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Co-Director's Message

The Center for Ethics in Science and Technology has seen some important changes in both personnel and activities over the last few months. We should begin by noting departures of two of the three Center Co-Directors. The first, **Larry Hinman**, Professor of Philosophy at the University of San Diego, is not so much leaving as moving.



Larry Hinman

Larry, one of the two founding co-directors of the Center and a leading member of our Executive Committee, is now a member of the Center's Advisory Board. The result is that we will not really be losing his wisdom and insight, we will simply find it in a different place. The second departure is of our newest co-director, **Stuart Henry**, Professor of Criminal Justice and Director of the School of Public Affairs at San Diego State University. Stuart recently accepted an offer effective August 1 to be the new Director of the Interdisciplinary



Stuart Henry

Studies Program in the School of Urban and Public Affairs at the University of Texas, Arlington. While this is very much a gain for Texas and a loss for us, we have every reason to believe that we will remain in close touch.

Even as our Executive Committee is being reduced by two members, we have been joined by **Sandra Sgoutas-Emch**, Professor of Psychology and Director of the Center for Educational Excellence at the University of San Diego. Immediately on arrival, Sandra began giving generously of her time and experience to help us shape the future of the Ethics Center.



Sandra Sgoutas-Emch

Many activities continue as will be evident from this newsletter. In recent months, the Exploring Ethics series has tackled multiple challenging topics ranging from climate change to vaccines. We saw the successful completion of our third annual Ethics in Science Awards competition for high school students participating in Greater San Diego Science and

Inside this issue:

Recent Exploring Ethics Events	2
2010 Ethics in Science Awards	4
eSim @ Montgomery Middle School	4
Our new website	5
Will we be ready when the petroleum runs out?	5
Upcoming Events	5
AIS conference explores "ethics in sustainability"	6

Engineering Fair, and we were delighted to help create a middle school club for ethics in science (eSIM@Montgomery Middle School), which subsequently participated in the second annual San Diego Science Festival.

Finally, we are delighted to announce an important milestone. We have just launched a new version of our website (<http://ethicscenter.net>). If you haven't yet taken a look, please do so and let us know what you think. We hope to build on this new site using a variety of collaborative technologies to extend conversations about the ethical dimensions of science and technology beyond our Exploring Ethics series. Whether online or in person, we look forward to talking with you soon.

Michael Kalichman
Co-Director



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January “Are we ready for brain pacemakers?”

Kate Callen
Executive Committee Member

Electrical “deep-brain stimulation” (DBS) has alleviated the impact of neurological disorders like Parkinson’s disease, and it is being considered as a treatment for severe depression. Can patients suffering from these ailments exercise real informed consent? And should DBS be used to boost the spirits of people who are functioning normally?

These questions were debated at the **January 6th “Exploring Ethics”** forum on **“Are We Ready for Brain Pacemakers?”** The panelists were **Laura Dunn**,



panelist, Laura Dunn

who holds joint appointments at UC San Francisco in Psychiatry and Urology; **Michael Caligiuri**, Professor of Psychiatry and Director of the Human Resources Protections Program at UC San Diego; and **Ralph Greenspan**, the Lewis B. and Dorothy Cullman Fellow in Experimental Neurobiology at the Neurosciences Institute in San Diego.

DBS, which surgically implants small battery-operated devices to stimulate targeted brain areas, is a therapeutic procedure with enormous potential. It is safe and reversible, but as a relatively new technology, it is still under exploration. As Dunn explained, “We’re pushing the limits of what we think we know about the mind.”

Patients typically turn to DBS when other treatment options have failed. The panelists agreed that DBS represents an advance in treating the acutely ill. “Compared to how the brain works, this is a blunt instrument,” said Greenspan. “Compared to how electroconvulsive therapy works, this is Da Vinci’s fine hand.”

The panel noted that future applications of DBS might include use with troops in battle who are afflicted with post-traumatic stress syndrome and even with prison populations.

“Compared to how electroconvulsive therapy works this is Da Vinci’s fine hand.”
-Ralph Greenspan

When Dunn asked if DBS should be made available as a “feel-better” device, the audience was clearly divided down the middle. However when Caligiuri asked, “How many of you would invest in a company that produces this technology?” most people weren’t sure what they would do.

