

Center for Ethics in Science and Technology

ETHICS CENTER UPDATE

WINTER 2008

Message from the Co-Directors

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With this newsletter, we are delighted to announce a new member of the Ethics Center Board of Advisors. Effective January 29, Gloria Penner has joined our Board and has already been an active participant in recent discussions about future Ethics Center activities. Gloria's contributions to various KPBS programs, including Full Focus, Editor's Roundtable, and These Days are well-known to the San Diego community. We welcome Gloria in promoting with us thoughtful and effective discussion in our community about the ethical dimensions of science and technology.



Gloria Penner

In this issue of the newsletter, we are also pleased to include the

second installment of a continuing series of interviews with leaders in the San Diego community. The focus of this month's interview is President Steve Weber of San Diego State University.

We are once again offering a course, "Ethics at the Frontiers of Science," that integrates a public lecture series with an undergraduate course offering at the University of San Diego. We are covering issues in stem cell ethics, neuroethics, ownership of knowledge, science and religion, computer privacy, and robotics. The lectures are on Monday afternoons, generally at 4:00 PM in the Kroc Institute for Peace & Justice at USD. All members of the community are cordially invited.

These lectures will be added to a number of other events which are now up on the web in streaming video. Many past lectures and conferences are available through links to be found on our "Past Events" calendar and through a special video page:

<http://ethicscenter.net/resources/video>

The Ethics Center now has a considerable history of presenting programs in a wide-range of formats on various topics, particularly stem cells, neuroscience, and computer science. Building on these past successes, we are now hoping to inaugurate a new model of program presentation. In brief, our plan is to schedule Ethics Center public events at a regular time on a monthly basis. Following recent discussions we are pleased to announce our plans for a monthly series of events in collaboration with the Reuben H. Fleet Science Center. These events will be scheduled on the first Wednesday of each month, 5:30-7 pm. We have decided to call this series "First Wednesdays." The first two events have been scheduled and are listed in the "Upcoming Events" section (p. 2) of this newsletter. We invite everyone to join us in these discussions about ethics, science, and technology.

Lawrence M. Hinman and
Michael Kalichman
Co-Directors

The Ethics Center and its activities have enjoyed generous support from:

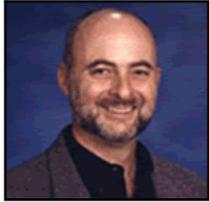
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RECENT EVENTS



**February 27, 2008, MySpace or Your Space? II
Reuben H. Fleet Science Center**

The Ethics Center and the Reuben H. Fleet Science Center jointly sponsored this event for high school students and the public. We were joined by science fiction author David Brin, a winner of multiple Hugo and Nebula awards and the author of the non-fiction book, *The Transparent Society: Will Technology Force Us to Choose Between Freedom and Privacy?* Dr. Brin gave a lecture that was both provocative and entertaining. The resulting discussion was informative for students, parents, and teachers.

UPCOMING EVENTS

2008 Spring Lecture Series - Ethics at the Frontiers of Science

For the second time, we are offering an undergraduate course, "Ethics at the Frontiers of Science," which also incorporates a lecture series open to the public and free of charge. The course centers around Ethics Center themes, with guest lectures on stem cell ethics (Mary Devereaux, Larry Goldstein), neurosciences (Mike Kalichman), computer privacy (Pam Dixon, Mohan Trivedi), the ownership of scientific knowledge (Rik Belew), religion and science (Larry Hinman), and robotics (TBA). All lecture/discussions are ninety minutes and are held in the afternoon at either 2:30 or 4:00 PM at the Kroc Institute for Peace & justice (USD). For more information, including streaming video, check our website at: <http://ethicscenter.net/Events/2008/FrontiersOfScience>



May 7, 2008, First Wednesdays: Stem Cells, Reuben H. Fleet Science Center

This will be the first of what is planned to be a regular series of programs scheduled for the first Wednesday of each month at the Reuben H. Fleet Science Center. For this inaugural event, we chose as our topic the recent and exciting developments in new technologies for deriving stem cells. We are privileged to have three people from the San Diego community who are each recognized as leaders in addressing the scientific and ethical implications of stem cell research: Dr. Larry Goldstein, a stem cell scientist, will describe some of the new technologies and how they compare with earlier methods for stem cell derivation; Dr. Mary Devereaux, a biomedical ethicist, will help us to define and address the ethical challenges of different options for stem cell derivation. Finally, Dr. John Evans, a social scientist, will provide some insight into how the general public does or may view these new approaches. Please be sure to mark your calendar for this event scheduled for Wednesday, May 7, 5:30-7 pm.

