

SCIENCE AND JUSTICE RESEARCH CENTER ANNUAL REPORT



Artwork by Morgan Smith for *Just Data* Workshop

September 2015 – October 2016

scijust.ucsc.edu

Director's Letter: Welcome to Science and Justice

It has been another busy and exciting year for Science and Justice. The 2015-2016 academic year brought new leadership and international recognition to the Center. Within the UC, Science and Justice co-led the UC North Bioethics Collaboratory in Life and Health Sciences. With the support of the National Science Foundation and the University of California, we convened *The Genomic Open: Then and Now* workshop in the Fall and *Just Data? Justice, Knowledge and Care in Age of Precision Medicine* in the Spring at UCSC. Both were covered in the local and international press, and led to innovative cross-disciplinary research and writing that honed in on the important matters of knowledge and justice at stake in genomics and biomedicine. Over the last year, the work of our faculty in the domain of socio-ecological justice has proven equally as innovative and transformative. Science and Justice Professor Kristina Lyons' research on the impacts of aerial fumigation and the War on Drugs on rural communities in Colombia informed the Monsanto Tribunal and People's Assembly at The Hague. Professor Lyons' research has participated in efforts to incorporate the crime of ecocide into the Rome Statute that governs the International Criminal Court. All of this collective innovative work at the nexus of science and justice attracted the attention of *Le Monde*, which in the Winter of 2016 profiled some of the work of the Center.

During the Spring of 2016, the Center also conducted a successful search for an Assistant Director of the Center. We are very pleased to welcome Kate Darling into this post. Darling joins us from UCSF, where she recently completed her doctoral dissertation on the transition of AIDS from an acute to a chronic disease, and the challenges patients face as they encounter an increasingly bureaucratized, data-mediated regime of care. Darling will help lead our efforts to grow support for our graduate and undergraduate training programs, develop our fund-raising efforts, and cultivate our vital science and justice research and policy initiatives.

We continue to attract visiting scholars and postdocs nationally and internationally. Among others, this last year we were pleased to welcome Sara Tocchetti from the Centre Alenxandre Koyré, Paris, France and Eben Kirskey from the University of New South Wales in Australia, and Lesley Green (via Skype) from the University of Cape Town, South Africa. Science and Justice postdoctoral fellow Melissa Eitzel Solera continued her NSF-supported collaborative work with the Muonde Trust in Zvishavane District of Zimbabwe, developing methods along with the community for modeling and synthesizing their long-term data to answer pressing concerns about sustainable environmental management.

As we look forward to the year to come, we appreciate this chance to pause and to share with you our accomplishments of the last year.

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Our Mission

The Science and Justice Research Center at the University of California, Santa Cruz, is a globally unique endeavor that innovates civic spaces and collaborative research practices for exploring the places where questions of science meet questions of justice. Understanding this joining of science and justice is a vital step in building the capacities needed to create forms of science and technology that are more responsive to diverse needs and that address vital questions:

- Whose lives are supported by investments in high-tech science?
- Whose lives are erased or marginalized?
- How can scientists collaborate with other knowledge producers?
- How can collaboration lead to new research questions that push toward justice?

Through attention to these questions, members of the Science and Justice community come together across historic divides—between the natural and social sciences, academia and wider publics—to forge new strategies for building more just and equitable futures. Biomedical innovation, species extinction, toxic ecologies, healthcare reform and many other contemporary matters of concern provoke questions that traverse multiple intellectual, institutional and social worlds. We foster the alliances and cultivate the empirically rigorous research needed to address these challenges and help forge more livable worlds.

The Center is home to the Science and Justice Working Group, the Science and Justice Graduate Training Program, and several sponsored research projects and research groups. The initiative builds on the UCSC campus' historic commitments to social justice and strengths in science studies and interdisciplinary research.

Our Team

DIRECTOR | Jenny Reardon, Professor of Sociology

CO-DIRECTOR | Andrew Mathews, Associate Professor of Anthropology

ASSISTANT DIRECTOR | Emily Cohen, Adjunct Professor of Sociology

Co-DIRECTOR of the SCIENCE AND JUSTICE TRAINING PROGRAM |

Karen Barad, Professor of Feminist Studies

ADMINISTRATIVE ASSISTANT | Colleen Massengale

GRADUATE STUDENT RESEARCHER | Samuel Topiary, UCSC Film & Digital Media

GRADUATE STUDENT RESEARCHER | Katherine Weatherford Darling, UCSF Sociology

Sustaining a Vibrant SJRC Community

The Science and Justice Research Center is the home of a vibrant and lively community of scholars. With offices in Rachel Carson College and Oakes College, SJRC hosts visitors from across the UC system and around the world. With collaborators and SJRC-affiliates at UCSC, our SJRC community is committed to sustaining an experimental and collaborative ecosystem for novel ideas, dialogues, methods and collaborations. The Science and Justice Working Group remains the experimental life blood of our collective work. We also host regular reading groups with SJRC-affiliated graduate students and faculty who seek to further investigate the meanings and practices of science and justice.

Highlights from the Science and Justice Working Group

We convene diverse speakers and community in the experimental space of the Science and Justice Working Group. These experimental, convivial and novel spaces for discussion cultivate emerging connections, spark new questions for research, and nurture our communities' collaborative ties. Below are a few of the events we hosted in the 2015-16 academic year.

