWARDED

- 2014 Howard Hughes Medical Institute STEM Education Award (5 yrs: \$1.5 M)
Co-leaders: K. Takayama, D. Targan, M. Johnson: “Bridging engaged activities for retention in STEM at Brown”
- 2011 National Science Foundation Visionary Grant (1 yr: \$6000)
K. Takayama, B. Wong (MIT-Harvard Broad Institute) & N. Woolridge (U. of Toronto): “Crowd-sourcing salience ratings for scientific images”
- 2011 Teagle Foundation (2 yrs: \$200,000)
T. Luxon (Dartmouth College) & K. Takayama: “Engaging Evidence: Programs for Improving Student Learning”
- 2010 National Science Foundation (4 yrs: \$599,595)
A. Chang (American Society for Microbiology), A. Darden (University of Oklahoma), K. Takayama
“Biology Scholars Program - 2”
- 2007 National Science Foundation (3 yrs: \$200,000)
A. Chang (American Society for Microbiology), S. Benson (U. of Maryland), A. Darden (The Citadel), H. Elmendorf (Georgetown Univ.), K. Takayama (UNSW)
“Enhancing Learning Improvements Through Evidence (ELITE) Scholars Program”
- 2006 Australian Carrick Institute for Learning & Teaching Grants Program (1 yr: AUS\$147,770)
University of Sydney: P. McGee, H. Drury, J. Jones, P. O’Carroll, D. Airey, R. Baker, A. Yalcin, K. Kuzmanovic; UNSW: S. Starfield, P. Mort, P. Hagan, K. Takayama
“Creating an integrated student-centered online learning environment for report writing in the sciences and engineering”
- 2006 Faculty of Science Learning and Teaching Grant (1 yr: AUS\$5000)
G. Hatsidimitris and K. Takayama
“Integrative learning to enhance school-university transition: Collaborating with high school teachers in the production of multimedia learning resources to promote conceptual understanding and application of challenging concepts in the biology curriculum”
- 2006 Department of Education, Science and Technology Australian School Innovation in Science, Technology and Mathematics Project Grant
K. Rogers, S. Ryan, K. Takayama, J. Nicholson (1 year: AUS\$65,000)
“Development of arts-infused science challenges in non-traditional education settings for primary students talented in science”

- 2005 UNSW Learning and Teaching Award
K. Takayama and J. Wilson (AUS\$7,500) "Mapping student learning throughout the collaborative inquiry process: the progressive e-poster"
- 2004 UNSW Faculty Research Grants Program
K. Takayama (AUS\$4,000)
"Regulation of mRNA stability during high pressure adaptation in the piezophile *Photobacterium profundum* SS9"
- 2004 UNSW UCommittee Grant
K. Takayama and J. Nicholson (AUS\$4000) "The Symbiotic Bacterial Light Project"
- 2003 US National Science Foundation
B. Tversky, K. Takayama, J. Plass (US\$5,000)
"Learning from 2D vs 3D molecular visualizations: Effects of individual learner characteristics and design factors"
- 2003 Carnegie Foundation for the Advancement of Teaching Carnegie Scholars Program
K. Takayama (US\$5,000) "The contextual role of technology in liberal education"
- 2003 UNSW Faculty Research Grant
K. Takayama (AUS\$20,000)
"The role of RNA stability and modification mechanisms during carbon starvation and outgrowth in *Vibrio angustum* S14"
- 2003 UNSW First Year Teaching Award
M. Cooley, N. Whitaker, and K. Takayama (AUS\$15,000)
"Getting students to think like scientists (Integration of science-specific graduate attributes into the curriculum)"
- 2002 UNSW First Year Teaching Award
K. Takayama and W. Rifkin (AUS\$15,000)
"Collaborative experiential learning linked to production of student-run online science journal"
- 2002 UNSW Vice-Chancellor's Teaching and Research Award
K. Takayama (3 years: AUS\$160,000)
"State-of-the-art 'Fundamentals of Microbiology and Immunology': small group strategies in a large lecture subject"
- 2002 American Society for Microbiology 9th Microbiology Education Conference Travel Grant
K. Takayama (US\$500)
"The power of visualization in teaching genomics and bioinformatics: Mutations in HIV envelope proteins and their consequences for vaccine design"
- 2002 UNSW University Research Support Program Grant (URSP)
K. Takayama (AUS\$8,650)
"Mutation patterns in HIV envelope proteins and consequences for vaccine and drug design: the role of bioinformatics and computer modeling"
- 2001 The Ian Potter-George Alexander Foundation Project Grant
K. Takayama (AUS\$3,000)
"IT in the Science Classroom"
- 2001 International Gordon Conference on Science Education and Visualization Travel Grant
K. Takayama (US\$550)
"Science Education Through Real-Life Applications and Visualization in the Classroom"
- 2001 UNSW Faculty of Science Project Support
K. Takayama (AUS\$5,000)
"IT in the Science Classroom"
- 2001 UNSW Faculty of Life Sciences Teaching Development Grant
K. Takayama (AUS\$6,000)
"Incorporation of visualisation technologies into the undergraduate curriculum"
- 2001 Jacques Monod Conference Grant
K. Takayama (FRF1270)
"Regulation of mRNA turnover in bacteria during carbon starvation and outgrowth"
- 1998 The Ian Potter Foundation Travel Grant to present a paper at the Gordon Research Conference on Science Education, Oxford University, UK
K. Takayama (AUS\$1,000)

