Educational Leadership / Service



"Habitat"

17th National #16 STS Meeting #17

the annual conference for NASTS

21-23 February 2002 • Baltimore, MD

Of special interest for Interdisciplinary Thinkers Concerned About the Impact of Science and Technology on Society - Teachers and Educators, Scientists and Engineers, Ethicists, Environmentalists, Business Leaders

The Way We Live: Can we live with what we create?

Featured Speakers:

Michael D. King, Goddard Space Flight Center
Brian A. Day, Academy for Educational Development
Roberta Hilbruner, USAID
Bill Shireman, The Future 500

Featured Events:

911: The Ethics Call - An Interfaith Dialogue on Values in Education
NASTS: The First Fifteen Years
NASTS: The Next Fifteen Years?

Conference Highlights

- **Plenary sessions**
- **Contributed papers, panels, workshops, and roundtable discussions**
- **Opportunities to interact with learners of all ages and diverse backgrounds**
- **Thursday evening reception (light meal included)**
- **Continental breakfast and lunch included Friday and Saturday**
- **Saturday evening banquet**
- **Third Annual NASTS Grad Student Paper Contest**



I believe that STS-17 will be one of he most critical conferences in our history. Knowing that America and Americans are metaphorically and in some regions literally under siege is a reality we cannot escape. Each of us has lives that are more complicated, more demanding, and less secure than they were twelve months ago. Our theme, "The Way We Live: Can we live with what we create?" seems especially suited to our situation.

Again this year we have a wonderfully balanced program of presentations, plenaries, symposia, and a collection of excellent contributions from our graduate student members — and attendees repeatedly note that the plethora of perspectives and experiences is what draws them to our conferences. STS represents thinking and action to pursue understanding, but not necessarily the truth, which each of us is responsible to individually pursue. The journey itself is both personal and social experience. Our preparation for contributions to the conference may be individual or collaborative in nature. However, once we arrive, it is the interactions and exchange of ideas, viewpoints, and perspectives that raise us collectively beyond our individual abilities.

We are happy that you have joined us at STS-17. Our conference provides the unique opportunity to meet with like-minded individuals committed to thinking and actions that bind people together to address issues of ethical, scientific, and societal significance. The power of our shared experiences at STS-17 will further strengthen our agenda and refine our NASTS identity.

Gary F. Varrella, President

STS-17 Program Schedule at a glance

Thursday, 21 February 2002

4-8 p.m.	Registration
6-7:30 p.m.	Evening Reception
8-9 p.m.	PLENARY I: Michael D. King

Friday, 22 February 2002

8 a.m.-5 p.m.	Registration
7:30-8:30 a.m.	Continental Breakfast
8:30-10:00 a.m.	PLENARY II
10:15-11:15 a.m.	Concurrent Sessions I
11:30 a.m.-12:30 p.m.	Concurrent Sessions II
12:30-1:30 p.m.	Lunch (box lunches available)
1:30-2:30 p.m.	Concurrent Sessions III
2:45-3:45 p.m.	Guest Lecture: Day, Hilbruner
4:00-5:00 p.m.	Concurrent Sessions IV
5:15-6:15 p.m.	NASTS Membership Meeting

Saturday, 23 February 2002

8 a.m-noon	Registration
7:30-8:45 a.m.	Continental Breakfast
9:00-10:00 a.m.	NASTS the First 15 Years
10:15-11:15 a.m.	NASTS: the Next 15 Years?
11:30 a.m.-12:30 p.m.	MAGSET
12:30-1:30 p.m.	Lunch (box lunches available)
1:30-2:30 p.m.	Concurrent Sessions V
2:45-3:45 p.m.	Concurrent Sessions VI
4:00-5:00 p.m.	Concurrent Sessions VII
6 p.m.	Cocktail hour-cash bar
7 p.m.	Banquet