Field Notes on Soil with Farmers in the Global South: In this S&J Working Group event, Kristina Lyons (UCSC, Feminist Studies) and Kate Scow (Professor of Soil Science and Microbial Ecology in the Department of Land, Air and Water Resources at UC Davis) came together for an interactive hands-on exploration of “soil health.” Specifically, they drew upon their research with small farmers in Uganda and Colombia to discuss the way emergent ideas about “soil health” may serve to build collaborations between soil scientists, agricultural extension researchers, and farmers in the global South. They engaged questions of how a concern for soils pushes us beyond human-centric frameworks, and towards understanding the shared



The Quants of Wall Street Panel: Jenny Reardon, Joe Klett, Nirvikar Singh, Dan Friedman, Sherry Paul and Anne Price



Professor Lyons opens soil samples for the SJWG

ecological nature of justice, ethics, well-being, and food production. In addition to taking part in the discussion, participants of the working group got to smell and explore several different types of soil.

Quants of Wall Street: Who wins and who

loses as Wall Street transforms from sweaty bodies on the stock exchange floor to quants and physicists designing swift, sleek stealth modes of moving financial data at a distance? What new opacities and inequalities accompany the rise of new financial technologies—such as Bitcoins, roboadvisers, and laser-linked data centers — the new coin and conduits of financial realms? At [Quants of Wall Street](#), the Science and Justice Research Center in collaboration with the Center

for Analytical Finance and the Sociology Department hosted a discussion with industry, academic and NGO leaders on these critical questions about who benefits and who loses in the high-tech worlds of today's financial markets.

The Genomic Open: Then and Now:

Twenty years after the first historic Bermuda meeting, the SJRC gathered key players in the Bermuda meetings together at UC Santa Cruz to discuss an 'open' approach to genomics with historians of genomics and allied fields

“WE SUGGEST THAT 5-7% OF THE CALIFORNIA BIOHUB’S HEALTH RESEARCH BUDGET SHOULD BE USED TO DESIGN AND MONITOR THE GOALS OF JUSTICE AND EQUALITY FROM THE OUTSET.”

- *NATURE* LETTER FROM SCIENCE FARE (FEMINIST-ANTI-RACIST-EQUITY) COLLECTIVE

to critically reprise this iconic story. The *Santa Cruz Sentinel* and journalists from the UCSC Science Writing Program [covered the event](#), bringing the dialogues to wider attention in Santa Cruz County and beyond. The workshop resulted in a [commentary](#) to commemorate the twentieth anniversary of the Bermuda Principles. Published in a leading journal of bioinformatics, *Gigascience*, the commentary included an unprecedented broad and inclusive range of authors and collaborators. True to S&J's experiments in collaboration, the commentary includes authors, ranging in discipline and career status. Graduate students in History and Sociology joined with senior scholars in Science and Technology Studies and leading genome scientists to write this agenda-setting article.

Just Data? Justice, Knowledge and Care in an Age of Precision Medicine

Leaders at the White House, the California Governor's Office and elite biomedical institutions are currently investing in big data infrastructures for creating a 'revolution' in biomedical practice and research called "precision medicine". While these transformations promise ambitious revolutions in biomedical science and healthcare, they also raise fundamental questions about what kind



The Just Data? Team: Jenny Reardon, Kate Weatherford Darling, Colleen Massengale, Eric Flores Alvarez, Hannah Finegold

of societies we are building as we construct new healthcare from big data infrastructures. The [Just Data? Meeting](#) convened leaders in clinical care, social sciences, humanities, policy, biotechnology and data science.

As a result of the meeting, the Science FARE (Feminist-Anti-Racist-Equity) Collective formed, and published a letter to the editor in [Nature](#) suggesting that large projects such as the [California Biohub](#) invest in the goals of justice and equity from the outset of large health-research projects.

With the leadership of SJRC, the Just Data meeting participants have been developing a thematic collection of research articles. Together, the Just Data dialogue participants will continue to ask what would it take to re-center healthy equity and disability justice in big data approaches to health and medicine.

Science and Justice Graduate Training Program
SJRC-affiliated faculty teach graduate and undergraduate students how to engage questions of science and justice together. We engage in critical and ethical analysis from day one. In our collaborative training, students from across all five divisions learn how to collectively address the moments where questions of science meet questions of justice. We teach science literacy to non-scientists, and teach scientists and engineers to see the political stakes and impacts of their work. We not only teach why it's important to collaboratively ask questions, but also propose when and how to ask these questions.

Current and past SJTP fellows continue to excel in their home fields, winning prestigious awards for their research. Jessica Neasbitt, History of Consciousness Doctoral Candidate was awarded the 2015-2016 Andrews Fellowship for Medical Humanities. Fellow and past Graduate Student Researcher, Lizzy Hare (Anthropology), was awarded a 2016-2017 fellowship from the American Association of University Women (AAUW).

The SJTP also sparks collaborative panels organized by fellows and affiliates. In 2015, Sandra Harvey (Politics) and Jessica Neasbitt (History of Consciousness) participated in the

SJRC WELCOMES GRADUATE FELLOWS

Shun-Nan Chiang
(Sociology)

Krishna Hernandez
(Anthropology)

Paloma Medina
(Department of
Biomedical Molecular
Engineering)

Vivian Underhill
(Feminist Studies)

Taylor Wondergem
(Feminist Studies)

Gender, Bodies and Technology Conference and Virginia Tech. Their panel on “Illegible Labor: On Visibility, Reproduction, and the Work of Women’s Bodies in Medicine” explored manifold tensions between women’s (in)visible bodies, the technologies that brought these conditions into being, and resistance to representations of women as pathological.

