

SUMMER
2009

REPORT
10



the Center for Ethics
in Science & Technology

Special Five-Year Anniversary Edition

A San Diego Milestone for Ethics in Science & Technology

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As the Center for Ethics in Science and Technology reaches its 5-year anniversary, we take this opportunity to look back at our achievements. From the outset, the Center was established as a collaborative enterprise between San Diego's three major universities. Although individuals from different institutions will often collaborate to solve complex problems, it is not nearly as likely that such collaborative efforts will translate into multi-institutional commitments. So it was quite remarkable that the leaders of UC San Diego, the University of San Diego, and San Diego State University supported the launch of a Center that would engage the public in thoughtful discussions of the ethical challenges presented by new developments in science and technology. This was particularly possible in San Diego because of an unusual confluence: our community emerged as a hub for advances in biotechnology, telecommunications, and many other areas of science and technology, and, importantly, it presented a highly collaborative and entrepreneurial environment.

A key goal of the Center is to create a culture of ethics that adds depth and excitement to scientific discovery. Over the past 5 years, the Center has explored numerous controversial ethical issues including

end of life support (the Terry Schiavo case), the use of embryonic stem cells for medical research, computer and Internet privacy, organ donation, video and border surveillance, robotics, responding to pandemics, and newly developing technology for lie detection. Our platforms for debating these issues have ranged from traditional conferences and lectures to Web reports, radio broadcasts, newspaper op-eds, and public forums. Beginning in May 2008, the hallmark of the Center's programming has been the monthly "Exploring Ethics" series, a collaboration with the Reuben H. Fleet Science Center. These programs regularly draw large and diverse audiences for discussions led by guest experts in the field. Those speakers also have become a regularly scheduled part of the "These Days" programs on KPBS-FM.

The Center has been regional in focus, but it has played an increasingly significant role on the state, national, and international stage. As indicated in this issue's timeline of its history and highlights, we have attracted speakers of national renown; products of the Center have been published in both the lay and academic press; we have established ties with other countries, including Mexico, China, Japan, and

South Korea; and we have worked closely with people involved with, for example, the California Institute of Regenerative Medicine and the President's Council on Bioethics.

The inroads made by the Center would not have been possible without the vision and support of so many members of our community. Along with the three universities and the Legler Benbough Foundation, the Center received support from numerous San Diego research, educational, and industry organizations, many of which are represented on the Leadership Council and the Board of Advisors. These groups have contributed enormously to the Center's growth and impact.

There is no likelihood that ethics issues will be resolved any time soon since each new discovery brings its own set of questions. The need for vibrant forums for civilized discussion of science ethics is here to stay, and the Center will remain committed to facilitating such discussion in San Diego as this region continues to lead the scientific and technological advances of the future.

Stuart Henry
Lawrence Hinman
Michael Kalichman
Co-Directors

The Center is co-sponsored by:

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EXPLORING ETHICS: *The Science and Ethics Forum*

Exploring Ethics is an ongoing series of free public events, launched in May 2008, that takes place on the first Wednesday of each month, 5:30 – 7 p.m., at the Reuben H. Fleet Science Center under the co-sponsorship of the Ethics Center and the Fleet Center. Forum speakers typically participate in pre-forum interviews the morning before the event on KPBS-FM's "These Days" programs.

The forums often draw capacity audiences, so to be sure you get a seat, please RSVP in advance at <http://ethicscenter.net> and arrive no later than 5:15 p.m. Also, please note that program titles and schedules are subject to change depending on speaker availability and new developments in ethics and science.

2009 Exploring Ethics Forums to Date

January 7: Race and Culture in Medicine

This panel explored the complexities of race and culture in the practice of medicine. How do the concepts of race and culture alter the practice of medicine? Speakers presented arguments both for why the practice of medicine should remain blind to race and culture and also arguments for why the practice of medicine can improve treatment efficacy and patient care by taking race and culture into account.

Moderator: Mary Devereaux, Fellow, Ethics Center

Panelists: Michael Hardimon, Associate Professor, UCSD Department of Philosophy
Dixie Galapon, Director, Mental Health Services, Union of Pan Asian Communities

February 4: Evolution: Whose Responsibility Is It?

This panel marked the 200th anniversary of Darwin's birth, whose work served as a basis for much of what we now understand as the theory of evolution. For the scientific community, evolution is not a questionable proposition; it is at the core of our understanding of biology, and scientific consensus about evolutionary theory remains robust. But the debate about including evolution in science education continues and was front-and-center at the forum. Panelists discussed such questions as: What is the reason for this apparent disconnect? And whose responsibility is it to bridge the gap between science and science policy?