Thursday, 21 February 2002

4-8 p.m., Registration **Harbor Foyer**

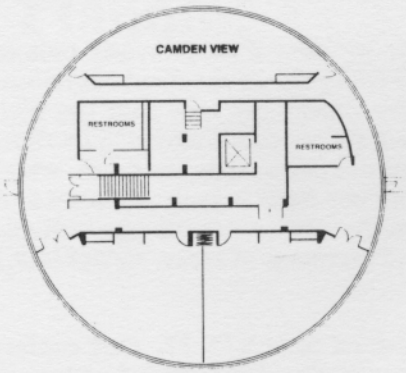
6-7:30 p.m., Evening Reception **Harbor Foyer**

PLENARY I

Thursday, 21 February 2002
8 - 9 p.m.
Harbor IIB

Introduction: Gary F. Varrella, NASTS President

Speaker: **Michael D. King,** Goddard Space Flight Center

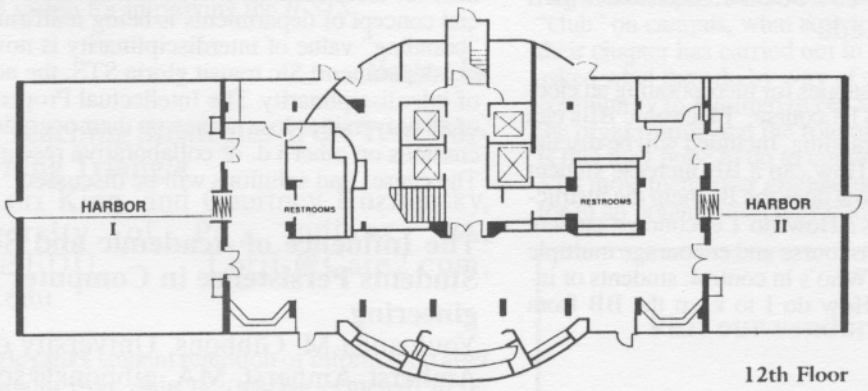


Roof Top

Guide to Papers, Panels, and Workshops

The Schedule-at-a-glance on page 2 lists the plenary sessions, other special events, and the seven concurrent session periods of contributed presentations. You can choose the presentations you wish to attend during the concurrent session periods by using the table below, referring to the details about each presentation found in the center of this program. All the conference meeting rooms are on the 12th floor or the rooftop. For more details, consult the maps at the bottom of pages 2 and 3.