June 4, 2008: First Wednesdays: Lie Detection, Reuben H. Fleet Science Center

The topic of the second of the "First Wednesdays" programs will be one of the more intriguing developments in the neurosciences. Scientists are now using technology that was designed to diagnose disease in ways that may allow us to infer whether someone is angry, in love, or telling the truth. This last possibility has resulted in the creation of at least two businesses that are interested in detecting when someone is being deceptive or lying. For this program, we will have Joel Huizenga, Founder and CEO of No Lie MRI, one of the companies that is now offering a service to test whether or not people are telling the truth. For a legal perspective, we will have the views of a San Diego attorney who has considerable interest and expertise in considering the place of lie detection in the courtroom. Finally, to help us think about the ethical implications of this work, we will hear from Dr. Pat Churchland, a philosopher who is internationally known for her contributions to neurophilosophy and ethics. Please be sure to mark your calendar for this event scheduled for Wednesday, June 4, 5:30-7 pm.

NEW PROGRAMS



San Diego State University (SDSU) Faculty Fellowships in Research Ethics

The first Faculty Fellows grant of \$2500 has been awarded by SDSU and the Ethics Center to Dr. Elisa J. Sobo, a cultural anthropologist who specializes in health, illness, and medicine at SDSU. This grant will support Dr. Sobo in applying for external funding to study the risks for researchers to exaggerate or perhaps even deceive as they compete for increasingly scarce grant funding. The studies will inform our new and growing understanding of the socio-cultural underpinnings of science and can be disseminated to promote public awareness, understanding, and discussion of ethics in health-related science; thereby promoting a more informed scientific literacy among the public. For more information and an application, contact Dr. Stuart Henry, Director,

School of Public Affairs, SDSU, stuart.henry@sdsu.edu, (619) 594 4355 or see: <http://ethicscenter.net/Programs/SDSUFacultyFellowships>.

Ethics in Science: 2008 Awards Program

Senior division participants in the 2008 Greater San Diego Science and Engineering Fair are now eligible to apply their interest and skills in science to address the ethical dimensions of their work. For more information, see <http://ethicscenter.net/Programs/GSDSEE>.

ETHICS IN SAN DIEGO

STEPHEN L. WEBER, President, San Diego State University

Stephen L. Weber

Stephen L. Weber is the seventh president of San Diego State University and a founding member of the Leadership Council of the Center for Ethics in Science and Technology.

President Weber is the past chair of the American Association of State Colleges and Universities Board of Directors, and co-chaired Partners for K-12 School Reform. He also serves on the boards of governors of The Peres Center for Peace and BIOCOM, and on the boards of directors of the San Diego Regional

Economic Development Corporation, and the San Diego Science and Technology Council. He serves on the National Collegiate Athletics Association (NCAA) Division I Board of Directors and on the NCAA Executive Committee.

Born in Boston, President Weber is a graduate of Bowling Green University with a BA. in philosophy. He received his Ph.D. in philosophy from the University of Notre Dame in 1969 and is the author of numerous articles on philosophy and higher education.

Interview**What is unique about having an Ethics Center in San Diego?**

The center is one more example of the cooperation among San Diego State, UCSD and USD. Each university is committed to the growth and development of the whole person; awareness of ethical issues and acquiring the tools with which to address those issues is an important part of the education of our students. But beyond that, it is an important part of the civic community in which our graduates will soon assume positions of leadership and responsibility.

Why have an Ethics Center?

To further our civic discourse, to help us become a more just and fair society, to encourage the free exchange of ideas. Such centers enable reasoned and evidence-based discussion among different constituencies; they permit informed decisions about our practices and our institutions.

