

**SCIENCE  
JUSTICE**  
RESEARCH CENTER

End of Year Report for 2012-2013 Academic Year

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<http://scijust.ucsc.edu>

The 2012-2013 academic year, found the Science and Justice Research Center in a growth phase. Andrew Mathews joined us as Director of the Center, ably taking over while Jenny Reardon was on sabbatical. We developed a Certificate program for our Science and Justice Training Program, saw the publication of our first major journal articles as well as high profile pieces in the media, developed our first case statements for fundraising and received positive reviews for major grants, continued to build collaborative training and research, and formalized our Visiting Fellows program. In this annual report, we briefly describe these accomplishments and layout our vision of the year to come.

### **Accomplishments of 2012-2013**

#### *Publications and Recognition*

Reardon is invited to give keynote talk at Interdisciplinarity conference at UC Berkeley. She is also asked to be one of three outside speakers at a workshop on interdisciplinarity at King's College London. At both events, UC Santa Cruz's Science and Justice Training Program is recognized as leading the field.

Science and Justice Training Program Co-Directors Jenny Reardon and Karen Barad and 8 of the S&J grad fellows write an article for PLoS Biology (after Reardon was invited to submit an essay about S&J to PLoS). The article received very positive reviews. Reviewers note that Science & Justice is a unique and innovative program that should be publicized. The article will be published end of July.

Reardon publishes widely circulated article in *San Francisco Chronicle* entitled "[Should Patients Know They Are Research Subjects?](#)" The article appears on the front page of the Sunday, March 3<sup>rd</sup>, Sunday magazine *Insight*. Responses from UCSF and supporting editorial from the Chronicle were published along with the article. This article led to Reardon's collaboration with Peter Yu, Director of Cancer Research at the Palo Alto Medical Foundation, and incoming President of the American Society of Clinical Oncology. Yu and Reardon are planning a major Science and Justice event on data sharing.

Mathews co-authored an article on the "Contribution of anthropology to the study of climate change", published in *Nature Climate Change* in 2013.

#### *Fund Raising*

Reardon submitted NSF grant entitled "Meaning After the Genome: Science and Justice in an Era of Open Data" submitted for \$500,000 which received a Revise and Re-submit. The reviewers were particularly supportive of what they view as the innovative Science and Justice methodology. They asked for a narrower focus. Reardon revised and resubmitted for the August 1 deadline. Help of Science and Justice GSR Martha Kenney greatly aids in this major grant writing.

Reardon wrote case statement to raise money for a major meeting on rights and responsibilities related to genomic and electronic health records. The first donor this was presented to agreed to host a meeting on related issues at her house in New York City. Further donors are being approached.

Reardon and Mathews (who attended case statement preparation workshop in Winter) developed a draft case statement for Foundation support for the training program.

Mathews submitted an NSF grant entitled “Plant Politics: Pine Oak Forests and Climate Change Policy in Italy and Mexico,” submitted for \$500,000. This grant would support two course releases to teach the training program graduate seminar, two workshops and a symposium supported by the center in 2016-2017, and partial support for the Academic Coordinator in 2015-2016 and 2016-2017.

Reardon aided in writing case statement for the Genomics Institute. Science and Justice methodology is invoked in the Genomics and Society vision for the Institute.

\$5000 raised from Molecular, Cellular and Developmental Biology (MCD) and Chemistry to support the continuation of Assistant Director Jake Metcalf's work building training for MCD and Chemistry students in NIH training programs.

Creation of Broader Impacts program. Based on the successful work with MCD, we have begun to reach out to other faculty in the Physical and Biological Sciences and Engineering to develop meaningful Broader Impacts proposals. Some of the money budgeted for these programs would support the Science and Justice infrastructure.

Aristea's Fotopoulou receives Research Council UK funds to join Science and Justice as a Visiting Scholar in Winter/Spring 2014 and host a meeting with Silicon Valley entrepreneurs on data sharing.

#### *Institution Building*

Science and Justice Training Program Certificate Proposal submitted for approval by the Academic Senate. This proposal received strong support from Dean of the Social Sciences, Sheldon Kamieniecki.