	Harbor IA	**Harbor IB**	**Harbor IIA**	**Harbor IIB**	**McHenry/Camden**
Sess. I 22 Feb 10:15- 11:15 a.m.	**Fortifying the Learning Triangle** Thomas Lord Lori King Courtney Kuzminsky	**STS Education at University Level I** Burkett and Spector Rustum Roy Youloanda Gibbons	**Non-Traditional Science Education** Jane Lehr Melanie La Force	***B-STS*: Where it's been and where it's going** Willem Vanderburg Namir Khan	**Student Pugwash and STS Movement** Mike Ahern John Wilkes Susan Veres
Sess. II 22 Feb 11:30- 12:30 p.m.	**Global Issues: Population, Poverty, Conflict, Consumption, Env't** Diane Boyd	**STS Education at University Level II** Holly Travis Jeffrey Weld Gilleo and Guenther	**Cntr for Energy and Env Prob (U Del)** Marcos Luna Scott Smizik Alleng and Roe	**Interdisciplinary S&T Studies** Deborah Blizzard T. W. Staley Brent Jesiek	**NASTS-Student Pugwash Connection** John Wilkes
Sess. III 22 Feb 1:30- 2:30 p.m.	**Making it Stick: Hands-on Activities for Teaching Global Issues** Diane Boyd	**STS and Preservice Experience** David Wetzel Brandi Magill Mike Robinson *et al.*	**S&T Policy and International Issues** Elemente Abrokwaa Igor Egorov Jos Hernandez	**Sci Ed at Univ. Level Theory and Practice** Jody Roberts Harry L. Shipman	***B-STS* Symposium 1 Thinking about Tech** Willem Vanderburg Richard Stivers Kim Goudreau
Sess. IV 22 Feb 4 –5 p.m.	**Pittsburgh's Rivers & L&C Discovery Expedition** Jane Konrad Kay Atman	**Multidiscp Inq w/Multicultural Exp.** Ross MacDonald Monica Bernardo Sonia De La Torre	**Ethical Issues in Policy Setting** Judi Wakhungu Rachelle Hollander Bob Wauzzinski	**Science, Technology, & Women's Studies** Maria Rentetzi Laura Rosenberger Franz Foltz	***B-STS* Symposium 1 Thinking about Tech** John Paul Russo James Van Der Laan John Byrne
Sess. V 23 Feb 1:30- 2:30 p.m.	**Systems Thinking Approach to Problem Solving** Diane Boyd	**MAGSET Material Demonstration** Evans, Yager, Roy, Chang, and Jacobs	**S&T Policy and Technology** Fletcher and Zames Shawn Collins Ann Howard	**Environmentalism Across Assemblies** Stephen Adams Rick Shearman Joshua Pearce	***B-STS* Symposium 2 Thinking about Env** Iyer, Toly, and Byrne Steven Hoffman Bruce Imboela
Sess. VI 23 Feb 2:45- 3:45 p.m.	**EarthComm** Caitlin Callahan Matthew Smith Michael Smith	**Combining Workshop Model with Service Learning Practica** Susan Blunck	**Cognitive Styles and Pedagogy** John Wilkes Spino, Cavalho, Cymer, and Wilkes	**Cycling and Recycling** Bugrahan Yalvac Lucy Avraamidou Danusa Munford	***B-STS* Symposium 2 Thinking about Env** Willem Vanderburg Leigh Glover
Ses. VII 23 Feb 4 –5 p.m.	**EarthComm** Caitlin Callahan Matthew Smith Michael Smith	**Education 9-12** Bernice Hauser Kathleen Howard Yaquob Jafer Rebecca Monhardt	**S&T Energy Policy** Raymond Scattone Constantine Hadjilambrinos	***STS Today*: Where it's been and where it's going** John Craven	***B-STS* Symposium: the Next Step** Willem Vanderburg



12th Floor

Friday, 22 February 2002

8 a.m.-5 p.m., Registration **Harbor Foyer**

7:30-8:30 a.m., Continental Breakfast **Harbor Foyer**

PLENARY II

Friday, 22 February 2002
8:30 - 10 a.m.
Harbor IIB

911: The Ethics Call
An Interfaith Dialogue on Values in Education

featuring a panel of interfaith perspectives from scholars and leaders in the Washington-Baltimore area

Invited panelists include

Enver Masud, International Engineering Management Consultant, CEO of "The Wisdom Fund," fostering harmony among people of diverse faiths, with a focus on Islam;

Ned Hartfiel, Bhagavad-Gita Scholar, Director, Washington DC, Life Foundation, advancing the perpetual "World Peace Flame" being installed at the Hague and featured at peace conferences around the world;

Beverley Britton, President, Lifeline Network for Peace, founder of the "Children's Peace Quilt Project," creating understanding about women's and children's issues in war torn areas, with youth participants in more than 60 countries.

10:15-11:15 a.m. **Concurrent Sessions I**

Papers **Harbor IB**

Education: STS Education at the University Level I

So you want to use an electronic bulletin board in your STS course?

Ruth S. Burkett, and Barbara S. Spector, Univ. South Florida, rburkett@tempest.coedu.usf.edu and spector@tempest.coedu.usf.edu

This session explores multiple strategies for incorporating an electronic bulletin board (BB) in an STS course. Electronic BBs can be a rich resource to foster understanding. Included will be discussion of the following questions: How can a BB increase student understanding of an STS issue? How does the BB help the instructor? What are the format choices? How do I encourage student participation? How do I support discourse and encourage multiple perspectives among discussants? Who's in control: students or instructor? What are the pitfalls? How do I to keep the BB from taking over my life?