In Spring 2016, the Science and Justice Course *Experiments in Collaboration* launched the pathway to the Training Program for nine graduate students. Over the course of the quarter, graduate students from across campus tackled shared questions and built new strategies for collaboration. In addition to discussions facilitated by Professor Reardon, the graduate students heard perspectives from several SJRC affiliated scholars. SJRC Postdoctoral scholar Melissa Eitzel Solera presented her work with her collaborator Ken Wilson on strategies for “Working Across Disciplines, Institutions and Nations” based on their work with a community land trust in Zimbabwe. Donna Haraway (History of Consciousness) and Beth Shapiro (Ecology and Evolutionary Biology) co-led a discussion on “Knowing, Living and Dying at the Edge of Extinction” based on their shared concern for unprecedented extinction rates. Kristina Lyons (Feminist Science Studies and Anthropology) taught students about the potentials and troubles of “Decolonizing Science”.

In Fall of 2016, a new cohort joined the center, including students from five different graduate programs across campus: [Shunnan Chiang](#) (Sociology), [Robin Goralka](#) (Literature), [Krisha Hernandez](#) (Anthropology), [Paloma Medina](#), (Biomedical Molecular Engineering), [Vivian Underhill](#) (Feminist Studies), [Taylor Wondergem](#) (Feminist Studies).

The SJTP continues to bring students from across campus to foster collaboration, co-learning and peer support. These students will develop Science and Justice Working Group meeting to bring their collaborative learning and dialogues to fruition.

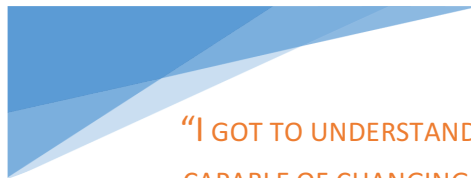
With the addition of Assistant Director Kate Darling, the SJTP looks forward to further growth, including the formation of the SJTP “Co-Laboratory” or “Co-Lab”, meeting monthly to build opportunities for interdisciplinary mutual support and professional development across the SJTP cohorts. Built with an ethic of mutual support, Co-lab meetings will allow SJTP graduate fellows to provide each other generous feedback.

Visiting Scholars Program

Since 2009, the SJRC Visiting Scholars program has been a vibrant hub for interdisciplinary scholars across the UC-system, the nation and the globe. The Science and Justice Research Center offers opportunities for visiting scholars at all levels of their career to participate in the SJRC community through research collaborations, reading groups and cocktail hour talks. In the upcoming academic year, the Center will host six visiting scholars: Diana Bocarejo (Universidad del Rosario, Bogotá, Colombia), Regan Brashear (Director of Fixed: The Science Fiction of Human Enhancement), and Joseph Klett (Chemical Heritage Foundation), Alexis Shotwell (Carleton University, Ontario, Canada), Steve Sturdy (University of Edinburgh, Scotland) Cleo A Woelfle-Erskine (UC Presidents Postdoctoral Fellow).

Undergraduate Researchers Join SJRC through Individual Studies

In Spring 2016, the Center hosted our first undergraduate student researchers Eric Flores Alvarez (Biology and Ethnic Studies) and Hannah Finegold (Law & Society and Bioengineering). These students collaborated with us to plan the *Just Data? Justice, Knowledge and Care in an Age of Precision Medicine* dialogues. They built the fabulous event website and worked with the Just Data planning team to select key readings for the “Just Data Syllabus”.



“I GOT TO UNDERSTAND HOW SCIENCE IS CAPABLE OF CHANGING THE VERY SOCIAL FABRIC OF OUR WORLD. THROUGH THE PRODUCTION OF NEW TECHNOLOGIES AND WAYS OF UNDERSTANDING THE WORLD WE NEED TO QUESTION HOW THESE ACCOMPLISHMENTS CAN BENEFIT SOCIETY WITHOUT (RE)PRODUCING RACIAL, GENDERED, AND CLASS HIERARCHIES.”

Eric Flores Alvarez, SJRC Undergraduate Researcher

Building Cross-cutting Collaborations

Our students and faculty-affiliates continue to collaborate across the UC-system and around the world, including partnerships with researchers in Mexico, Columbia, South Africa, and across Canada and Europe.

Creating a Multi-Campus Bioethics Research Collaboratory: Director Reardon served as a Co-Principal investigator on the UC North Bioethics Collaboratory planning grant, and worked with key leaders in bioethics and Ethical, Legal, and Social Implications (ELSI) Research to build a cross-campus network of scholars. The UC North Bioethics Collaboratory sought to build the capacity of the UC-system to develop sound and anticipatory policy responses to bioethical issues and to help ensure the public trust of University of California’s research enterprises and medical centers. The planning grant from the UC Office of the President allowed UCSC, UCSF, UC Berkeley and UC Davis to strength cross-campus research and training efforts across the intersections of bioethics, law, science policy, and social studies of science and technology. UC North Bioethics collaborators expanded this network to UCLA and UCSD in summer 2016, when Professor Reardon and SJRC GSR Katherine Darling collaborated on a Multi-Campus Research (MRPI) Initiative to UCOP to propose new avenues of collaborative bioethics research.