MCD NIH Training Program collaboration developed by Metcalf and Susan Strome (MCD).

Hired Massengale for administrative support.

#### *Collaborations*

Science and Justice invited to be part of large UK EPSRC funded project to create a [Digital Economy 'Communities and Culture' Network](#). Leaders of this effort visit UCSC in March. Funding opportunities already emerging.

### *Programming*

Hosted a dozen of our regular colloquia in addition to a number of informal meetings of graduate students. These events covered a wide range of topics, including the ethics of embryology, the public reaction to scientific uncertainty in earthquake science and the relationship between scientific evidence and social justice in pesticide regulation. Short rapporteur reports for many of these events are available via our website. Two events in particular drew significant public attention. We started the year with “[Genomics Gets Personal: Property, Persons and Privacy](#),” a panel discussion at UCSF co-sponsored by the California Center for Qualitative Biosciences, the UCSC Entrepreneurship and Business Group and the UCSC San Francisco Bay Area Slug Attorney Network. SJRC Director Jenny Reardon hosted this discussion about the social, ethical and legal repercussions about the rise of data-driven medical genetics. In Winter term, we hosted “[Seeding Sustainability: Hunger, BioTech, and the Future of Food Systems](#)” in collaboration with the UCSC Center for Agroecology and Sustainable Food Systems. This panel featured experts on the science and political economy of genetically modified crops, examining whether there is any place for genetically modified crops in sustainable agriculture. It drew several hundred audience members and received local and regional [media attention](#).

### *Training Program*

This year we also launched a new iteration of the Science & Justice Training Program as a shorter one semester graduate course. In order to address our new role as a Research Center and at the conclusion of our National Science Foundation funding, we scaled back the scope of the courses. We re-imagined the Training Program as an opportunity for graduate students to learn how to foster collaborative conversations across the natural and social sciences, humanities and engineering, and to expand their research networks. A cohort of fellows from this year’s class will be organizing workshops or events at the Center during the 2013-2014 academic year. Students in the training program also participated in a two session training program in writing op-eds on their work, with journalism Professor Sally Lehrman (from Santa Clara University).

### *Artist in Residence Program*

We inaugurated an undergraduate artist in residence program in collaboration with Associate Professor Kate O’Riordan from the Art Department. Two art majors, [Patrick Appleby and Kiko Kolb](#), attended Science and Justice events, received guidance from Science and Justice faculty and our GSR, Martha Kenney. Each student produced three pieces for installation on themes they observed at our events. Their work was displayed at an end-of-year reception at the Science and Justice offices and will remain in the Science and Justice offices for the following year. This program was of interest to our visitors from the Berkeley STS program, who are discussing setting up a similar program of their own in the future.



Kolb 2013

### **Goals for 2013-14**

In 2013-2014 we plan to build and use our increasingly prominent Science and Justice Platform to become a part of national and international policy discussions. Plans are in the works to host a major meeting on data access and rights that may be a framing meeting for Institute of Medicine report.

Building on the success of our internal advisory board and our external advisory board (met Spring 2013), we hope to expand our external advisory board to include non-academics, with the goal of supporting fundraising.

We also plan to continue to develop the communication of our work in the broader public spheres. If approved, Sally Lehrman, award-winning journalist, will join us as Adjunct Professor to amplify this work, including writing grants to develop the public writing part of our work.

Taking advantage of relationships Reardon has built in Silicon Valley, Science and Justice plans to generate a Silicon Valley Research Group. Reardon now has several relationships with key leaders in the bioinformatics worlds who are interested in broader science and society issues. This combined with the UK EPSRC collaboration and the Winter 2014 visit of Fotopoulou opens up an opportunity to create a group to critically explore what notions of the 'social' and 'innovation' shape SV, and how these notions might be opened up to allow tech development that explores new terrains of innovation and social justice.

Having just published our first articles on 'science and justice,' scholars and policy makers are beginning to turn to us as the place to think about in this emerging area. We would like to take advantage of this by launch a Science and Justice bi-annual lecture series that would address frontier issues surrounding science and justice. Brian Wynne, Professor of Science Studies and Special Advisor to the House of Lords Science and Technology Select Committee on Science and Society and chair of EU expert group on European Knowledge Society, will be our first speaker.