Moderator: Michael Kalichman, Co-Director, Ethics Center

Panelists: Thomas Deméré, Director, Department of Paleontology, San Diego Natural History Museum
Jon Cohen, Writer, Science Magazine
Mark Wheeler, Chair, Department of Philosophy, San Diego State University

March 4: Our Robots, Ourselves (held in conjunction with the San Diego Science Festival)

In Japan, South Korea, and Norway, robots are quickly becoming the companions of the elderly. Robots from the Neurosciences Institute in La Jolla compete in robo-soccer games against Carnegie-Mellon. Autonomous robotic systems now oversee parallel parking in some new cars, and other autonomous systems are integrated into cruise control to automatically slow down your car when it gets too close to the vehicle ahead of it. Panelists presented these and other robot scenarios, current and future, and asked the audience: Is the car itself becoming a robot, transforming us from drivers to passengers? Will this be a metaphor for larger transformations in our lives?

Moderator: Michael Kalichman, Co-Director, Ethics Center

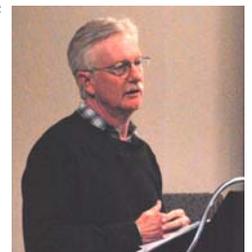
Panelists: Vernor Vinge, Hugo Award-Winning Science Fiction Author and Retired Professor of Mathematics, San Diego State University
Lawrence Hinman, Co-Director, Ethics Center
Mark Trotter, Minister, First United Methodist Church (retired)

April 1: Smart Drugs: How Smart Are They? (held in conjunction with the San Diego Science Festival)

At this forum, the audience was asked to consider: Wouldn't it be great if we could take a pill to learn faster, remember better, or think more clearly? Scientists have already developed drugs that can help people with cognitive deficits, so it isn't a great leap to imagine those same pills being used to help someone to be "better than normal." In fact, one recent survey found that approximately 1 of 4 college students had used at least one of these prescription medications to improve their studying. The future is here. Or is it?

Moderator: Michael Kalichman, Co-Director, Ethics Center

Panelists: George Koob, Professor & Chair of the Committee on the Neurobiology of Addictive Disorders, Scripps Research Institute
Veronica Galvan, Assistant Professor, Department of Psychology, University of San Diego
Joan McRobbie, Ethics Officer, San Diego Unified School District



George Koob



2009 Exploring Ethics Forums (cont.)

May 6: Stem Cells: Are We Ready?

Since California voted to provide \$3 million for stem cell research, the debate about the use of human embryos has continued, and so has the research. Key discoveries are announced regularly, but in many respects the research has not yet involved clinical trials in humans. The audience debated how human embryonic stem cell research might differ from research with other human cells and what we should and should not do before trials with human embryonic stem cells begin.

Moderator: Mary Devereaux, Fellow, Ethics Center
Panelist: Michael Kalichman, Co-Director, Ethics Center

June 3: Facing Pandemics: Science, Ethics, and Uncertainty

Modern science has been instrumental in decreasing the threats of infectious diseases. In some cases, our best recourse is an effective vaccine, but vaccine supplies are not always adequate, we frequently need new vaccines to match the evolution of infectious agents, and there are some risks. Panelists explored such questions as: How should we respond to such public health threats? How do we decide when and how to act?

Moderator: Michael Kalichman, Co-Director, Ethics Center
Panelists: Francesca J. Torriani, Professor, Clinical Medicine, UC San Diego
Phillip Van Saun, Director, Continuity and Emergency Services, UC San Diego



Francesca Torriani

July 1: Can We Share Electronic Information Without Losing Our Privacy?

Internet scientists and computer security experts need empirical data to protect and understand our information infrastructure. Obtaining that data potentially raises many questions involving privacy, the law, and ethics. Panelists addressed evolving considerations of both threat models and ethical behavior and reminded the audience that society has not yet felt the pain that normally motivates legislative, judicial or policy changes.