Creating a UCSC Ethics in Practice Curriculum: Today many forms of scientific evidence are met with skepticism and mistrust, and our healthcare systems are challenged by entrenched inequalities and profit motives. The next generation of leaders in biomedical and life sciences, environmental science, and engineering will need to be adept at addressing these challenges. At SJRC, we believe this requires bold new approaches to teaching ethics and practice in STEM fields. At UCSC, we strive to exceed these narrow standards for the ethical approval of science

and prepare our students to be powerful stewards of socially robust science. Our vision of 'good' science exceeds simple compliance with institutional mandates.

To advance this goal, we form partnerships with colleagues who have received NIH training grants. We are working with Ed Green, Associate Professor of Biomolecular Engineering, who successfully received a NIH genomics training grant, to provide ethics training to incoming graduate students in biomedical science and engineering. Professor Green's graduate students, for example, took part in the *Just Data?* dialogues. In the 2016-17 academic year, in her new role as SJRC's Assistant Director of Research and Academic Programs, Kate Weatherford Darling, will reach out to the principal investors of NIH training grants to strengthen and develop these collaborative graduate training experiences. She will work with Audrey Levine, a former Program Director for the National Science Foundation now in the Office of Research, to explore campus needs for broader impacts and ethics trainings. These seminars build on the ground-breaking pedagogy of the Science and Justice Training Program, and often exceed the requirements for Responsible Conduct of Research (RCR) training required by the National Institutes for Health.

Justice Sparks Innovative and Original Research

The Science and Justice Research Center is an exemplar in interdisciplinary programing, public dialogues and original research. A key success of the Science and Justice community is to support the original research of our graduate students, faculty affiliates and collaborators. Below is a sample of the research members of our community conducted just this last year. A full list of SRJC-affiliate publications is included in the Appendix at the end of this summary.



Melissa Eitzel Solera with Zimbabwean colleagues

Modeling Community and Ecosystem

Interdependence: As a Science, Engineering and Education for Sustainability (SEES) postdoctoral fellow, Dr. Melissa Eitzel Solera worked with a community-based research team in rural Zimbabwe on several projects now in preparation for publication, including research on the flexibility of household networks to adapt to challenges, and another on the interdependence and feedbacks of their agro-pastoral system. In the 2015-16 academic year, Dr. Eitzel Solera attended the Santa Fe Institute Complex Systems Summer School to work on analyzing the Zimbabwe household networks and the agro-pastoral systems. She is also developing a 'modeler's manifesto' describing how to do

epistemologically sound statistical and computer modeling that reflects the way we actually learn about the world.

Ensuring We Can Trust in the News: Sally Lehrman, award-winning journalist and Science and Justice visiting professor is currently leading The Trust Project to ensure that we can believe what we read in the newspapers and online. Lehrman is leading the effort to use on-line platforms and analytics to help both the public and news distribution systems to identify quality, ethically reported news amid the digital hubbub. Last year, through the Trust Project, she convened senior editors, designers and other journalism leaders to apply themselves to this problem in events held in the San Francisco Bay Area; New York; Washington, D.C.; and London. The team also has conducted in-depth interviews with members of the public to understand what people value in the news, what earns their trust, and when trust has been broken. Lehrman directs the project, which operates as a collaboration with news organizations in the U.S., Mexico, Canada and Europe.

Working for Social and Ecological Justice: This last year, SJRC Professor Kristina Lyons' research in Colombia examined the impacts of aerial fumigation and the War on Drugs on rural communities. Lyons

accompanied a small farmer from Putumayo to testify in The Hague in 2016 at the Monsanto Tribunal and People's Assembly along with farmers, indigenous communities, doctors, lawyers, researchers, independent scientists, and victims from five continents. All were invited to testify about the violation of human rights and crimes of ecocide committed by the multinational corporation. The Tribunal was organized by civil society and emulated International Criminal Court (ICC) proceedings in the

presence of five international judges who will deliberate on the evidence and recommend ways to incorporate the crime of ecocide into the Rome Statute that governs the ICC. Lyons is currently working on a manuscript based on more than ten years of fieldwork in Colombia where she engaged in an ethnography of human-soil relations with scientists and farmers.

Building Data for a Just Future: As other natural resources deplete across the planet, patients' bodies and health data have become the economic engine of biomedical and biotech



Movimiento Colombiano en Defensa de los Territorios y Afectados por las Represas "Rios Vivos" (Colombian Movement in Defense of Territories and Affected by Dams "Living Rivers")

economies. Working across the UC system, SJRC Professors Reardon and Weatherford Darling are pushing biomedical and science policy leaders beyond narrow questions of privacy and consent. To create just data and health equity in an age of precision medicine, we must engage fundamental questions of justice as we face the future of care, trust, and knowledge. To support this work, Reardon received a grant from the National Science Foundation.

Reflecting on Our Progress

The 2015-16 academic year marked the end of our fourth year as a Center. Reflecting on our progress, growth and the challenges ahead, we embarked a self-study process. Weatherford Darling and Administrative Assistant Colleen Massengale interviewed center directors and leaders from interdisciplinary research centers and institutions from across North America and Europe to collect ideas from colleagues about how to best organize and structure SJRC. Based on this feedback, we updated and revised the process of faculty affiliation to focus on how the center can provide effective support to the educational and research efforts of our diverse faculty community.