We will continue to host events in the Silicon Valley and San Francisco to draw in leaders in SV and other Bay Area universities.

We will host the next in the series Stanford/UC Berkeley/UC Santa Cruz Interdisciplinary Workshops.

## **Funders & Co-Sponsors**

### Major sponsors

- The National Science Foundation
- The Division of Social Sciences
- The Division of Graduate Studies
- The UCSC Office of Research
- The Jack Baskin School of Engineering
- The Division of Physical and Biological Sciences
- Molecular, Cellular and Developmental Biology Department

### Co-sponsors of the Science & Justice Training Program Fellows

- Anthropology Department
- Earth and Planetary Sciences Department
- Ecology and Evolutionary Biology Department
- Environmental Studies Department
- History of Consciousness Department
- Philosophy Department
- Physics Department
- Politics Department
- Sociology Department
- Division of Graduate Studies

### Co-sponsors of Science & Justice Working Group Programming

- Anthropology Department
- Film & Digital Media
- Center for Agroecology and Sustainable Food Systems
- Center for Biomolecular Sciences and Engineering—Research Mentoring Institute
- Center for Cultural Studies
- Critical Race and Ethnic Studies
- Molecular, Cellular and Developmental Biology Department
- National Science Foundation
- Sociology Department
- UCSC Cancer Genomic Hub
- UCSC Office of Research

**Personnel and Visitors**

Director----- Andrew Mathews, Associate Professor of Anthropology  
Co-Director----- Jenny Reardon, Associate Professor of Sociology and the Center for Biomolecular Sciences and Engineering (resuming directorship July 2013)  
Co-Director of Graduate Education- Karen Barad, Professor of Feminist Studies  
Assistant Director ----- Jacob Metcalf  
Administrative Assistant ----- Colleen Massengale  
Graduate Student Researcher ----- Martha Kenney, History of Consciousness  
Visiting Scholar ----- Josef Barla, University of Vienna



## Public Events

*Genomics Gets Personal: Property, Persons, Privacy*  
September 27, 2013

Speakers: Robert Cook-Deegan, M.D. (Research Professor, Genome Ethics, Law & Policy Director, Center for Genome Ethics, Law and Policy, Duke Institute for Genome Sciences and Policy, Author of *Gene Wars: Science, Politics and the Human Genome Project*); Gail P. Jarvik, M.D., Ph.D. (Head, Division of Medical Genetics, The Arno G. Motulsky Endowed Chair in Medicine, Professor of Genome Sciences at University of Washington Medical Center); Ryan Phelan (Founder, and former CEO, DNA Direct by Medco, Board member, Personal Genome Project, Founder Direct Medical Knowledge, Founding Executive Director of Planetree); John Wilbanks (Director, Sage Bionetworks, Director, Consent to Research project (CtR), Co-founder of the Access2Research petition and Senior Fellow in Entrepreneurship at the Ewing Marion Kauffman Foundation)

Respondent: Jenny Reardon (Sociology and SJRC, UCSC)

*Ethnicity and Security: The Wen Ho Lee Case*  
October 9, 2013

Speaker: Jeffrey Bussolini (CUNY and Director of the Center for the Ethnographic and Historical Study of Los Alamos and National Security)

*Enacting Multiple Salmon: Conversation across disciplinary practices*  
October 25, 2013

Speakers: Robin Wapless (NOAA), Rachel Barnett-Johnson (Biology, UCSC), John Law (Sociology, Open University, UK), and Marianne Liene (Anthropology, University of Oslo)

*Rethinking Development in Light of Climate Change*  
October 27, 2013

Speaker: Hallie Eakin (School of Sustainability, Arizona State University)

Sponsor: Interdisciplinary Development Working Group, co-sponsored by SJRC

*When Does Personhood Begin? The Science and the Rhetoric*  
November 13, 2013

Speaker: Scott Gilbert (Howard A. Schneiderman Professor, Swarthmore College)

Respondents: Jacob Metcalf (SJRC, UCSC) and Susan Strome (Molecular, Cellular and Developmental Biology, UCSC)