Universities: Retreating from Interdisciplinarity: Pursuing IP $

Rustum Roy, Penn State University, University Park, PA, rroy@psu.edu

In proportion to the increased use of the term "interdisciplinarity," a mantra in their literature, the American universities are emasculating their structures for genuine research/teaching/collaboration across departmental boundaries. The opinions from an international conference on "Interdisciplinarity Revisited" will form the database for these comments. The intellectual hegemony of the artificial concept of departments is being reaffirmed, and the flavor or "branding" value of interdisciplinarity is now being added to every department! Sic transit gloria STS, the academic crown jewel of interdisciplinarity. The Intellectual Property fiasco (95 percent of all universities lose money on their operations) has worse repercussions on other i.d. or collaborative research outside the walls. The causes and solutions will be discussed.

The Influence of Academic and Social Capital on Students Persistence in Computer Science and Engineering

Youloanda M. Gibbons, University of Massachusetts-Amherst, Amherst, MA, gibbons@soc.umass.edu

Papers **Harbor IIA**

Education: Non-Traditional Approaches to Science Education

Stepping Towards a Theory and Practice of Nontraditional Science Education

Jane L. Lehr, Virginia Tech, Blacksburg, VA, jlehr@vt.edu

This case study examines a nontraditional science education project from two perspectives: theory and practice. First, I make sense of the project within the context of the Public Understanding of Science and Scientific Literary movements, arguing that these approaches create categories of sanctioned expertise and ignorance that work to construct the public as docile participants . Then, as a practitioner, I offer a second account, exploring the institutional history of the project I coordinate and arguing that flaws result from its organizational location, not a theoretical crisis. Attendees will be encouraged to offer their experiences of doing theory and practice simultaneously.

Hiking for a Purpose — When Science Opens the Door to Global Issues

Melanie La Force, Melanielaforce@cs.com

I think that as educators we need to keep in mind that there are still dire environmental conservation issues that cannot go to the wayside and many will. The forests of Madagascar are burning, and their species are going extinct. There are 25 biodiversity hotspots in the world that need attention. We need good scientific models that help us to understand habitat use by animals, taking census, radiotelemetry, and captive breeding. We need to start with children and draw them in with creative games and art that integrate scientific and environmental principles to encourage clarity of thought.

Public Forum **Harbor IIB**

B-STS: Where it's been and where it's going

Willem Vanderburg and Namir Khan, The University of Toronto

This session is structured to provide a forum for interested NASTS members to discuss the current and future status of the *Bulletin of STS*. Since the journal's move to Toronto, there has been a strong commitment for transforming the journal into a valued resource for the entire STS community. Yet, there remains a strong connection between it and NASTS. Come join others in this session to share your ideas and vision for improving the *B-STS*.

Workshop **Harbor IA**

Putting Various Teaching Strategies to the Test: Fortifying the Learning Triangle

Thomas Lord, Lori King, and Courtney Kuzminsky, Indiana University of Pa., Indiana, PA, TRLORD@IUP.EDU, LoriL@Care2.com, krzg@grove.iup.edu

The Learning Triangle ranks student retention of information after 6 weeks on a continuum from didactic (teacher-centered) to inquiry (student-centered) instruction. Developed at the University of Michigan two decades ago by Patricia Cross and Tom Angilo, the study found that, after a 6-week lapse of time, retention of information delivered through lecture was very low while that learned through teaching each other was very high. Traditional teachers and college professors have been critical of the scheme's accuracy since its inception. Interested in settling the dispute, this study was undertaken to explore the validity of the learning triangle. The study measured the retention of students instructed by their professor with various teaching methods six weeks after they were taught the task.