We also updated and streamlined our leadership structure, and formed a Curriculum Committee and re-constituted the Events Committee to steer the direction of the Center. In 2016-2017 we will embark on the formal review process that will allow SJRC to continue to improve the organization and practices of the center, and help us identify key opportunities for additional training, research and funding collaborations.

As we look to the future, we seek to build SJRC as a hub for extramural funding of research projects with links to science and justice. In developing future research collaborations, we seek collaborators from across all divisions and the UC-system. We will continue to provide a critical and dynamic space for the intellectual, organizational and moral support of the diverse needs of our faculty and students.

Looking Ahead

We're excited to look forward toward many new developments in 2016-2017. Our community of scholars is growing, our staff and leadership is strengthening, and justice continues to spark our teaching, training and research. Highlights for next year include:

SJRC welcomes New Assistant Director: In Fall 2016, we will welcome Katherine Weatherford Darling, UCSF Sociology Doctoral Candidate to the center. She will serve as Assistant Director of Academic Programs and Research and is appointed in the Sociology Department as Adjunct Assistant Professor.

Undergraduate Individual Studies Students 2016-2017: In Fall 2016, three additional undergraduate students will join the SJRC Undergraduate Research Co-Lab, to develop with us individualized and directed readings and research experiences in bioethics and the sociology of biomedicine. Within the next three years, we hope to develop this current undergraduate

research experience into a broader ethics, equity and justice research and career development pathway for advanced social science, STEM, environmental studies and pre-health undergraduates.

Emily Caramelli, Sociology, Sociological Perspectives on Healthcare Markets

Janessa Dayan, Sociology, Sociological Perspectives on Biomedicine and Inequalities in San Francisco

Laura Lopez, Sociology, Mapping California's Eugenic Past and building a Reproductive Justice Future

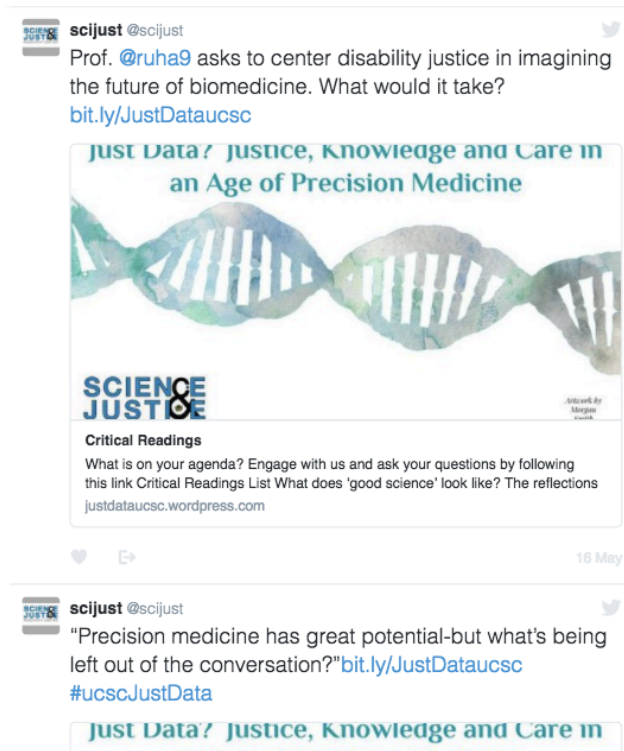
New SJRC Website and Social Media Engagement:

The SJRC community is shaping dialogues online and in print through commentaries and editorials in scientific journals and national news outlets. With journalist and visiting professor Sally Lehrman, we continue to offer media advocacy training and media strategy support to SJRC-affiliated graduate students and faculty. We are building a new digital hub for discussion and collaboration on the brand new SJRC website.



SJRC Logo

SJRC is also building a social media presence on Twitter to create distributed dialogues around



SJRC Twitter feed engaging affiliates

crucial contemporary issues and engage broad audience participation at SJRC events. This year, SJRC consulted with Social Media and Public Relations teams at UCSC to develop a more cohesive and strategic approach to social media. We successfully put these strategies into action when we engaged participants in the Just Data? dialogues in online discussions and debates on Twitter under the hashtag [#justdatausc](#). SJRC Graduate Student Researcher and Film + Digital Media Graduate Student Samuël Topiary collaborated with center affiliates to produce a short video to [introduce the work of Science & Justice](#). Our center staff and graduate student researchers are currently working to update and re-vitalize the digital dialogues hosted on the SJRC website.

Emergent Research Themes and Projects:

Our socially-engaged research practices hold

justice at the core. In our work, we turn commitments to justice into collaborative research projects. We formulate new methods and institutional practices where scientists and engineers work alongside social scientists, ethicists, artists and diverse communities. SJRC-affiliates pursue local, regional, national, and international research collaborations on issues that inform and affect institutional and public policy. This year's [three themes](#) focused our research and events: De-Colonizing Knowledge, Just Data and Socio-Ecological Justice.

Funding the Future of SJRC

We are not just another obscure academic research center generating scholarly papers. The SJRC has become a dynamic and collaborative infrastructure for training the next generation of humanities, natural and social science researchers who will still be trained and supported to pursue their research and make discoveries, but will do so in ecosystems where ethics and justice are primary concerns. Feedback from other institutions, including the NSF and journal article peer-reviews, indicate that the SJTP has developed a much-needed model for cross-disciplinary training. A central goal of the Center is to create learning models that can be replicated and applied in academic and non-academic institutions world-wide. Additional grant funding and donor contributions will secure our efforts to build an internationally recognized program that trains the next generation of scholars to responsibly take up the important social and scientific problems of our time.

