SSO 102.1: Science in the Weekly News
Meeting Pattern: W 10:40 AM-11:35 AM
Location: Center for Science and Society 103 (Roth Café)

This seminar will involve discussion of current science news as presented weekly in the Science Section of the Tuesday edition of the New York Times and Newsday. Each week we will read and discuss these articles in the Science sections. Emphasis will be placed on understanding and clarifying the basics behind each story, why it is newsworthy and the effects that the science has on society.

Instructor:
Stephen Yazulla, *Neurobiology and Behavior*

Stephen Yazulla graduated from the University of Scranton with a B.S. in Psychology. He continued at the University of Delaware, receiving an M.A. and Ph.D. in Physiological Psychology in 1969 and 1971, respectively. After two postdoctoral fellowships at the University of Delaware and Harvard University, he joined Stony Brook University in 1974. Since 1986 he holds the position of Full Professor of Neurobiology & Behavior, with a concurrent position of Professor of Ophthalmology since 2005. Professor Yazulla has served on the Editorial Boards of Visual Neuroscience (Associate Editor from 1993 to 1998) and the Journal of Neurocytology.

SSO 102.2: Science in the Weekly News
Meeting Pattern: W 2:20 PM-3:15 PM
Location: Center for Science and Society 103 (Roth Café)

This seminar will involve discussion of current science news as presented weekly in the Science Section of the Tuesday edition of the New York Times and Newsday. Each week we will read and discuss these articles in the Science sections. Emphasis will be placed on understanding and clarifying the basics behind each story, why it is newsworthy and the effects that the science has on society.

Instructor:
Stephen Yazulla, *Neurobiology and Behavior*

Stephen Yazulla graduated from the University of Scranton with a B.S. in Psychology. He continued at the University of Delaware, receiving an M.A. and Ph.D. in Physiological Psychology in 1969 and 1971, respectively. After two postdoctoral fellowships at the University of Delaware and Harvard University, he joined Stony Brook University in 1974. Since 1986 he holds the position of Full Professor of Neurobiology & Behavior, with a concurrent position of Professor of Ophthalmology since 2005. Professor Yazulla has served on the Editorial Boards of Visual Neuroscience (Associate Editor from 1993 to 1998) and the Journal of Neurocytology.

SSO 102.3: Environmental Psychology
Meeting Pattern: W 10:40AM-12:40PM
Location: Center for Science and Society 121 (Roth Café)
Note: This class will meet the first week of classes. Following this meeting the class will meet for 2 hours a week for the second 7 weeks of the semester.

This course will introduce environmental psychology, an interdisciplinary field that looks at many aspects of the interaction between humans and their environment. Topics will range from discussions of human views of nature to perceptual processes and human-designed environments. Our discussions will be integrative and pragmatic, drawing upon the resources of many related disciplines, including neuroscience, sociology, architecture, ecology, and urban planning.

Instructor:
John Robinson, *Psychology*

Dr. Robinson is a biological psychologist whose expertise is in animal behavior and neuroscience. He received his Ph.D. from the University of New Hampshire and did postdoctoral Hampshire and did postdoctoral Health. Dr. Robinson has been on the faculty of Stony Brook University since 1994 and is a recipient of the President's and Chancellor's Awards for Excellence in Teaching.

SSO 102.4: Why do science majors change their minds
Meeting Pattern: TH 9:50 AM-11:50 AM
Location: Center for Science and Society 103 (Roth Café)
Note: This class meets for 2 hours a week for the first 7 weeks of the semester.

How do current advances in science influence society? Specific topics for discussion will be picked by students. Student will participate in discussions and prepare short presentations.

Instructor:
Bernadette Holdener, *Biochemistry and Cell Biology*

Bernadette Holdener is an Associate Professor in Biochemistry and Cell Biology. My research focuses on how genes influence cell fate changes during embryonic development. I am interested in developing ways to effectively communicate advances in science to non-scientists and scientists outside of my field.