February “Climate change challenges”

Lauren Fleming
Intern

Over the past decade, climate change has been the subject of intense attention throughout the world. Due to the vast scientific, social, economic, and political implications of global warming, scientists face a challenge in approaching the subject without bias. The **February 3rd “Exploring Ethics”** forum on **“Climate Change Challenges,”** focused on how allegations of research misconduct have threatened the progress of climate change research. Discussion by guest speakers **Ralph Keeling** and **Daniel Cayan** of Scripps Institution of Oceanography fol-



(from left) Mike Kalichman and panelists, Ralph Keeling and Daniel Cayan

lowed a brief introduction by Dr. **Mike Kalichman** to the implications of fraudulent and unethical behaviors of scientists. Dr. Keeling showed how responsible scientists ensure the reliability of their results by isolating confounding factors. Research conducted away from highly populated areas and away from plants indicated an upward trend in levels of carbon dioxide. Dr. Cayan also gave insight into the importance of ethical approaches to climate change research, including its implications for water supply management.

Although we will not see the full ramifications of climate change in our own lifetimes, it is important to understand that the potential effects are enormous. The

forum essentially shed light on the value of ethical conduct in research on behalf of scientists, as well as the importance of being responsible stewards of our environment.

March “Who owns the data?”

Lauren Fleming
Intern

The rise of the internet has inevitably led to the dissemination of information on a mass scale. The availability of data online is growing at an exponential rate. Amongst concerns of validity and reliability, there is also the question of ownership of this data. Is publicly funded research inherently the property of taxpayers? Shouldn’t the public have access to information that may have profound implications on their daily lives?

The **March 3rd “Exploring Ethics”** forum, **“Who Owns the Data?”** looked at the answers to these questions and more.



(from left) panelists, Aziz Boxwala and Philip Bourne

Guest speaker **Philip Bourne**, professor of pharmacology at the UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences, presented an unbiased perspective into the conflict between researchers’ desire to maintain the confidentiality of their findings and the public’s interest in science’s most recent discoveries. Bourne along with **Aziz Boxwala**, associate professor of biomedical informatics at UCSD, discussed how maintaining the confidentiality of data is critical to protecting the privacy of parties involved in producing the data.

Withholding data is also imperative to patenting key findings, which may lead to the production of a drug or treatment to benefit many. Open access to information can serve to both push the boundaries of science as well as hinder its progress. Legislators and scientists must find a common ground with the goal of preserving the highest potential of new research.

April “Do you have to be a criminal to study crime?”

Rachel Zatkun
Intern

The April 7th “Exploring Ethics” forum, “Do You Have to be a Criminal to Study Crime?” featured Professor Erik Fritsvold of the Department of



panelist, Erik Fritsvold

Sociology at the University of San Diego, and moderator Stuart Henry, PhD., of San Diego State University. The

event included a discussion of the original criminology research of Fritsvold, and the ethical controversies surrounding the research. Professor Fritsvold discussed methodological issues and findings of his 6-year ethnographic investigation into affluent drug dealers. The study involved 50 predominantly white male subjects from Southern California Universities, all of whom were selling traditional illicit street drugs or prescription drugs. Professor Fritsvold clearly stated at the beginning of his lecture, “nobody saw the inside of a jail cell except one subject who spent an afternoon in police custody.”

When Fritsvold began his research, he was surprised by the “scope and significance at the criminality engaged in by these affluent college students” and their “complete and total disregard for law enforcement.” Fritsvold presented examples of stories pertaining to a few of his research subjects. He directly involved members of the audience, who acted out dialogues as scripts. Stories included a man under the pseudonym Diamond, the biggest dealer in the study, who sold roughly \$40,000 of marijuana per week and was completely careless of avoiding law enforcement.

Fritsvold concluded the methodological discussion of his research and moved into the heart of the discussion, including the ethical questions at hand, which Henry presented as the following:

“He engaged in this type of research, he

knew what these people were doing, but did not report it to any law enforcement. Does this make Professor Fritsvold a criminal? Are there points at which harm was being produced as a result of actions that hadn’t been stopped that could have been stopped had other people known?”