In 2015-2016, SJRC leadership, faculty-affiliates and staff worked with University Relations and Development to develop strategies for funding the future of science and justice at UCSC. Our ambitious fundraising goals and sustained efforts to pursue grant and foundation funding will continue the growth and vitality of our work and community. We developed case statements and concrete fundraising goals for the research center and for the graduate training program.

SJRC's promise is simple and bold. The benefits are manifold: improved outcomes are not just for humans, but for the many non-human lives as well; approaches to science and technology that balance prosperity and justice, health and ethics are key. Our affiliated researchers and interdisciplinary teams have built decades of expertise across societal issues in the life sciences and biomedicine, health, environment, food, and racial and economic justice. The Center provides the critical milieu in which the creative sharing of this expertise leads to knowledge sharing and technical innovation that fosters and supports diverse lives and futures.

Current Project Grants

SEES Fellows: Understanding Resilience in a Complex Coupled Human-Natural System: Integrating Qualitative and Quantitative Information and Community-Based Action Research.

Principal Investigator: Jenny Reardon (for Melissa Eitzel Solera's Postdoctoral Fellowship)

Funding Agency: National Science Foundation

Amount: \$520,412

Open Data/Private Persons: Forging a New Social Contract for Biomedicine in an Age of Genomics and Big Data

Funding Agency: National Science Foundation

Principal Investigator: Jenny Reardon

Amount: \$25,000

UC North Bioethics Collaboratory for Life & Health Sciences

Funding Agency: University of California Office of the President

Principal Investigator: Jenny Reardon (co-PI)

Amount: \$298,289 (UCSC Subaward amount: \$17,627)

Major Sponsors

Center for Biomedical Science and Engineering

CBSE Research Mentoring Institute

Division of Graduate Studies

Division of Physical & Biological Sciences

Division of Social Sciences

Genomics Institute

Jack Baskin School of Engineering

Molecular, Cell, and Developmental Biology Department

Office of Research

Sociology Department

Donors

Sherry Paul

SJWG Event Co-Sponsors

Anthropology Department

Center for Analytical Finance

Environmental Studies

The UCSC Genomics Institute

National Human Genome Research Institute program of the National Institutes of Health

National Science Foundation

Rethinking Capitalism Initiative

UC North Bioethics Collaboratory

University Relations

Appendices

Publications and Public Presentations

SJRC directors and affiliated graduate students and visitors continue to be asked to talk about the work of the Center as an exemplar of working collaboratively across the natural and social sciences, engineering and the arts.

In addition to coverage of event programming of The Genomic Open in the [Santa Cruz Sentinel](#) and [Nature News](#), interviews are being conducted about program practices and methodologies. Center Director, Jenny Reardon was interviewed by the French daily newspaper [Le Monde](#) in an article entitled, "[Jenny Reardon, sociologist between science and justice](#)".

Below are selected publications from our community in which the work of science and justice was discussed and developed:

2016. Barad. *Rhizomes*, "Quantum Possibilities: The Work of Karen Barad,".

2016. Barad. *Review of Communication*, "[Figures of Entanglement: Special Issue](#),".

2016. Doucet-Battle, J. Sweet salvation: One black church, diabetes outreach and trust. *Transforming Anthropology*, 24(2), 125–135.

2016. Harvey, S. The HeLa bomb and the science of unveiling. *In: Nothing/more: Black studies and feminist technoscience* [Special issue]. *Catalyst: Feminism, Theory, and Technoscience*, 2(2), 1-30.

2016. Lyons, K. "Decomposition as Life Politics: Soils, *Selva*, and Small Farmers under the Gun of the U.S. Colombia War on Drugs". *Cultural Anthropology* 31(1): 55-80.

2016. Lyons, K. "*Selva* Life and Death: A Conversation in Images with Kristina Lyons." *Cultural Anthropology Fieldsights*. March 4. <http://www.culanth.org/fieldsights/814-selva-life-and-death-a-conversation-in-images-with-kristina-lyons>

2016. Lehrman, S. "Creating an Inclusive Public Commons. Values and Structures in Journalism that Can Promote Change in Minorities and Media Representation" in [Media and Minorities: Questions on Representation from an International Perspective](#), edited by Georg Ruhrmann, Yasemin Shooman and Peter Widmann on behalf of the Jewish Museum Berlin.

2015. Reardon, J., Metcalf, J., Kenney, M., & Barad, K. "[Science & Justice: The trouble and the Promise](#)," in *Catalyst: Feminism, Theory, Technoscience*, 1(1), 1-36.

Below are selected talks from our community in which the work of science and justice was discussed and developed:

October 4 Barad. Keynote: [Humanism and Its Prefixes: An Interdisciplinary Conference](#), Department of Rhetoric, UC Berkeley.

October 25 Barad. Invited Futures Lecture (distinguished lecture), Aarhus University.