Moderator: Michael Kalichman, Co-Director, Ethics Center
Panelists: Natasha Balac, Data Applications Group Manager, San Diego Supercomputer Center
Erin Kenneally, Cyber Forensics Analyst, Cal-TI2; CEO, Elchemy, Inc.
Julie Wartell, Crime Analysis Administrator, San Diego District Attorney’s Office, and UC San Diego

UPCOMING EVENTS

We look forward to seeing you at our Fall forums. You can RSVP at: <http://ethicscenter.net/Events/FleetProgram>

- **August 5:** *Who owns your genes?*
- **September 9:** *RoboWarfare. Is the world a better place when robots fight our wars for us?*
- **SAVE THE DATE: October 7: Public Celebration of the Ethics Center 5-year Anniversary**
- **Saturday, November 7, noon-3pm:** A screening of *“Sound and Fury: Six Years Later”* at the Reuben H. Fleet Science Center with the film’s director, Josh Aronson. This is a sequel to Aronson’s 2001 Oscar-nominated documentary, *“Sound and Fury,”* which showed a family’s struggle over whether or not to provide two deaf children with cochlear implants.

SCIENCE FAIR STUDENTS WIN CENTER AWARDS

Seven area students have been honored by the Ethics Center for essays they wrote in conjunction with their projects in the 2009 Greater San Diego Science and Engineering Fair.

Third-place awards of \$100 went to: Ronit Abramson of Canyon Crest Academy for her essay on “Frustule Formation from Protoplasts of the Marine Diatom *Nitzschia alba*”; Alex Alim of Canyon Crest Academy for his essay on “Developing Sustainable Alternatives for Recycling Paper: Ultra Violet Induced Fading”; Kit Haggard of High Tech High for her essay on “The Application of DNA Barcoding to Plankton Identification”; and Rui Jin of Scripps Ranch High School for his essay on “Designing an Ultra Wideband Antenna Array for Enhanced Security and Privacy of Short-Range Wireless Communications.”



Second-place awards of \$200 went to Marci Rosenberg of Torrey Pines High School for her essay on “Bioremediation and Genetically Engineered Organisms: A Look Into the Ethics of a Promising Solution to Environmental Concerns in Terrestrial and Aquatic Ecosystems” and Sharona Silverstein of Patrick Henry High School for her essay on “The Effects of Volunteering on Humanitarian Missions on Pre-Dental Students’ Attitudes: Implications for Resolving an Ethical Problem.”

The first-place award of \$500 went to Michael Vredenburg of Carlsbad High School for his essay on “Ethical Concerns Regarding Patient Access to Critical Health Information.”



Ethics Center Science Fair award winners (left to right) Sharona Silverstein, Marci Rosenberg, and Michael Vredenburg. Student honorees picked up their awards at a special ceremony at the Center’s July 1 “Exploring Ethics” forum at the Reuben H. Fleet Space Center.



ETHICS CENTER TIMELINE: *History and Highlights*

2003: *Laying the Foundation*

- Michael Kalichman, Lawrence Hinman, and Sara Burke establish an informal executive committee to explore the possibility of launching an ethics center based on initial discussions with Peter Ellsworth, President of the Legler Benbough Foundation.
- An initial Steering Committee that includes Peter Ellsworth, Christian Crews (Waite Foundation), Chris Todd (SD Bar Association), and Mark Trotter (Parker Foundation) maps out an initial agenda for the Center in a series of meetings.
- The proposed Center's first stakeholder event is a September 8 symposium titled "Meeting Ethical Challenges in Science and Technology: From Tuskegee to Stem Cells" and featuring Dr. Thomas Murray, President of the Hastings Center.



Kalichman and Hinman

2004: *The Launch*

- To explore models of research centers and survey center directors, Kalichman and Hinman attend the Ethics Center Colloquium of the Association for Practical and Professional Ethics in Cincinnati on February 12.
- The Center's series of outreach programs begins with a March 1 forum with religious leaders and a May 4 forum with media leaders.
- The Center's second stakeholder event takes place April 23 at the UCSD Faculty Club; Dr. William Hurlbut of Stanford University and a member of the President's Council on Bioethics, leads a two-hour breakfast discussion on issues relating to ethics, religion, and science.
- Dame Onora O'Neill, the Principal of Newnham College, Cambridge, and former chair of the Nuffield Council on Bioethics and Human Genetics Advisory Council in the United Kingdom, is the guest speaker at a September 20 discussion of "Science, Accountability, and Public Trust" at the University of San Diego.