What do you view as the most important achievements of the Ethics Center?

There are at least three. First, the Center has filled a regional need for improving the scientific and ethical literacy of the public; San Diegans are better informed as a result of the Center's work on neuroscience, stem cells and information technology. Second, the Center has created a number of important links among scientists, corporations, journalists, and the public. This has included a series of op-ed articles and a partnership with the KPBS "These Days" program. Third, the Center has formed a partnership with the Reuben H. Fleet Science Center in Balboa Park that provides the facilities and appropriate professional context for its discussions, and particularly for developing its links with local high schools. In addition, the Ethics Center has launched a Faculty Fellows program to stimulate grant proposals designed to explore issues of ethical literacy, published several journal articles on key ethical issues, and is planning to co-host a conference on "Integrating Ethics" in 2010.

What do you see as the most important challenge to the success of the Ethics Center?

One ongoing challenge, especially at times of budget cuts at the state level, is to provide the Center with adequate funding. Another is to change the view that an Ethics Center is about promoting or policing the work of scientists. What needs to be understood is that ethics is an ongoing dialogue, a process of understanding the potential harms and benefits that can come from an evolving scientific community, of dispelling rumors where these are unfounded, and of considering the public policy implications of the work that scientists do so that science, technology and the public are moving together toward a shared vision for the future. Finally, it is important to maintain the public's involvement in the discussion; so a challenge is presenting ethics issues in ways that attract attention, participation by the community, and that foster a socially responsible dialogue.

Are there topics that particularly need attention of the community and the Ethics Center?

The increasing role of the internet in our lives and the way this has changed how we think and write, how we judge authorship, and what counts as fraud and plagiarism also needs our attention. The problem of scientific integrity in the rush to produce new innovations, and the role of the private sector in research and application needs to be better understood. In general, it is important for us to honestly reflect on the ways that each of our daily activities in organizations and institutions involves ethical issues and ethical decisions. By reflecting on the ethical decisions we make personally on a daily basis, we will better understand the challenges faced by scientists and will be better equipped to deliberate on the appropriate public policies within which to frame their work.

IN THE NEWS: ETHICS AND SCIENCE*

Cloned Hamburger, Anyone? - From: Apoorva Mandavilli, *Discover Magazine*, January 11, 2008

Summary: "Based on a final risk assessment, a report written by FDA scientists and issued in January 2008, FDA has concluded that meat and milk from cow, pig, and goat clones and the offspring of any animal clones are as safe as food we eat every day" (FDA, <http://www.fda.gov/cvm/cloning.htm>, 2008). As reported in the journal *Theriogenology*, scientists for the FDA analyzed multiple studies, some from cloning companies like Viagen, before concluding that it was not necessary that "meat or milk from cattle, swine, and goat clones would require any additional controls compared with meat or milk from cattle, swine, or goats currently entering the food supply today." However, based on surveys, many of us are troubled by animal cloning and would argue that cloned animal products are not safe for consumption, thus accounting for why various food manufacturers have kept these products off the market. With the recent declaration of safety by the FDA, advocacy groups, such as the Center for Food Safety in Washington, have protested that the science is inadequate to prove clones to be safe for consumption. The FDA is now reviewing 140,000 comments from this group and others on their report.

Ethical Challenges: The introduction of cloned food products to the American market raise not only concerns of safety, but also a fundamental concern about a consumer's right to knowledge. That is, what are the proper expectations for disclosure when it comes to what people consume as food? In making a policy decision about what is and is not safe, what standard of scientific evidence is sufficient? The FDA report declares cloned food to be safe, but does reliance on the FDA's position greatly reduce the individual's ability to make an autonomous decision? As consumers, should we have the right to be made aware of this difference through labeling?