Student Pugwash Presentations **McHenry/Camden**

Student Pugwash, Student Initiative and the STS Movement

Organizers: Mike Ahern and John Wilkes, WPI Chapter, Student Pugwash
Chairperson: Susan Veres, National Office, SPUSA

The "AEGIS" Live Role Playing Game: From Pugwash Regional Conference theme to Curriculum Unit in a WPI STS Course

Mirek Cymer, George Spino, Joshua Carvalho and Gladu, Worcester Polytechnic Institute, Worcester, MA

In 1995 a northeast regional conference of Student Pugwash USA played the "AEGIS" Live Role Playing Game (LRPG). Ten experts in the field of space policy, space technology and foreign policy were present to assess this run while serving as the first UN CICS committee. The experts gave it mixed reviews as a way to teach about space law and UN procedures, but most observers considered it a fine way to teach about cultural diversity, vested interests, and space program organizational mindsets. Hence, it dealt with the social shaping of technology.

The stage is now set for the tenth round of play of this LRPG at a second SPUSA northeast regional conference, and the game finally seems ready for dissemination to secondary schools and other colleges interested in STS. We feel that this demonstrates the potential in an NASTS-SPUSA collaboration to foster and disseminate the STS perspective.

Enlisting in the STS Movement via Student Pugwash: What After Graduation?

members of the WPI, BU, MIT or Johns Hopkins Chapters to be announced

This session will take the form of a panel discussion in which Pugwash chapter members share what attracted them to this "club" on campus, what activities are typical and special that their chapter has carried out in recent years. They will also be asked what they do by way of outreach to their campus and their community to familiarize NASTS members with the nature of the organization and the role of the chapter advisor, also what it is that they hope to do to continue their involvement with the STS movement after graduation and what they might be looking for in an organization they could "graduate" into.

Visit our vendors in Harbor Foyer!

11:30 a.m.-12:30 p.m. Concurrent Sessions II

Papers **Harbor IB**

Education: STS Education at the University Level II

Preservice Teachers and Constructivist Activities in the General Biology Lab
Holly Travis, Indiana Univ. of PA, Indiana, PA, NJQH@yahoo.com

The semester before their student teaching assignment, undergraduate secondary science education majors were placed in different sections of the University's General Biology program to instruct a portion of the lab with a student-centered (constructivist) approach. Results on weekly attendance and quizzes were compared between subjects in labs that did not include constructivist-based segments with subjects in labs that did include constructivist-based segments. In addition, subjects in all labs were given surveys on science attitudes. The results of this study will be presented in this paper.]

More than Metamorphosis: The Transformative Effect of an E/T/S Course for Undergraduates
Jeffrey Weld, University of Northern Iowa, jeff.weld@uni.edu

At the 2001 NASTS conference, I shared an innovative approach to an Environment/Technology/Society course required of all students at this midsized midwestern university. The hallmark of the course is a learner-centered philosophy manifested in curricular and assessment decisions on the part of students. Evaluative efforts for determining the impact of the course on enrollees perceptions and beliefs are now underway. A modified attitude scale adopted from the NAEP (1977) is being used for measuring changes in beliefs regarding central issues in E/T/S, interest in further study on E/T/S, sense of empowerment and influence over E/T/S issues, and so on. Early results are to be shared.

The Learning Revolution as Trojan Horse
Margaret P. Gilleo, St. Louis University, trees@accessus.net
Charles J. Guenther, Jr. St. Louis Community College, cguenther@ieee.org

The learning revolution in higher education emphasizes learning over teaching. Advocates such as Terry O'Banion recommend that every decision in a Learning College be evaluated by asking two questions: "How does this promote student learning?" and "How do we know?" Since colleges and universities have always promoted learning, asking such questions is revolutionary only if learning carries a hidden agenda. We contend that the real issue presented by the learning revolution is not whether learning occurs, but rather what is learned, and that promoting student learning is, in the context of a learning revolution, a euphemism for promoting the values of a globalized corporate culture.