“Nobody saw the inside of a jail cell except one subject who spent an afternoon in police custody.” - Erik Fritsvold

Fritsvold began to tackle this question by discussing the institutional review board approval process he had to undergo, as well as the protection he received against forced disclosure to the authorities.

In the Q&A section of the discussion, several ethical issues were discussed based on Fritsvold’s research and the controversy surrounding it, including:

- Whether Fritsvold was faced with pressure by law enforcement to turn in the subjects because he had personal information on the subjects who were confessing crimes directly to him
- The distinction between crimes that inflict predatory harm and victimless crimes, and why drug dealing could be approached within research as distinct from a crime such as murder
- The impact of having enthusiastic subjects willing to tell their stories
- The criminal dealing and use of prescription drugs and their rising popularity in relation to illicit drug dealing and use, along with the future of national policy on how to handle new drug trends
- How Fritsvold maintained the ability to verify that he was receiving credible and honest information from his subjects, considering that they were criminals
- How at the conclusion of this particular study, Fritsvold’s perception on drug crime was altered

The audience engaged in a dialogue with Fritsvold up until the conclusion of the forum, discussing many topics, including confidentiality statements and protocols and the ethics surrounding the concern for identity protection of the research subjects, as well as the protection of vulnerable sub-

ject populations and the importance of following ethical research guidelines.

May “Are vaccines really safe?”

Kate Callen
Executive Committee Member

The emotional minefield of childhood immunology was explored with prudence and passion at the May 5th “Are Vaccines Really Safe?” forum.

In a panel discussion moderated by microbiologist Stanley Maloy of San Diego State University, Eric Courchesne of the UCSD Autism Center of Excellence and Edward Morgan of the SDSU BioScience Center presented data refuting the theory that vaccines cause autism.

Courchesne and Morgan both noted that autism rates are rising, but not because there more people have autism. The increases reflect diagnostic and epidemiological advances.



panelist, Eric Courchesne

Simply because we are increasingly good at identifying cases of autism, we see a higher incidence.

“It’s your choice. But you only have one shot at that choice.” - Eric Courchesne

From a neuroscience perspective, Courchesne provided extensive data noting that that autism is rooted in the brains of newborn infants, well before vaccinations have occurred.

On a personal note, they addressed the ethics of immunization as a parent (Morgan) and a polio victim (Courchesne).

“If you decide not to vaccinate your child,” said Morgan, “you may expose someone else’s child to disease.”

“It’s your choice,” said Courchesne. “But you only have one shot at that choice.”

2010 Ethics in Science Awards

On Wednesday June 2, 2010 we presented awards to the winners of our 3rd annual Ethics in Science Awards. The Center for Ethics in Science and Technology invited selected senior division participants in the Greater San Diego Science and Engineering Fair to apply their interest and skill in



science to address the ethical dimensions of their work.

Purpose of Program:

Science has brought us much that is good, including discoveries about ourselves and the world around us as well as the tools to make new discoveries. However, science can also lead to harm. Effectively anticipating the risk of harm, both intentional and unintentional, requires a thorough



(from left) Michael Vredenburg, David Higgins, Sharona Silverstein, Michael Kalichman, Taryn Seymour, Tate Hurvitz, Avonlea Ilano, Maribel Geronimo, and Alexander Riolo

understanding of the science. For this reason, it is essential that scientists themselves should be part of the discussion about how the products of research should be used. The purpose of this program is to encourage the next generation of scientists to see ethics as part of their research, and not as a question to be handled only by others.

Awards: A first place award of \$500 was presented to, **Alexander Riolo**, High Tech High School, grade 11, for his essay titled "San Dieguito Offset Project: Were all the implications considered?" Other award winners were: Second Place, \$200,

Sharona Silverstein, Henry High School, grade 10. Third Place winners, \$100 each, **Taryn Seymour**, Rancho Buena Vista High School, grade 9, **Michael Vredenburg**, Carlsbad High School, grade 12, **Avonlea Ilano**, Morse High School, grade 12, and **Maribel Geronimo**, Morse High School, grade 12.

eSIM @ Montgomery Middle School

Tate Hurvitz
Ethics Center Fellow

Beginning in January of this year, representatives of the Ethics Center took advantage of the opportunity to work with the students and faculty at Montgomery Middle School. With two Montgomery science teachers, Ray Ruffin and Will Holsinger, we helped create an after-school club, "Ethics and Science in Montgomery," (eSIM). Our first and ambitious goal was to use the next eight weeks to collaboratively design, implement and present an ethics and science experiment to be displayed at this year's Expo Day of the San Diego Science Festival at Petco Park.



