LifeSciencesCommunication

COMMUNICATING CONTROVERSIAL SCIENCE
LSC 375/875
University Forum 500

Summer 2009	Prof. Dominique Brossard
3.0 Semester Hours	324 Hiram Smith Hall
Tuesday/Thursday 7:00-9:30pm	Phone: (608) 262-0482
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Course Assistant: Ph.D. student Andrew R. Binder (arbinder@wisc.edu)

Course Outline:

Complex scientific issues are an inherent part of modern societies and are continuously debated in the public sphere. Stem cell research, biotechnology and global warming, for instance, require regulations that should take into account scientific as well as societal considerations. A basic understanding of what these issues entail should therefore be made possible for all individuals living in societies respecting their citizens' views.

Recognizing the importance of public understanding of controversial science, different institutions have called for "better science communication." At the same time, universities and scientists are increasingly faced with a disconnect between scientific realities and public perceptions that often shape policy, including limitations on access to federal funding sources or regulations on emerging areas of research. Unfortunately, some scientists still see their work as independent from larger socio-political environments that determine allocation of research funds and shape potential regulations of both basic research and its applications. But these issues are not just scientific issues. They also have social, legal and ethical implications that many citizens see as much more important than scientific aspects when forming attitudes about science policy and funding. Scientists all too often reject such concerns as irrelevant to the scientific debate and blame them on a lack of understanding of the technical and regulatory facts related to nanotech. Unless we acknowledge these concerns and understand how attitudes toward emerging science – like nanotechnology – are shaped, we will continue to see the same communication disconnect we've seen for issues such as biotechnology and stem cell research.

This forum will examine the processes of communicating controversial science to different publics. During the first hour of each session, guest speakers will present their perspective on communicating controversial science. The second part of the class will be devoted to in-depth discussion of the topic under study and additional lecturing by the professor. We will examine questions such as the following: What are the processes that bring issues, such as stem cell research, nanotechnology, or biotechnology, to the forefront of policy agendas at the state or national level? How do these issues get communicated through mass media and other channels? How do audiences make sense of this information? And what is the role that scientists, policy makers, journalists, and other stakeholders can play to engage in meaningful dialogue with one another?

Course Requirements:

The course is open to all interested faculty, students, and members of the community.

If you are taking the course for credit, you will have to attend class regularly and actively participate in class. This means that attendance is mandatory; students can miss one class period without penalty if they make up for the missed work. Missing a second period while making up for the work will result in a letter grade drop in the final grade.

You are also expected to actively discuss each week's topic with the speaker during the Q&A period and with your peers in smaller groups after each presentation. Like all academic discourse, your comments and responses to other views should be based on evidence and information rather than normative views and opinions.

Reading assignments (Readings are posted on the course website at learnuw.wisc.edu):

Undergraduates are expected to read the ***required text and the one page summary*** before each course period.

Graduate students will have ***an additional required reading and a recommended one***. Each graduate student must choose one article among the required and recommended readings and summarize it (1 to 2 pages; bullet points). This summary should be sent to the teaching assistant by 7:00pm the day before the session featuring the reading. It will be distributed to all through the class e-mail listserv.

Written assignments:

(1) Reading Summary (graduate students only): See above.

(2) 3 Response Papers (1-2 double-spaced pages):

You will have to write a response paper for 3 class periods of your choice. Each should be turned in on a Tuesday as specified in the schedule. They should be a reflection on topics raised by the speakers or during the discussion in class. Was there anything particularly noteworthy, or something that you strongly disagreed with? If yes, why? Do you see inconsistencies with what you heard from a previous speaker, or you read in the readings?

(3) Final Paper (about 10 double-spaced pages):

The paper should be relevant to one of the themes covered in this class. It should make a contribution, however modest, to the intersection of controversial science and communication. I will talk more in class about what these papers should look like.

All written assignments in this class should be formatted using 12-point font (Arial, Helvetica, or Times New Roman) and double line spacing, and follow a commonly accepted academic citation style (APA, Chicago, etc.). Online resources (Wikipedia, Google Scholar, etc.) are not acceptable as primary sources.

Grading:

Attendance and Participation: 30%
Response papers: 10% each
Final paper: 40%

Academic Misconduct:

Academic misconduct will be punished to the fullest extent possible. Anyone found guilty of academic misconduct should expect to fail the entire course. In addition, cheating or plagiarizing on assignments, papers or projects in this class may result in any other penalties deemed appropriate by the university. Your rights and responsibilities in this area are outlined in UWS 14, the chapter of the University of Wisconsin System Administrative code that regulates academic misconduct http://www.wisc.edu/students/saja/misconduct/UWS14.html). You are responsible for obeying UWS 14. Ignorance of the code is not an excuse.