RFID Powder—From: Tim Hornyak, *Scientific American Magazine*, February 2008 (pp. 68-71)

Summary: Hitachi, a technology company based in Japan, recently announced plans to develop a nearly invisible chip. This tiny chip, referred to as Powder LSI, is the latest development in Hitachi's line of small RFID (Radio-frequency identification) tags. In 2005 Hitachi introduced the u-Chip, an RFID tag .4 mm long and .06 mm thick. Though considered small by today's standards, the prototype for the Powder LSI chip has been announced at a reduced .05 mm in length and .005 mm in thickness. Hitachi's u-chip and their currently in-development Powder LSI chip serve as the electronic replacements to bar codes by using radio waves to send a "unique identification number" to a scanner. RFID tags, which operate by blending the power of chips with antennas, are currently being used for electronic toll collection and in retail stores, like Wal-Mart, to speed inventory. These chips have even been reported to serve more personal uses, such as embedding the tag into your hand for quicker access to your computer and home. The new chip's minute size will permit it to be implanted in nearly any object, including a standard piece of paper. However, Hitachi claims the new chips primary goal is aimed at "anti-counterfeiting technology". The company hopes that the Powder LSI chip will be implanted in cash, gift certificates and other "high value vouchers" to prevent forgery. Currently the u-Chip and the powder prototype have scanning capabilities up to a foot, though Hitachi plans to extend the range of both chip's antennas in the future.

Ethical Challenges: Rapid technological improvements in many fields, including in RFID technology, promise great benefits. However, the size and resulting discreteness that accompany the Powder LSI chip also raise considerable privacy concerns. If this chip has the potential to be deliberately affixed to nearly any object and read by a scanner located in a separate location, then what will happen to our presumed expectations of privacy? Could RFID technology uniquely identify an individual's location or even possessions at any time? With the development of chips that are becoming more difficult to detect, it is perhaps worth asking what is the purpose of such technology? And further, are the potential benefits worth the associated risks? If so, then shouldn't the next challenge be the development of universal guidelines to ensure privacy is upheld with RFID technology?

Gene Tests for Psychiatric Risk Polarize Researchers - From: Jennifer Couzin, *Science Magazine*, January 18, 2008 (vol. 319, pp.274-277)

Summary: Last year, UC San Diego psychiatric geneticist John Kelsoe founded the first biotechnology company to sell a gene test aimed at diagnosing people who suffer from bipolar disorder. Kelsoe, who had become discouraged by the current diagnosis and treatment procedures for bipolar disorder, decided that more information on this disorder was needed. He subsequently founded Psynomics, a pioneer in the field of psychiatric genetic testing, and is now offering the public the opportunity to order gene tests for \$750 dollars and their physician's name. The client receives a plastic container via mail with instructions to provide a saliva sample to send to the lab. Psynomics forwards the DNA results, including a summary highlighting that "a positive GRK3 test makes a diagnosis of Bipolar Disorder 2-3 times more likely", to the client's physician. It is the responsibility of the physician to assess and counsel the patient. At the center of this gene test is GRK3, a gene found on chromosome 22, which Kelsoe associates with bipolar disorder based on a study of 428 families. According to Kelsoe and many of his critics, the connection between GRK3 and bipolar disorder has only limited predictive power. However, this uncertainty, though a concern for many researchers, is not hindering the gene testing market. Other companies have similar tests planned for testing schizophrenia, and risk of suicidal thoughts stemming from antidepressants.

Ethical Challenges: It is this uncertainty that challenges the field of psychiatric genetic testing. While some gene tests may provide a 100% certainty of developing the disease base (e.g., for Tay-Sachs), psychiatric gene testing does not. Knowing that someone has a genetic predisposition to a particular psychiatric disorder could now or in the future help improve treatment choices. However, an important question at the earliest stages of this new line of genetic testing is to ask what benefits, if any, will an individual gain from knowing that they have this gene? And is there a risk of harm to an individual, who may even be asymptomatic, in knowing that they have a gene associated with a particular psychiatric disorder? What kind of regulations will and should govern this testing? How will we ensure that the client's tests results are properly interpreted and explained? Is "proper" interpretation and explanation even possible? Also, what are the responsibilities, if any, of the genetic testing companies once this information is disseminated to their clients?

*Torrey Velasquez, UC San Diego Research Ethics Program intern and UCLA graduate, identified these stories, summarized the science, and suggested some ethical questions.

ABOUT THE ETHICS CENTER

The Center for Ethics in Science & Technology is an independent center that has a close working relationship with the U C San Diego, the University of San Diego, and San Diego State University.

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