Membership Dues Due 1 April

Why not renew your membership while you're here at the Conference?

Papers **Harbor IIA**

Center for Energy and Environmental Problems Session: "Confronting Environmental Conflicts"

Yda Schreuder, University of Delaware, Newark, DE, moderator

Marcos Luna, **"Environmental Justice and the Public Health Movement: A Neglected Opportunity?"**

Scott Smizik, **"Water Conservation: The Role of Technology"**

Gerard Alleng & Amy Roe, **"Sustainable Communities: Cities Acting Beyond the American Environmental Mainstream."**

Papers **Harbor IIB**

Interdisciplinary Research in Science and Technology Studies

After the Ethnography: Returning, Participating, and Responding to the Needs of a Fetal Surgery Center
Deborah Blizzard, deb_blizzard@yahoo.com

As STS researchers engage in ethnographic examinations of medical interactions they may develop close, constructive relationships with medical practitioners. In some cases relationships will be ongoing and continue well after completion of fieldwork. This presentation explores how continuing relationships between ethnographers and interested sites create an evolving arena in which the ethnographer and medical professionals continue to learn from each other and add value to both medical and STS activities.

The Science of Smells in Early Nineteenth Century France
T.W. Staley, Virginia Tech, Blacksburg, VA, tstaley@vt.edu

The Early nineteenth century was a period of extraordinary activity in French medicine during which the physicians of France embarked on a series of initiatives that resulted not only in new formal disciplinary norms, but also in novel fields of technical investigation. In this paper, I will explore one such novel field of study — the scientific investigation of odors and their attendant uses — as it is described in its primary text, Hippolyte Cloquet's *Osphraesiology: ou Traite des Odeurs* [1821]. This text represents a milestone in the study of odors as epistemologically and technically significant phenomena.

Science, Memetics and Society: the evolution of a controversial scientific discipline
Brent Jesiek, Virginia Tech, Blacksburg, VA, bjesiek@vt.edu

As a topic in the realm of science studies, the nascent discipline of memetics proves a particularly rewarding subject. It provides us

with an opportunity to observe and explore a controversial discipline as it struggles to define and position itself as a legitimate science. Using a broad range of theoretical approaches drawn from science and technology studies, this paper investigates the various agendas that are shaping work in the field. My research focuses on the tactics and motivations of individual proponents and opponents of meme theory, while also exploring the larger scientific, social and philosophic contexts that undergird the memetics debate.

Roundtable **McHenry/Camden**

What Should the NASTS-Pugwash Connection be?

Moderated by John Wilkes, Worcester Polytechnic Institute, or Taft Broome, Howard University

12:30-1:30 p.m., Lunch (box lunches available in Harbor Foyer)

Workshop **Harbor IA**

Global Issues: Population, Poverty, Conflict, Consumption, and the Environment

Diane Boyd, Facing the Future: People and the Planet, diane@facingthefuture.org

This workshop will be an interdisciplinary exploration of critical global issues, their Interconnectedness and impacts, as well as just and humane solutions. We'll explore linkages between population growth and critical environmental impacts; discuss trends in resource availability and consumption patterns in both industrialized and developing regions; examine connections between population, poverty, and environmental scarcity that underlie and exacerbate conflict and migration; and consider how all these factors combine to degrade not only human well-being, but also global security. The session concludes with a look at humane and culturally appropriate solutions and action opportunities. Packed with fun, free 6-12 activities, simulations, and curriculum.

Exemplary Initiation of new members into Epsilon Pi Tau

12:30 -1:30 p.m.
Harbor IB

Conducting an Exemplary Initiation to recognize NASTS leaders and conference participants is Epsilon Pi Tau's way of supporting NASTS. Epsilon Pi Tau, the International Honorary for Professions in Technology, has a worldwide membership of 12,000 and has cosponsored NASTS Technology Literacy Conferences for many years.