Schedule:

Date	Speaker	Topic	Speaker's bio	Readings
Tuesday, June 16, 2009	**Dominique Brossard** Professor, Life Sciences Communication, UW-Madison	Introduction and Course Requirements	After getting a M.S. in Plant Biotechnology from the Ecole Nationale Supérieure d'Agronomie de Toulouse (France), Brossard worked for five years for Accenture (formerly Andersen Consulting). She received her doctorate from Cornell University where she then also worked as Communication Coordinator for the Agricultural Biotechnology Support Project II (ABSPII), a multi-million dollar project to develop bio-engineered products for commercialization in Africa, India, Bangladesh, Indonesia and the Philippines. Brossard has published numerous research articles on science communication. She is also co-editor of The Public, the Media and Agricultural Biotechnology, published by Oxford University Press. http://lsc.wisc.edu/faculty-staff/faculty/dominique-brossard/	AAAS media tips (interviews + radio and television)
Thursday, June 18, 2009	**Deb Blum** Professor, Journalism and Mass Communication, UW-Madison	Shoot the Messenger: Tales from Investigative Science Journalism 2nd hour: Understanding Mass Communication and the Process of News Construction	As a science writer for the Sacramento Bee, Deb Blum wrote a series of articles examining the professional, ethical, and emotional conflicts between scientists who use animals in their research and animal rights activists who oppose that research. Titled "The Monkey Wars", the series won the 1992 Pulitzer Prize for Beat Reporting/ Blum has published numerous books, which won several awards. She has also written for publications including *The Los Angeles Times, The Boston Globe, The New York Times, The Washington Post* among others. She was president of the National Association of Science Writers from 2002-2004 and currently serves on advisory boards to the Council for Advancement of Science Writing and the World Federation of Science Journalists. http://lsc.wisc.edu/policy-forum/861/deborah-blum/	Required for all: "Who killed Fido? We all did" by Deborah Blum Required for graduate students: "Concepts and models in mass communication," McQuail, Chapter 3 **(**Summary by Nicholas Schmuhl)

Date	Speaker	Topic	Speaker's bio	Readings
Tuesday, June 23, 2009 **First response paper due**	**Steve Ackerman** Professor, Atmospheric and Ocean Sciences; Director, CIMSS, UW-Madison	Talking with the Public about Weather and Climate 2nd hour: Does Knowledge Matter?	A professor of Atmospheric and Oceanic Science at the University of Wisconsin-Madison, Ackerman joined the faculty in 1992. His research interests center on understanding how changes in the radiation balance affect and are affected by changes in other climate variables such as clouds, aerosols, water vapor, and surface properties. He is the director of the Cooperative Institute for Meteorological Satellite Studies (CIMSS), which was established to cement a relationship between the university and the National Oceanic and Atmospheric Administration. The institute's mission includes developing new techniques that increase the value and usability of weather forecasts, primarily by employing weather satellite data. He, along with Jon Martin, are known as the "weather guys." http://lsc.wisc.edu/policy-forum/861/steve-ackerman/	Required for all: "Are we science-savvy enough to make informed decisions." Article in *USA Today + summary for undergrads* Required for grad students: Allum, N., Sturgis, P., Tabourazi, D., & Brunton-Smith, I. (2008). Science knowledge and attitudes across cultures: A meta-analysis. *Public Understanding of Science, 17*(1), 35-54. (Summary by _____) .
Thursday, June 25, 2009	**Matt Nisbet** Professor of Communication, American University	What's Next for Science Communication? Promising Directions and Lingering Distractions 2nd hour: Framing and Communication	Nisbet, is an assistant professor in the School of Communication at American University, Washington, D.C. As a social scientist, he studies strategic communication in policy-making and public affairs, focusing on controversies surrounding science, the environment, and public health. He is the author of more than two dozen journal articles and book chapters. Nisbet's current research on climate change communication is funded by the Robert Wood Johnson Foundation where he is a Health Policy Investigator. He has also worked as a consultant to the National Academies and other leading science organizations. Nisbet holds a Ph.D. and M.S. in Communication from Cornell University and an A.B. in Government from Dartmouth College http://lsc.wisc.edu/policy-forum/861/matthew-nisbet/	Required for all: Nisbet, M.C. & Mooney, C. (2007). Framing science. Science 316(5821), 56 Required for graduate students: http://sfa.frameworksinstitute.org/ (Summary by: _____) Recommended for grad students: Tversky & Kahneman (1981). (Summary by _____)