SSO 102.5: Anesthesiology - My World and Welcome to it!
Meeting Pattern: TU 1:00 PM-3:00 PM
Location: Health Science Center Level 2-158

Seminar will discuss the application of physiology and pharmacology principles to clinical practice and more specifically the practice of anesthesiology. Seminar will incorporate an introduction to the use of human patient simulators and their application to pharmacology and physiology

Instructor:
Stephen Vitkun, *Anesthesiology*

Dr. Vitkun is Professor and Vice Chairman (Special Projects) in the Department of Anesthesiology and Professor of Pharmacological Sciences and Clinical Health Sciences.

SSO 102.6: Why do science majors change their minds
Meeting Pattern: TH 9:50 AM-11:50 AM
Location: Center for Science and Society 103 (Roth Café)
Note: This class meets for 2 hours a week for the first 7 weeks of the semester.

How do current advances in science influence society? Specific topics for discussion will be picked by students. Student will participate in discussions and prepare short presentations.

Instructor:
Bernadette Holdener, *Biochemistry and Cell Biology*

Bernadette Holdener is an Associate Professor in Biochemistry and Cell Biology. My research focuses on how genes influence cell fate changes during embryonic development. I am interested in developing ways to effectively communicate advances in science to non-scientists and scientists outside of my field.

SSO 102.7: Diamonds
Meeting Pattern: TU 11:20 AM-12:15 PM
Location: Center for Science and Society 103 (Roth Café)

This seminar will explore all aspects of the modern diamond trade, including the geologic settings for diamond formation, interesting physical properties of diamonds, mining practices, industrial uses, gemology, socio-political concerns (including conflict or “blood” diamonds), and economics of the diamond business. Students will be assigned short readings on these topics and will lead discussions in class based on these readings.

Instructor:
Timothy Glotch, *Geosciences*

Timothy Glotch is an Assistant Professor in the Department of Geosciences. His research utilizes visible/near-infrared reflectance and thermal infrared emission spectroscopy, both on remote sensing platforms and in the laboratory, to determine the composition of geologic materials. Areas of particular interest for members of his research group are the mineralogic indicators of aqueous processes on Mars, unusual igneous provinces on the Moon, and improvement of theoretical light scattering models. Tim is a Co-Investigator on the Diviner Lunar Radiometer Experiment, which has been orbiting the Moon aboard the Lunar Reconnaissance Orbiter since 2009.

SSO 102.8: Seeing Is Believing
Meeting Pattern: TU 3:50PM-4:45PM
Location: Center for Science and Society 121 (Roth Café)

Humans depend on vision to obtain most of their information about the world and experience tells us that our view of the world is unfiltered and undistorted. Evolution, however, didn’t plan the visual system in advance as would an engineer. Evolution built the visual system from cellular mechanisms available in very primitive species. The result of building a visual system without a

plan is that our view of the world is actually distorted and heavily filtered. Our brain works around these problems in visual processing to make us believe that our visual world is unambiguous. Advertisements and works of art, however, sometimes exploit these visual processing problems. My goal in this class is to help you understand that you can't believe everything that you see. In other words, "question authority" especially if it's your own brain.

Instructor:
Craig Evinger, *Neurobiology and Behavior*

Craig Evinger Neurobiology & Behavior After completing a BA at an experimental college in Florida, New College, he received a PhD from the University of Washington in Physiology & Biophysics. He did a postdoctoral fellowship at NYU Medical Center and joined the faculty at Stony Brook in 1982. In addition to teaching undergraduate, graduate, and medical students, he has an active research program investigating movement disorders. His lab website is http://mysbfiles.stonybrook.edu/~levinger

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SSO 102.10: Global Water Crisis
Meeting Pattern: M 9:35 AM-10:30 AM
Location: Center for Science and Society 103 (Roth Café)

Participants in this seminar will explore the science and politics behind global water crisis by reading Fred Pearce's book and discuss assigned readings in class. Discussion leaders will use 15–minute powerpoint presentations followed by general discussion. The book, 'When teh rivers run dry', is provides some of the most interesting, nerve-wracking, disappointing, and infuriating stories and statistics on water politics worldwide. The author brings depth to the subject and approaches the issues facing water management (and rather more often the appalling mismanagement) from several angles that make this book a joy to read.