1:30-2:30 p.m. **Concurrent Sessions III**

Papers **Harbor IB**

STS and the Preservice Experience

Teaching Science with Technology? Why do I Need Technology to Teach Science Content?

David R. Wetzel, Bloomsburg University of Pennsylvania, dwetzel@husky.bloomu.edu

Results of research involving the views and beliefs of pre-service elementary science teachers regarding the appropriateness of using instructional technology in teaching and learning science content will be presented. These pre-service teacher results are compared with research findings of in-service teachers views and beliefs regarding the use of instructional technology. The types of instructional technology involved in the research are based on the guidelines presented in the National Educational Technology Standards for Teachers and Students, along with the National Science Education Standards.

A Pilot Study Dealing with Analyzing How Well Elementary Education Majors Succeed in Science Labs that are Taught Through a "New" Technique called Constructivism

Brandi Magill, Indiana University of Pennsylvania, brandimagill2001@yahoo.com

A pilot study conducted at Indiana University of Pennsylvania sought evidence that would indicate whether elementary education majors could perform well in a science lab environment through a technique referred to as constructivism. There will be a discussion of the techniques used in this study, and a videotape of the labs studied will be shown.

Engineering Literacy in High School Students

Mike Robinson, Sami Fadali, Cleb Maddux, University of Nevada, robinson@unv.edu

This paper presents the results of a study of high school science student attitudes toward engineering before and after a three unit on engineering. Four classes of students were involved in the study with two in an experimental group and two in a control group. The presentation will also include remarks about a capstone engineering course for secondary science and mathematics pre-service teachers that led to the research in the high school science classes in the field.

Papers **Harbor IIA**

S&T Policy: Policy and International Issues

Globalization, Social Justice, and Global Peace: Is there a need for the development of a new Philosophical foundation for achieving Positive Peace in the Global Community?

Clemente Abrokwaa, Penn State University, University Park, PA

This paper argues that the current mental shift from sovereignty and nationalism to a global focus requires the development and application of a new fundamental philosophical principle to aid in the human quest for the creation of positive peace within the glo-

bal community. It contends that the old definitions of peace based on nationalistic and group perceptions are no longer applicable to the efforts being made to achieve lasting peace in the world.

R&D and Training and Retention of Scientists and Engineers in the Post-Soviet States—Problems and Perspectives

Igor Egorov, National Academy of Sciences of Ukraine

Policy: Economy and the Reinvention of the Mexican State

Jos G. Vargas Hernandez, Centro Universitario del Sur, Universidad de Guadalajara, Mexico, jvargas@cusur.udg.mx

As we enter the new millennium, the debate over the appropriateness of particular state models is taking on greater importance not only for the more globalized and highly developed societies but for the less developed ones as well. This paper focuses on the fundamental concepts of representation, economic functions and the organization of state models in Mexico.

Papers **Harbor IIB**

Education: Science Education at the University Level: Theory and Practice

Against a Model of Diffusion: Using Metaphors to Teach Analytical Chemistry

Jody A. Roberts, Virginia Tech, Blacksburg, VA, jody@vt.edu

Since the publishing of George Lakoff and Mark Johnson's *Metaphors We Live By and Metaphor and Thought*, edited by Andrew Ortony, in 1979, the study of the role and nature of metaphor in scientific thought, theory, practice, and pedagogy has grown. Using the topic of nuclear magnetic resonance (NMR) spectroscopy, I examine how three distinct audiences graduate students, undergraduates, and a more generalized scientific public are all taught using different metaphor types. Following Lakoff and Johnson and others, I hope to refute the commonly held perception that teaching to broader audiences constitutes a watering-down of information and instead utilizes different metaphor types.

Lessons Learned Introducing STS Themes into a College Introductory Physical Science Course

Harry L. Shipman, University of Delaware, harrys@udel.edu (40 min.)