Dame Onora O'Neill

2005: *Gearing Up*

- Kalichman and Hinman co-author their first op-ed as Center Co-Directors in a January 6 essay in the San Diego Union-Tribune titled "Moral Questions About Stem Cell Research: Ethics After Prop. 71."
- The Center launches a Media Experts resource list with 32 scientists and scholars from a wide spectrum of disciplines and representing 16 regional organizations, including universities, research institutes, public agencies, health care organizations, clergy, and industry.
- A November 2 panel discussion titled "Searching the Internet: Who's Watching?" is convened at the Neurosciences Institute; panelists include Lance Cottrell, founder of Anonymizer, Inc., Pam Dixon, World Privacy Forum Executive Director, Jonathan Pink of Lewis Brisbois Bisgaard & Smith, and Michael Robertson, founder of mp3.com.
- A special issue of the scientific journal *Stem Cell Reviews* is co-edited by Hinman, Kalichman, and Evan Snyder, a leading stem cell scientist from San Diego's Burnham Institute for Medical Research.



2006: *Building Momentum*

- Dr. Stuart Henry, the newly-arrived director of SDSU's School of Public Affairs and an international expert on criminological theory and white-collar crime, joins UCSD's Kalichman and USD's Hinman as a Center Co-Director, giving all three co-sponsoring universities key leadership positions on the Center's Executive Committee.
- KPBS-FM's "These Days" morning call-in show continues to invite Center co-directors and speakers as expert guests. These include: Kalichman on a January 30 program on "New drug may blunt bad memories," Mary Blair-Loy and Hinman on a May 10 program on "Who will benefit from stem cell research?" and Deborah Hurley on a June 29 program on "Caught Unawares: Emerging Technologies, Surveillance and Self?"



Stuart Henry



Ethics Center Timeline (cont.)

- A March 20 panel discussion on “Surfing the Internet: Who’s Watching? Who’s Censoring?” at the USD Joan B. Kroc Institute for Peace and Justice featured Hinman, science fiction author David Brin, Lance Cottrell and Pam Dixon. The event was produced by KPBS and subsequently aired on KPBS’s “These Days.”
- Hinman, Kalichman, and Evan Snyder published a commentary titled “Can science resolve the ethical impasses in stem cell research?” in the leading journal *Nature Biotechnology*.
- The Center launches *Ethics Center Updates* in Fall 2006 as a quarterly report to constituents about Center events, research activities, publications, and media coverage.



2007: Expanding Public Outreach

- The Center organizes a conference on “Stem Cell Ethics” on April 6 at the Salk Institute. A keynote address by Laurie Zoloth of Northwestern University kicks off three panel discussions featuring 14 experts exploring issues related to egg and embryo donation and necessary milestones for clinical testing. The conference helps inaugurate Center outreach activities to local schools; students from 10 local high schools attend and participate in the discussions.
- The 2007 international conference of the Computer Ethics Philosophical Enquiry organization takes place at USD under the coordination of Hinman and the Center.
- The Center and seven of its institutional sponsors present “Neuroethics Week” from October 1 through October 7 as a high-visibility forum linking the public with top thinkers in neuroscience. Public events take place at different local institutions each day and feature diverse perspectives on neuroscience from science, medicine, law, and religion.
- The Center expands its public outreach with a July 10 forum at the Reuben H. Fleet Science Center titled “MySpace or Your Space?” Over half of the 75 people who attend are students from nine area schools. A story in the San Diego Union-Tribune written by Religion & Ethics Editor Sandi Dolbee began, “After listening to ethicists and audience members talk about the perils of Internet social-networking sites, Tanisha Hood said she was going home and taking the pictures off her MySpace page.”



Laurie Zoloth

2008: Achieving Critical Mass

- “Exploring Ethics,” an ongoing series of free public events on the first Wednesday of each month from 5:30 to 7 p.m. at the Reuben H. Fleet Space Center, begins on May 7 with a panel discussion of “Stem Cells: New Sources and New Questions.” The series resumes with a June 4 forum on “Reading Minds and Detecting Lies” and a July 2 forum on “Technology on the Border: If Technology Is The Answer, What’s the Question?”
- The “Ethics in Science Award Program” begins with invitations to 30 senior division participants in the annual Greater San Diego Science and Engineering Fair to submit science ethics essays based on their Fair projects. The Ethics Award Review Committee evaluates all entries and chooses five finalists to receive awards ranging from \$500 to \$100.
- A 2008 public lecture series on “Ethics on the Frontiers of Science,” held in conjunction with a USD undergraduate course, features guest speakers on stem cell research, neuroscience, computer privacy, the ownership of scientific knowledge, religion and science, and robotics. The 90-minute afternoon lectures take place at USD’s Joan Kroc Institute for Peace and Justice.