November 6. “*Terraforming the Earth by Imagining Apocalypse*”, [Utopian Dreaming: 50 years of Imagined Futures in California and at UCSC](#), College 8, UCSC. Andrew Mathews, Anthropology, UCSC

November 18. [The Genomic Open: Then and Now](#), Science and Justice Research Center, UCSC. Jenny Reardon, Sociology, UCSC

February 8. “*The Post-Genomic Condition: Rethinking Feminist Epistemology and Justice After the Genome*”, [Rethinking the Boundaries of Sex](#), Feminist Research Institute, UC Davis. Jenny Reardon, Sociology, UCSC

April 22. “Soils and Peace: Imagining Dialogues between Soil Scientists and Small Farmers in the western Amazon”, Launch of the National Policy for Sustainable Soil Management organized by the Ministry of the Environment and Sustainable Development and the Food and Agriculture Organization of the United Nations (FAO) in Colombia. Bogotá.

April 22. Gender, Bodies and Technology Conference at Virginia Tech “Illegible Labor: On Visibility, Reproduction, and the Work of Women’s Bodies in Medicine”, Sandra Harvey and Jessica Y. Neasbitt, UC Santa Cruz

April 22. “*Life on 3rd: Knowledge and Justice After the Genome*”, [Science and Social Justice Think Tank](#), Arcus Center for Social Justice Leadership, Kalamazoo College. Jenny Reardon, Sociology, UCSC

May 26. “*Social Justice Considerations*”, “Translating CRISPR research to societal uses”, [CRISPR Technology: Responsible Discourse about Science & Bioethics](#), UC Davis Bioethics Program, UC Davis. Jenny Reardon, Sociology, UCSC

2015-2016 Visiting Scholars

Sally Lehrman, Science Journalist, Visiting Adjunct Professor, Science and Justice Training Program.

Sara Tocchetti, Swiss National Science Foundation Postdoctoral Research Fellow, Centre Alenxandre Koyré, Paris, France

Melissa Eitzel, NSF Science, Engineering and Education for Sustainability (SEES) Postdoctoral Fellow (2014-2017)

Katherine Weatherford Darling, PhD Candidate, Sociology, University of California – San Francisco

2015-2016 Undergraduate Students

Eric Flores Alvarez, Biology and Ethnic Studies, *Just Data? Justice, Knowledge and Care in an Age of Precision Medicine*

Hannah Finegold, Law & Society and Bioengineering, *Just Data? Justice, Knowledge and Care in an Age of Precision Medicine*

2015-2016 Events

September 30	Welcome, Meet and Greet
October 7	It's About Time: how perceptions of time influence environmental action <ul style="list-style-type: none">• Elida Erickson, Sustainability Programs Manager and Interim Director, Office of Sustainability, UCSC• Zoey Kroll, Internet Communications Director, Department of the Environment, City of San Francisco• Adina Paytan, Research Professor, Institute of Marine Sciences, UCSC• Organized by Science and Justice Training Program Fellows Carolyn Branecky (Earth and Planetary Sciences) and Samuael Topiary (Film + Digital Media)
October 21	Cocktail Hour: The Imperative to Molecularize: Bodies and Environments in the Gene-Environment Interaction Research <ul style="list-style-type: none">• Katherine Weatherford Darling, SJRC Visiting Scholar, PhD Candidate, Sociology, UC San Francisco
October 28	Cocktail Hour: Found Data <ul style="list-style-type: none">• Melissa Eitzel, National Science Foundation Postdoctoral Science, Engineering and Education for Sustainability Fellow
November 4	Reading Group: Undoing the Demos

November 4	Big Data: The Promises and Problematics of Prediction <ul style="list-style-type: none"> • Geoffrey Bowker, Professor of Informatics, UC Irvine • Jacob Metcalf, Researcher, Data & Society Research Institute
November 18	The Genomic Open: Then and Now <ul style="list-style-type: none"> • Rachel Ankeny, Professor of History, University of Adelaide, Australia • Jenny Bangham, Research Scholar, Max Planck Institute for the History of Science, Berlin • Scott Edmunds, Executive Editor of <i>GigaScience</i> • David Haussler, Scientific Director, Genomics Institute, UCSC • Stephen Hilgartner, Professor of Science and Technology Studies, Cornell University • Kathryn Maxson, PhD candidate, History of Science, Princeton University • Jenny Reardon, Professor of Sociology, Director of Science and Justice Research Center, UCSC • Beth Shapiro, Associate Professor of Ecology and Evolutionary Biology, UCSC • Hallam Stevens, Assistant Professor of History, Nanyang Technological University, Singapore • Michael Troncoso, Chief Campus Counsel, UCSC • Robert Waterston, Professor and Chair of Genome Sciences, University of Washington
December 2	Science and Justice Training Program Certificate Reception
December 3	Cocktail Hour: The Celluloid Specimen: Moving Image Research of Animal Life <ul style="list-style-type: none"> • Benjamin Schultz-Figueroa, PhD candidate, Film and Digital Media, UCSC
January 29	Communicating Science to the Public: how does the experience of long-term nuclear waste disposal prepare us to think about climate engineering? <ul style="list-style-type: none"> • Jane Long, California Council on Science and Technology's California's Energy Future • Joseph Masco, Professor of Anthropology, University of Chicago
February 10	Cocktail Hour: A Conversation with Cris Hughes on Problems of Race in Forensic Science <ul style="list-style-type: none"> • Cris Hughes, Assistant Clinical Professor of Anthropology, University of Illinois at Urbana-Champaign
February 17	Soil Health and its Maladies: Field Notes with Farmers in the Global South