Date	Speaker	Topic	Speaker's bio	Readings
Tuesday, June 30, 2009 **Second response paper due**	**John Wiley** Professor and former Chancellor, Interim Director of the Wisconsin Institutes for Discovery University of UW-Madison	Science Communication and Policy-Making 2nd hour: Communicating about Risk	John D. Wiley is professor of public affairs and educational leadership and policy analysis, and a senior scholar with the Wisconsin Center for the Advancement of Postsecondary Education. Wiley served as chancellor of University of Wisconsin-Madison from 2001-2008, and was provost and vice chancellor for academic affairs from 1994–2000. He joined the University of Wisconsin-Madison faculty in the Department of Electrical and Computer Engineering in 1975, and his research focused on semiconductors and related materials and processes. Wiley currently serves as Interim Director of the Wisconsin Institutes for Discovery. http://lsc.wisc.edu/policy-forum/861/john-wiley/	Required for all: - Sandman *Nature* Commentary - Swartzman (2003). SARS anxiety: The psychology of risk perception. *Western News,* (Thursday, May 8). Required for grad students: Brossard, D., & Nisbet, M. C. (2007). Deference to scientific authority among a low-information public: Understanding U.S. opinion on agricultural biotechnology. *International Journal of Public Opinion Research, 19*(1), 24-52. (Summary by:_____) Recommended for grad students: Ho, et al. (2008) Perceptual filters … (Summary by _____)
Thursday, July 2, 2009	**Susan Lederer** Robert Turell Professor of Medical History and Bioethics; Chair, Department of Medical History and Bioethics University, UW-Madison	Radiating Truth and Justice: Cold War Human Radiation Experiments and the Media 2nd hour: The Role of Values	Susan E. Lederer, Ph.D. is the Robert Turell Professor of the History of Medicine and Bioethics at the University of Wisconsin School of Medicine and Public Health. She has published extensively on the history of both human and animal experimentation. In 1994, she was appointed by President Bill Clinton to the Advisory Committee on Human Radiation Experiments, and contributed to the Committee's lengthy report on the Cold War radiation research sponsored by the federal government. She has also served on presidential commissions for the German government, charged with exploring the conduct of human experimentation during the period of National Socialism. Her books include *Subjected to Science: Human Experimentation in America Before the Second World War* (1995); *Frankenstein: Penetrating the Secrets of Nature* (2002), and *Flesh and Blood: A Cultural History of Transplantation and Transfusion in Twentieth-Century America* (2008). http://lsc.wisc.edu/policy-forum/861/susan-lederer/	Required for all: Sta Ana J.L. (2009, winter). The ethical responsibility of monitoring science and technology. AAAS Professional Ethics Report, XXII (1) Required for grad students: Kahan, D. N., Braman, D., Slovic, P., Gastil, J., & Cohen, G. (2008). Cultural cognition of the risks and benefits of nanotechnology. *Nature Nanotechnology 4,* 87-90. (Summary by:_____) Recommended for grad students: Binder et al. (2009). The soul of a polarized democracy. (Summary by _____)

Date	Speaker	Topic	Speaker's bio	Readings
Tuesday, July 7, 2009 **Third response paper due**	**Jim Bender** Communications Director for Representative Steve Fitzgerald Wisconsin State Assembly	Science Communication and Politics 2nd hour: Public Engagement for Citizens and Scientists	Jim Bender is currently serving as the Communications Director for the Republic Leader Jeff Fitzgerald in the Wisconsin Assembly. Prior to working in the state legislature, he owned and operated a Media and Public Relations firm in Watertown, Wisconsin for 12 years. He also has fifteen years' experience as a free-lance videographer, photographer and writer. Bender graduated from the University of Michigan in 1990 with a bachelor's degree in communication. http://lsc.wisc.edu/policy-forum/861/jim-bender/	Required for all Op-Ed: Reversing the Congressional Science Lobotomy *Including comments* Required for grad students: Rowe, G., & Frewer, L. J. (2005). A typology of public engagement mechanisms. *Science Technology & Human Values, 30*(2), 251-290. (Summary by _____) Recommended for grad students: Brossard, D., & Shanahan, J. (2003). Do citizens want to have their say? *Mass Communication & Society, 6*(3), 291-312. (Summary by _____)
Thursday, July 9, 2009 **Final paper due**	**Dietram A. Scheufele** Professor, Life Sciences Communication, UW-Madison	Curing Cancer and Self-Replicating Robots: Perceptions about Emerging Technologies Among Experts and the General Public 2nd hour: Wrap Up	Dietram A. Scheufele is Professor and Director of Graduate Studies in the Department of Life Sciences Communication at UW—Madison. Prior to joining UW, he was a tenured faculty member at Cornell University. He is Wisconsin PI and co-leader of the Public Opinion and Values Research Team for the NSF-funded Center for Nanotechnology in Society at Arizona State University (CNS-ASU). Scheufele's professional experience includes consulting work for Fallon Worldwide, the Public Broadcasting System, the World Health Organization, and the World Bank. http://www.dietramscheufele.com/scheufele.html	Required for all: Scheufele – Nanotoday Required for graduate students Scheufele, D. et al. (2008). Religious beliefs and public attitudes toward nanotechnology in Europe and the United States. *Nature Nanotechnology 4,* 91-94 (Summary by:_____) Recommended for graduate students: Brossard, D., Kim, E., Scheufele, D. A., & et al.. (forthcoming). Religiosity as a perceptual filter: Examining processes of opinion formation about nanotechnology. *Public Understanding of Science* (Summary by:_____)