- 1998 "Science education through mobile outreach: development of 'real-life science' workshop modules"
Department of Industry, Science and Tourism National Science Week Grant
K. Takayama (AUS\$3,000)
"Real-life science: Hands-on Biotechnology Workshops"
- 1998 Australian Research Council Large Research Grant
S. Kjelleberg & K. Takayama (3 years: AUS\$256,894)
"Regulation of the carbon starvation and outgrowth response in marine *Vibrio*"
- 1997 Australian Research Council Small Research Grant
S. Kjelleberg & K. Takayama (AUS\$19,860)
"The regulation of mRNA stability during carbon starvation and recovery in bacteria"
- 1996 Faculty of Biological & Behavioural Sciences Special Research Grant
S. Kjelleberg & K. Takayama (AUS\$2,000)
"Post-transcriptional regulation of starvation and recovery responses in *Vibrio* S14"
- 1991 National Institutes of Health Individual Research Fellowship Award
K. Takayama (US\$72,900)
"Regulation of polyadenylation & deadenylation during early development in *Xenopus laevis*"

THESIS ADVISING

Brown University

- 2014 BA Honors (Science and Society); Jessica Brodsky*
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Rhode Island School of Design

Quaternary Advisor for Gigi Gatewood, Master of Fine Arts in Photography, Dept of Photography (2009)

University of New South Wales

- 2011 PhD (Biotechnology): Jason Low
2010 PhD (Microbiology): Melissa Erce
2007 BS with Honours (Biotechnology): Jason Low
2005 BS with Honours (Microbiology): Melissa Erce
BS with Honours (Microbiology): Karen See
BS with Honours (Biotechnology): Edward Lau
2004 Research Diploma (Microbiology): Kristine Malabanan
BS with Honours (Microbiology): Jonna Terkildsen
BS Practicum (Bonn University, Germany): Claus Lang
BS with Honours (Molecular Biology): Julia Tauber
BS with Honours (Biotechnology): Jessica Ang
2003 PhD (Microbiology): Lan Gong
BS with Honours (Microbiology): Miguel Oramas
1999 PhD (Microbiology): Sujatha Srinivasan
1998 BS with Honours (Microbiology): Kate Howell
1996 PhD (Microbiology): Erika Hild
2000 PhD (Microbiology): Rita Marouga