- Kristina Lyons, Assistant Professor of Feminist Science Studies with affiliations in the Department of Anthropology, Latin American and Latino Studies, and Science and Justice Research Center, UCSC
- Kate Scow, Professor of Soil Science and Microbial Ecology, Department of Land, Air and Water Resources, UC Davis

February 23

Reading Group and Conversation with Lesley Green

- Lesley Green, Associate Professor in the School of African and Gender Studies, Anthropology and Linguistics, Director of Environmental Humanities South, University of Cape Town

February 24

Science and Justice Training Program Information Meeting

February 24

Cocktail Hour: Discussion on Walking Third Street

- Jenny Reardon, Professor of Sociology, Director of Science and Justice Research Center, UCSC
- Lindsey Dillon, Assistant Professor, Sociology UCSC
- Kate Darling, Visiting Scholar, SJRC

March 3

The Quants of Wall Street: Risk and the Ethics of New Financial Technologies

- Sherry Paul CFP®, CIMA®, CRPC®, Senior Vice President, Wealth Advisor, UCSC Alumna
- Daniel Friedman, Distinguished Professor of Economics, UCSC
- Anne Price, Program Director, Closing the Racial Wealth Gap Initiative, Insight
- Moderated by Joe Klett, Visiting Professor of Sociology, UCSC
- Moderated by Nirvikar Singh, Director, Center for Analytical Finance, Distinguished Professor of Economics, UCSC

March 9

Cocktail Hour: Bounded Justice: Bio-cultural Citizenship and Sickle Cell Disease in Brazil

- Melissa Creary, Dissertation Completion Fellow, Fox Center for Humanistic Inquiry (FCHI), Emory University

April 20

Cocktail Hour: Digital Dreams and Their Discontents, and Where do we go from here?

- Erin McElroy, PhD Candidate, Feminist Studies, UCSC

- Sara Tocchetti, SJRC Visiting Scholar, Postdoctoral Fellow, Centre Alexandre Koyré, Paris, France

May 18/19

Just Data? Justice, Knowledge and Care in an Age of Precision Medicine

- Sonia Rab Alam, PhD Candidate, Sociology, UC San Francisco
- Nick Anderson, Director of Informatics Research, UC Davis
- Atul Butte, Director, California Initiative to Advance Precision Medicine, UC San Francisco
- Mildred Cho, Professor of Pediatrics, Associate Director, Center of Biomedical Ethics, Stanford University School of Medicine
- Robert Cook-Deegan, Research Professor, Sanford School of Public Policy, Duke University
- Garen Corbett, Director, California Health Benefits Review Program, University of California Office of the President
- Katherine Weatherford Darling, PhD Candidate, Sociology, UC San Francisco
- Vivette Garcia Deister, Associate Professor of Biología Evolutiva, Facultad de Ciencias, Universidad Nacional Autónoma de México
- Ugo Edu, Science, Justice and Health Equity Postdoctoral Fellow, Health Equity Institute, San Francisco State University
- Malia Fullerton, Associate Professor of Bioethics and Humanities, University of Washington
- Nanibaa' A. Garrison, Assistant Professor, Division of Bioethics Treuman Katz Center for Pediatric Bioethics, Seattle Children's Hospital
- Julie Harris-Wai, Associate Director of Center for Transdisciplinary Ethical, Legal and Social Implications (ELSI) Research in Translational Genomics (CT2G), UC San Francisco
- David Haussler, Scientific Director, Genomics Institute, UC Santa Cruz
- Gail Jarvik, Head of Division of Medical Genetics, Professor of Genome Sciences, University of Washington
- Martha Kenney, Assistant Professor of Women and Gender Studies, San Francisco State University
- Barbara Koenig, Director, Center for Transdisciplinary Ethical, Legal and Social Implications (ELSI) Research in Translational Genomics (CT2G), UC San Francisco
- Hannah Landecker, Director, Institute for Society and Genetics, UC Los Angeles
- Lawrence Kushi, Director, Scientific Policy, Kaiser Permanente, Northern California Division of Research
- Laura Mamo, Professor of Health Education, Associate Director of Health Equity Institute, San Francisco State University
- John Mattison, Chief Medical Information Officer, Kaiser Permanente, SCAL
- Jacob Metcalf, Researcher, Data & Society Research Institute

- Jenny Reardon, Professor of Sociology, Director, Science and Justice Research Center, UCSC
- Janet Shim, Associate Professor of Social and Behavioral Sciences, UC San Francisco
- Ida Sim, Professor, School of Medicine; Co-Director, Biomedical Informatics, Clinical Translational Sciences Institute, UC San Francisco
- Charis Thompson, Chancellor's Professor and Chair Gender and Women's Studies; Director, Chau Hoi Shuen Program in Gender and Science, UC Berkeley
- Michael Troncoso, Managing Counsel, Health Law and Medical Center Services, University of California Office of General Counsel
- Emily E. Vasquez, Graduate Student, Sociomedical Sciences, Columbia University, and Universidad Nacional Autónoma de México
- Peter Yu, Immediate-Past President of the American Society of Clinical Oncology (ASCO), Director of Cancer Research, Palo Alto Medical Foundation

May 24 Reading Group: Emergent Ecologies

- Eben Kirksey, permanent faculty of Environmental Humanities, University of New South Wales, Australia; Visiting Research Scholar, The Graduate Center, City University of New York