Instructor:
Kamazima Lwiza, *School of Marine and Atmospheric Sciences*

I am a marine physicist. I study ocean and lake processes that affect water physical properties, e.g., temperature, salinity, stratification, and dissolved oxygen concentration. These processes may include climate change, transport (e.g., currents and tides) and density distribution (e.g., mixing and heat balance). My research interests are the structure and dynamics of the shelf-seas and lakes, remote sensing oceanography and biological-physical interactions which affect ecology. I design field experiments to observe these processes by incorporating modern technology, with a particular emphasis on the acoustic Doppler current profiler (ADCP), GPS-tracked Lagrangian drifters, ocean gliders, autonomous under water vehicles, and satellites.

SSO 102.11: Neuroscience in the News
Meeting Pattern: TU 5:20 PM-6:15 PM
Location: Center for Science and Society 103 (Roth Café)

The class will involve student-led discussion of current newspaper articles and past newsworthy events that involve the brain.

Instructor:
Mary Kritzer, *Institute for Terrestrial and Planetary Atmospheres*

I am a professor in the School of Marine and Atmospheric Sciences at Stony Brook. My research interests are in investigating the nature and causes of climate change in different parts of the world.

SSO 102.12: Science and "The Revenge of Gaia"
Meeting Pattern: TU 2:20 PM-3:15 PM
Location: Center for Science and Society 103 (Roth Café)

This class will discuss the concept of Gaia (the earth as a living being)using one of James Lovelock's latest book "The Revenge of Gaia". We also will discuss some of the science behind discussions of global warming and implications for the earth system as a whole.

Instructor:
Mary Scranton, *School of Marine and Atmospheric Sciences*

My research focuses on the carbon cycle in the Cariaco Basin, a large oxygen-depleted basin on the continental shelf of Venezuela. Together with collaborators from US and Venezuelan universities, I am trying to understand the processes that control the amount and composition of material sinking in the Cariaco

system. Because the sediments in the Cariaco preserve a record of deposition over more than 100,000 years, studying this system gives us a unique understanding of fluctuations in tropical climate and ocean life. My specialty is marine biogeochemistry and I study the relationships between distributions of chemical species in the water column and the microbes that control these distributions.

SSO 102.13: The Coral Reef Crisis
Meeting Pattern: M 3:50PM-4:45PM
Location: Center for Science and Society 121 (Roth Café)

Coral reefs are the most beautiful and probably the most diverse of all marine communities. We will use collaborative learning to study and discuss the biology of coral reefs but also the environmental dangers they face from climate change, ocean acidification, and habitat disruption by human activities.

Instructor:
Jeff Levinton, *Ecology and Evolution*

Jeffrey Levinton is a marine ecologist, interested in the biology of organisms living on the sea bed. He teaches Bio 353 (Marine Ecology) and Bio 371 (Restoration of Aquatic Environments). He does research on functional biology of feeding of marine animals, ecotoxicology, bivalve mollusk and crab ecology.

SSO 102.14: The Science and Society Cookbook
Meeting Pattern: TU 11:20 AM-12:15 PM
Location: Center for Science and Society 121 (Roth Café)

In this seminar we will cultural, historical, and scientific factors that contribute to the foods we eat and the ways we cook them. Student will give oral presentations of recipes, describing origins, transfer of ingredients, and cooking styles. Recipes will be compiled into a Science and Society Cookbook.

Instructor:
Glenn Lopez, *Neurobiology and Behavior, Pharmacology*

My research focuses on ecological and oceanographic processes in the benthos. I am especially interested in the nutrition of deposit feeding invertebrates. These detritivores live by feeding on decomposing phytodetritus that sinks to the seabed. My lab has investigated strategies that animals use this nutritionally diverse and dilute food source, integrating physiological, geochemical and ecological approaches in these studies. I also have a longstanding interest in the limits of detritivory in the benthos, particular with respect to body size and feeding depth.