*We Are All Lichens: How Symbiosis Research Has Reconstituted a New Realm of Individuality*

November 15, 2013

Speaker: Scott Gilbert (Howard A. Schneiderman Professor, Swarthmore College)

Respondent: Donna Haraway (History of Consciousness, UCSC)

*Climate Data, Dams, and Water Demand: A Cross-Disciplinary Conversation*

November 27, 2013

Panelists: Ruth Langridge (Legal Studies and Politics Department, UCSC), Lori Pottinger (International Rivers Network), and Bruce Daniels (Earth and Planetary Sciences, UCSC and Soquel Water District Board of Directors)

Respondents: Kathleen Uzilov (Earth and Planetary Sciences, UCSC) and Colin Hoag (Anthropology, UCSC)

*Green Neuroscience: Re-envisioning How We Study the Brain and Ourselves*

January 22, 2013

Speakers: Elan Liss Ohayon and Ann Lam (Salk Institute for Biological Studies and Green Neuroscience Laboratory)

Respondent: Martha Kenney (History of Consciousness, UCSC)

*Mast Fruiting and Ectomycorrhizal Associates: How Looking Below Ground Reshapes Above Ground Ecology and Politics*

February 19, 2013

Speaker: Lisa Curran (Woods Institute for the Environment/Department of Anthropology, Stanford University)

Respondents: Anna Tsing (Anthropology, UCSC) and Andrew Mathews (SJRC and Anthropology, UCSC)

*Seeding Sustainability: Hunger, BioTech, and the Future of Food*  
February 23, 2013

Speakers: Miguel Altieri (UC Berkeley) Eric Holt-Gimenez (Food First) Kent Bradford  
(UC Davis)

Moderator: Jacob Metcalf (SJRC, UCSC)

Sponsors: Center for Agroecology and Sustainable Food Systems, Co-sponsored and  
organized by SJRC

*Measuring and Predicting Carbon Absorbed in Reforestation and Averted Forest Fires:  
Problems of Communicating Uncertainty*  
February 26, 2013

Speakers: Karen Holl (Environmental Studies, UCSC) Maggi Kelly (Environmental  
Sciences, Policy & Management, UC Berkeley) and Tim Forsyth (Department of  
International Development, London School of Economics)

*Critical Nutrition Symposium*  
March 8, 2013

Speakers: Charlotte Biltekoff (American Studies and Food Science, UC Davis), Jessica  
Hayes-Conroy (Women's Studies, Hobart and William Smith Colleges), Adele  
Hite (Public Health, University of North Carolina-Chapel Hill), Aya H. Kimura  
(Women's Studies, University of Hawai'i-Manoa), Hannah Landecker (Sociology  
and Center for Society and Genetics, UCLA), and Jessica Mudry (Center for  
Engineering in Society, Concordia University).

Commentary: UCSC food scholars Julie Guthman, Melissa Caldwell, Nancy Chen,  
Metcalf

Sponsors: Multi-campus Research Program on Food and the Body and the "Knowing  
Food" Research Cluster of the Center for Global, International, and Regional  
Studies, co-sponsored by SJRC.

*Nutritional Deficiencies and Trace Synthetic Chemicals: Putting Health Risks into  
Perspective*  
April 23, 2013

Speaker: Bruce Ames (Senior Scientist, Nutrition and Metabolism Center, Children's Hospital of Oakland Research Institute (CHORI) and Professor of Biochemistry and Molecular Biology, UC Berkeley)

Respondent: Nancy Chen (Anthropology, UC Santa Cruz)

*Putting Earthquake Prediction on Trial: Lessons from the 2009 L'Aquila Earthquake*  
May 21, 2013

Panelists: Massimo Mazzotti (History, UC Berkeley) and Susan Schwartz (Earth and Planetary Sciences, UC Santa Cruz)

*When Does Science Become Justice? Scientific Evidence, Pesticides and Food System Justice.*  
May 28, 2013

Panelists: Tyrone Hayes (Integrative Biology, UC Berkeley). Jill Harrison (Sociology, Colorado-Boulder) and Emily Marquez (Pesticide Action Network of North America)



Appleby 2013  
“Enacting Multiple Salmon”