2009: A Milestone Year

- The Center participates in the March 1—April 1 San Diego Science Festival. Kalichman is chosen for the “Nifty Fifty” roster of leading local scientists and gives a presentation at Bernardo Heights Middle School on March 18. Two “Exploring Ethics” programs are held in conjunction with the Festival, “Our Robots, Ourselves” on March 4 and “Smart Drugs: How smart are they?” on April 1. On April 4, the Center presents two programs on science and ethics as part of the Science Festival Expo Day at the Fleet Science Center.
- “Reasonable Arguments,” a June 28 San Diego Union-Tribune feature story by Peter Rowe, profiles the Center on its 5-year anniversary: “With financial support from the universities and the private Legler Benbough Foundation, the center hosts monthly forums on issues current and controversial ... The forums are meant to be two-way, or even three-, four- or more-way, conversations ... [and they] regularly draw 100 or more people, nearly all willing to thoughtfully grapple with difficult questions. Maybe that’s a reflection of the center’s careful and evenhanded approach. Maybe it’s an indication of San Diego’s fabled, laid-back nature. Or maybe this is a sign that the center is only now reaching maturity...”
- A public celebration of the Center’s 5-year anniversary is planned for the October 7 “Exploring Ethics” forum at the Fleet Science Center.





ETHICS IN SAN DIEGO

**Sandi Dolbee, former Religion & Ethics Editor,
San Diego Union-Tribune**

Sandi Dolbee has the distinction of being one of the few U.S. journalists to cover ethics as a newsbeat. From 1992 to 2008, she wrote incisively about a panoply of ethical issues, from stem cell research to end-of-life care. She has garnered numerous professional honors — two 1st-place “Reporter of the Year”

awards from the Religion Newswriters Association, and NAACP and NCCJ, Community Excellence awards, and fellowships at the University of Cambridge and New York University, to name a few. She launched a new career last year with her own Website, www.sandidolbee.com.



Interview

What was it like to cover an ethics beat?

It was like having a totally blank canvas. In the beginning, my coverage had a technical focus. The genome project was in the news, so I delved into genetics research. But my beat evolved over time as I realized that ethics has a personal aspect and that it really is a process, a journey. Arriving at an ethical decision is almost as important as the decision you arrive at. I’ve seen that happen at Ethics Center events when Mike or Larry or Stuart will say to the audience, “Here are the questions,” then they walk people through the process so that everyone can arrive at a personal outcome.

How did readers respond to your coverage?

My readers were wonderful! Even when they disagreed with the stories, they loved being challenged to think about the issues. The e-mails and calls I received were fascinating. Readers who were middle-aged and older tended to focus on topics that were entirely new, like cloning, because they wanted to know: How will we deal with this? Younger readers were much more interested in familiar topics. At least once a month, I spoke to students at UCSD or USD or SDSU, and their questions centered on science and particularly on computers. Relevance was the key to reaching them; they wouldn’t absorb information if they didn’t think they could use it.

How often do people change their positions on ethical issues?

When people form opinions based on fear or on lack of understanding, a forum that doesn’t involve pressure to be “for” or “against” can give them the information they need to change their opinion, and I think that’s the job journalists and ethicists should be doing. I’ve watched this so many times at Ethics Center events: as the discussion advances, people start to lean forward, and their faces relax, and those are signals that they are processing new information.

What are some ethical issues that have special traction in San Diego?

Certainly issues related to science, given the huge presence of biotech industries here, and health care, given the presence of the UCSD, Scripps, and Sharp systems. We have a relatively large population of aging retirees, so we are on the front lines of decisions about end-of-life care and affordability. I once wrote about a medical software program in Great Britain that would show pop-ups of little coffins next to the names of patients where further treatment was no longer financially feasible. Public outrage shut it down, but the day may not be far off when health care providers tell the families of dying patients, “This is a losing battle; this money could be better spent elsewhere.” If that day comes, we will need flexible models for figuring out when and how to do that.

As the Ethics Center passes the 5-year threshold, what advice would you give for charting its future?

The Ethics Center has been a wonderful addition to San Diego. It’s doing things that no one else is doing. I’d like to see the Center take its successful programming out into the community – go into North County, East County, South County – and engage people where they live by asking them: What everyday ethical issues do you care about most? The more you broaden the tent, the bigger the impact you will have.