SSO 102.15: Making sense of science in the news
Meeting Pattern: M 11:45 AM-12:40 PM
Location: Center for Science and Society 103 (Roth Café)

The news is filled with reports on the outcomes of scientific studies. Yet these reports may contradict one another, or be controversial. Sometimes reporters even "miss the point" or report outcomes incorrectly. Learning to critically and thoughtfully read news based on scientific studies is a great skill to have and essential for someone with a college education. We will read and discuss science stories in the news, particularly on controversial issues, and learn how to dig deeper and evaluate them thoughtfully and knowledgeably.

Instructor:
Jessica Gurevitch, *Ecology and Evolution*

Prof. Gurevitch is the chairperson (from Sept. 2006) of the department of Ecology and Evolution. My research spans several traditional categories within the field of ecology. Most of my work involves the experimental investigation of fundamental ecological questions at the level of plant populations and communities. I am also interested in statistical applications in ecology, particularly in the design and analysis of ecological experiments. While my work has always been concerned with addressing questions of basic scientific interest, I have attempted to connect the basic research to issues with applied and conservation relevance

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SSO 102.16: Science in the Weekly News
Meeting Pattern: TH 9:50 AM-10:45 AM
Location: Center for Science and Society 121 (Roth Café)

This seminar will involve discussion of current science news as presented weekly in the Science Section of the Tuesday edition of the

New York Times. Each week we will read and discuss these articles in the Science section. Emphasis will be placed on understanding and clarifying the basics behind each story, why it is newsworthy and the effects that the science has on society.

Instructor:
Lorna Role David Talmage,

SSO 102.17: What is personalized medicine?
Meeting Pattern: TU 3:50 AM-4:45 AM
Location: Center for Science and Society 121 (Roth Café)

We will study and discuss the ongoing trend toward personalized and genome-based medicine. We will read one of the current books in this area geared toward the scientifically interested public (either _The Language of Life: DNA and the Revolution in Personalized Medicine_ by Francis Collins or _Here Is a Human Being: At the Dawn of Personal Genomics_ by Misha Angrist). We will also look at some of the primary medical literature in this area with an aim toward helping the participants learn how to access and understand primary scientific literature.

Instructor:
John True, *Ecology and Evolution*

John R. True is an Associate Professor in the Dept. of Ecology and Evolution and has taught introductory biology, genetics, and evolutionary biology at the graduate and undergraduate levels at Stony Brook for ten years. His research is on the genetic and developmental bases of adaptation and biodiversity using Drosophila species as models.

SSO 102.19: Research, Policy and Health
Meeting Pattern: M 10:40 AM-12:40 PM
Location: Center for Science and Society 121(Roth Café)
Note: This class meets for 2 hours a week for the first 7 weeks of the semester.

This seminar will explore current advances in medicine and biology particularly as they relate to public health and health policy. Topics will be selected by the instructor and the students drawing upon recent reports in popular newspapers and journals.

Instructor:
William Collins, *Neurobiology and Behavior*

William Collins is Associate Professor of Neurobiology and Behavior and does research on motor function and plasticity of motoneuron electrical properties induced by neuronal activity, neurotransmitters, hormones, growth factors and injury. A major focus is the neural control of micturition and injury-induced bladder-sphincter dyssynergia. Frequently a consequence of injury to the spinal cord, bladder-sphincter dyssynergia is due in large part to hyperactivity of the external urethral sphincter muscle such that it fails to relax during bladder contraction resulting in incomplete voiding and urine retention. Ongoing studies address the hypothesis that spinal cord injury produces an increase in the intrinsic excitability of external urethral sphincter motoneurons that contributes significantly to the development of bladder-sphincter dyssynergia. Prof. Collins received a B.A. in Biophysics in 1974 and a Ph.D. in Pharmacology in 1980 from the University of Pennsylvania.

SSO 102.20: Earth's Climate System
Meeting Pattern: TU 9:50AM-10:45AM
Location: ESS SINC site, room 081

We will look at Earth's climate system by examining what we know and don't know about the controls on modern climate including the amplification of heat reaching the Earth from the Sun and the transport of heat through the ocean conveyer belt. We will look at past spikes in greenhouse gases, such as the Paleocene-Eocene Climate Maximum (PETM) and how the Earth responded based on the marine and terrestrial sedimentary rock record using stable isotope systematics. Finally we will consider what we can expect from future CO2 emissions and why this molecule matters as a greenhouse gas and for ocean acidification.