Visitors to our Expo Day exhibit.

The students chose two controversial topics in science and technology – Robots in War and Designer Babies. After learning some of the basic science, they began to consider their own views and the larger social implications of these sciences.

Next, we all worked to create a five-question survey for each topic, designed to investigate Montgomery stu-

dents' perceptions about ethical questions such as: Should robots be designed to think for themselves? Is it OK for a parent to choose genetic traits to avoid ill-



Jessica entering data from surveys completed by visitors to our Expo Day booth.

nesses? These were questions that the group decided to put their classmates.

After administering the surveys in the seventh and eighth grade science classes, eSIM club members learned how to use computer software to enter and tabulate the data received from hundreds of their classmates. We designed a poster and presented the survey results at a well attended Festival event on Saturday, March 24.

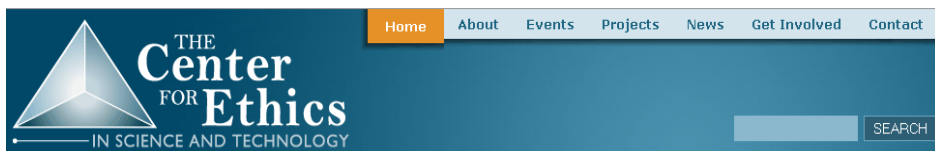
In addition, surveys were handed out to festival attendees on the day of the event, and Montgomery students input this data on site, so viewers could see side-by-side comparisons of the results from Montgomery and from the Festival.

The semester long experience was a resounding success. Students, faculty, and Ethics Center representatives have all signed on to continue the eSIM club this fall. Our first order of business will be to work with some of the survey's qualitative data not included in the Festival presentation. After that – the students will lead the way!



Montgomery Middle School teachers and students, along with Ethics Center faculty and UC San Diego student Tyler Sloan (2nd from right).

Our new website (ethicscenter.net)



We are proud to announce the launch of our new website at www.ethicscenter.net. The menu bar displayed above serves as an easy way to see what you can now find on our website. The **About** tab includes information on the Center's history, as well as the people and sponsors who support the Center's activities. The **Events** tab links to our monthly Exploring Ethics programs, periodic special events, past events, and a listing of the many speakers who have participated in our programs. Under **Projects**, you will find information about our Ethics in Science award program, activities to promote ethics and science education, and participation in the San Diego Science Festival. The **News** section includes links to our newsletters, an image gallery, and of course stories in the news media. Finally, the **Get Involved** and **Contact** tabs provide opportunities for you to help us in meeting the goals of the Center.

This new portal is an important opportunity to enhance publicity of Ethics Center activities. However, we are also now taking advantage of various social media technologies to better facilitate ethics and science conversations. The site now contains links to social media such as Twitter, Meetup, Flickr, and Facebook.

Follow us on:



For this new virtual home for the Ethics Center, we particularly want to thank the Legler Benbough Foundation, which provided the support for us to contract with Greenbird Media (<http://www.greenbirdmedia.com>), the company responsible for creating the new look and structure of our website.

“Will we be ready when the petroleum runs out?”

Lauren Fleming
Intern

Scientists, politicians, and the public have rising concerns for the development of alternative energy sources. We have already found ways to harness wind and solar energy. These technologies are relatively new, and are still overshadowed by our dependence on oil. We continue to ask our leaders in business, science, and government, “will we have access to reliable and affordable sources of energy to power our cities, businesses, homes, and vehicles before our sources of petroleum are exhausted?”