Instructor:
Troy, Cara Rasbury, Thompson, *My research focuses on the geochemistry of carbonates that were deposited in sedimentary environments and how we can use these to reconstruct details relevant to Historical Geology. I have primarily focused on the Late Paleozoic glacial interval, about 25*

SSO 102.23: Nanotechnology and Medicine
Meeting Pattern: M 3:50 PM-4:45 PM

Location: Center for Science and Society 103 (Roth Café)

Students will examine fundamental principles of nanotechnology and its role in today's biomedical research. Each week we will read and discuss articles from news sources and scientific journals. Topics covered will include: nanofabrication, bio-imaging techniques, implant design, drug/gene delivery, and ethics.

Instructor:
Yizhi Meng, *Materials Science and Engineering*

Yizhi Meng received her Ph.D. in June 2003 from Cornell University, where she studied the rheological properties of semisolid biopolymers. She was a postdoctoral associate at the Cornell Nanobiotechnology Center (NBTC) from 2003-2005, and later a postdoctoral fellow in the Biomedical Engineering department of Stony Brook University from 2005-2008. In January 2009 she was appointed Assistant Professor of the Department of Materials Science and Engineering at Stony Brook. Currently she teaches Chemical Engineering Fluid Mechanics (CME 318), Reaction Engineering and Chemical Kinetics (CME 323), a graduate level special topics course on Tissue Engineering (ESM 696), and is the director of the Biomaterials and Tissue Engineering Laboratory in Materials Science. She is a reviewer for Materials Science and Engineering C, Journal of Orthopaedic Surgery and Research Editorial, and the Journal of Tissue Engineering.

SSO 102.24: Sugar and Fat
Meeting Pattern: M 6:50PM-7:45PM
Location: Center for Science and Society 103 (Roth Café)
Note: This class is reserved for students in the EOP program.

Obesity is increasing at a rapid rate in the USA. Basic concepts in chemistry and biology related to the synthesis, storage and utilization of fat will be reviewed. Students will be asked to read and evaluated various sources (Internet- medical journals) on the epidemiology and treatment of obesity. We will also discuss the implications of policies with respect to consumption of sweets, airline seats, discrimination in the workplace. This course is directed primarily to students who have completed Chem 129 or 131 or will be enrolled in Chem129 or 131 during the Spring and who are oriented towards a career in health care.

Instructor:
Ellen Li, *Department of Medicine*

SSO 102.25: Societal and Ethical Impacts of Science and Technology
Meeting Pattern: W 2:20 PM-4:15 PM
Location: Center for Science and Society 121 (Roth Café)

Science and technology fundamentally involves the understanding and control of matter. In this discussion course, we investigate the philosophical implications of this fact and investigate how this reality affects how we view ourselves and how we fundamentally alter our lives in response. Essentially, we will also look at how science and technology unconsciously impact the way we think and live in the very near future. Our point of reference throughout the course will focus on nanoscience and nanotechnology. Each week, we will read and discuss relevant topics from electronics to energy.

Instructor:
Stanislaus Wong-Ma, *Chemistry*

Stanislaus S. Wong is Professor of Chemistry at the State University of New York (SUNY) at Stony Brook with a joint appointment at Brookhaven National Laboratory (BNL). He and his group have wide-ranging interests in nanoscience, including the rational chemical functionalization of carbon nanotubes, the sustainable synthesis and characterization of non-carbonaceous nanostructures (such as titanates, ferrites, fluorides, tungstates, and zirconates), the development of synchrotron-based techniques for nanoscale characterization, and the use of probe microscopy to initiate localized chemistry. Professor Wong earned a B.Sc. from McGill University and a Ph.D. from Harvard University as well as completed a postdoctoral fellowship at Columbia University prior to joining SUNY Stony Brook and BNL.