upcoming panelist, Stephen Mayfield

The BP oil spill, which has been spewing an estimated 5000 barrels of oil per day, is an unnering reminder that petroleum is not a sound resource: supplies are quickly dwindling, and investors are facing increased risk in financing oil companies. Advocates for the development of renewable and alternative sources of energy are concerned about the environmental implications of burning fossil fuels—global warming has been implicated in sea level rise, oxygen depletion in the ocean, glacial retreat, and extreme weather. They recognize that our dependence on foreign oil creates challenges in the realm of foreign policy. While we do not know for sure how long it will be before we exhaust the world's profitable reserves, we do know that companies are withdrawing petroleum at a faster rate than it is being produced. We are currently exploring and are on the cusp of developing new technologies, such as biofuels and hydrogen fuels. Whether these ideas hold promise is up to debate. For **July 7th's**

“Exploring Ethics” forum, “Will We Be Ready When the Petroleum Runs Out?” we will focus our challenges in making the transition to new sources of fuel and energy. **Stephen Mayfield**, director of the San Diego Center for Algae Biotechnology, and the John Doves Isaacs Chair of Natural Philosophy at UC San Diego, will shed light on how we can approach these challenges, and who the key players will be. Questions to consider for July 7th include: Who should bear the costs for finding and developing alternative energy sources? Who should benefit from the profits of successfully developing new sources? Those attending can expect an engaging and thought-provoking discussion of the future of energy in our country.

Upcoming Exploring Ethics Events

July 7 - Will we be ready when the petroleum runs out? Guest speaker: Stephen Mayfield, PhD, UC San Diego

August 4 - Analysis of HIV networks: Can we protect both the public and confidentiality? Guest speaker: Susan Little, MD, UCSD School of Medicine

September 1 - to be announced



October 6 - Geoen지니어ing I. Guest speaker: Lynn Russell, PhD, Scripps Institution of Oceanography

November 3 - Geoen지니어ing II. Guest speaker: Darrel Moellendorf, PhD, San Diego State University

December 1 - Evolutionary Computation. Guest speaker: David Fogel, PhD, Natural Selection, Inc.

"We are interested in the challenges faced by our society in determining how best to balance the risks and benefits associated with the development and application of the products of science and technology."

- Dr. Michael Kalichman, Co-Director and Co-Founder

We're on the web:

www.ethicscenter.net

AIS Conference Explores "Ethics and Sustainability"

Kate Callen
Executive Committee Member

The Center for Ethics in Science and Technology is co-sponsoring this year's conference of the Association of Integrated Studies (AIS) in San Diego from

Thursday, October 7, through Sunday October 10. San Diego State University is the host university through its School of Public Affairs, Center for Regional Sustainability and Division of Undergraduate Studies. The 2010 conference theme is "Interdisciplinary Approaches to Integrating Ethics and Sustainability." The event will take place at the Kona Kai Resort.

Founded in 1979, AIS is an international professional association for interdisciplinary teachers, scholars, and researchers

with more than 1,500 individual members from the United State and abroad. It is

"[Sustainability] is about...caring for our future, and caring for the people who will follow us on the planet." - Stuart Henry

dedicated to the idea that interdisciplinary research is a key component of academic excellence and a fundamental strategy for solving complex real-world problems.

On Wednesday afternoon, October 6, an AIS-Ethics Center preconference workshop will take place at the Reuben H. Fleet Science Center. Delegates will attend a briefing on the history and activities of the Ethics Center, and they will be special guests at the Center's October "Exploring Ethics" forum on ethics and sustainability.

The Saturday keynote speaker will be **Naomi Oreskes**, a leading expert on the history of science who is a Professor of History and Science at UC San Diego.

Oreskes will present on "**Ethics, Climate and Disinformation: How Should an Interdisciplinary Respond?**" She will be introduced by Ethics Center Co-Director Michael Kalichman.

Stuart Henry, Co-Director of the Ethics Center, is the AIS Conference Chair. He believes that AIS and the Center share a core principle that critical global challenges like sustainability must be addressed by harnessing the physical sciences, the biological sciences, the social sciences, and the humanities.

"People often think that sustainability is about science, technology and conserving energy," he said. "It is actually about caring for our future, and caring for the people who will follow us on the planet. It is about building relationships for a future that does not depend on using up resources in the present. Its ethical challenge is to think about intergenerational connections and to care about the effects of our actions on others, not just ourselves. I can't think of anything more ethical than that."

For more information, visit:

<http://www.units.muohio.edu/aisorg/Conference/2010.shtml>