This presentation focuses on the successes and challenges encountered in turning this aircraft carrier of a course in an STS direction. The course has hundreds of non-science major students, and an ever-changing corps of a dozen teaching assistants. Successes include hands-on introductions of computer technologies, a technological approach to electricity, and industrial innovation (using nylon as an example). Participants will experience an activity on the sequencing of the human genome, one of many inquiry-based activities that treat current issues. More challenging has been finding ways to engage students in macro-issues like "Why did the West grow rich from technology?

Workshop **Harbor IA**

Making It Stick: Hands-On Activities for Teaching Global Issues

Diane Boyd, Facing the Future: People and the Planet, diane@facingthefuture.org

Hands-on activities to enliven classroom discussion, stimulate critical thinking, and help students internalize issues such as population, poverty, consumption, conflict, and the environment. Through an integrated curriculum we'll explore trends in demographics and key resources and use hands-on activities, audience participation, and overhead graphics to outline how human numbers and needs impact a myriad of social, economic, and environmental issues. It is designed to stimulate students with various learning styles and to demonstrate critical thinking about problems and solutions through research-based activities, issue analysis, project design, and execution. Packed with fun, free 6-12 materials.

Symposium **McHenry/Camden**

B-STS Symposium 1: Thinking About Technology (1:30-4:30 p.m.)
Conveners: Richard Stivers, Illinois State University, Normal, IL
Willem Vanderburg, University of Toronto

Panel 1:
Willem Vanderburg, (The University of Toronto), **"On Jacques Ellul."**
Richard Stivers, (Illinois State University), **"On Roderick Seidenberg."**
Kim Goudreau, (Highland Community College), **"On Jurgen Habermas."**

Panel 2:
John Paul Russo, (The University of Miami), **"On Don DeLillo."**
James Van Der Laan, (Illinois State University), **"On Neil Postman."**
John Byrne, (The University of Delaware), **"On Lewis Mumford."**

GUEST LECTURE

Friday, 22 February 2002
2:45-3:45 p.m.
Harbor IB

Introduction: Franz Foltz, Conference Chair

Speakers: Brian A. Day, Academy for Educational Development, Washington, DC, bday@aed.org
Roberta Hilbruner, USAID, Washington, DC, rhilbruner@usaid.gov

Topic: "Strategic Environmental Communication: Global Lessons on Behavior and Policy Change"

GreenCOM, USAID's global environmental education and communication project, has worked with scientists, engineers, policy makers and educators in 32 countries to change people's behavior and to help create and implement policy. After sharing the lessons and products of these efforts we will engage the audience in a lively discussion of strategies for addressing climate change, science education, and education, water issues, coastal policy, infrastructure development or whatever lessons from developing countries that may be of assistance to those in attendance. Since the environmental consequences we have created are the results of human behavior, we must change behavior to fix them.

4:00-5:00 p.m. **Concurrent Sessions IV**

Papers **Harbor IB**

Engaging in the Borderlands: Bridging Multi-Disciplinary Inquiry with Multi-Cultural Experiences

Dr. Ross MacDonald, Director of Science and Society
Monica Bernardo, Post-Graduate Researcher, International Relations Major
Sonia De La Torre, Student Coordinator, Communications Major
Science and Society, University of California, Davis, Davis, CA
rbmacdonald@ucdavis.edu, mcbernardo@ucdavis.edu, sdelatorre@ucdavis.edu.

STS programs cross disciplinary boundaries as they explore complex, contemporary issues. The critical frameworks which emerge from these multi-disciplinary borderlands merit reflection. Understanding borderlands requires ongoing, ethical considerations of blurring personal, cultural, and disciplinary boundaries. The events of September 11 and our compelling need to make sense of them has not only heightened our attention to the disciplinary borderlands, but also fundamentally challenged our frameworks for ethical decisions — particularly in regard to issues of identity, security, and technology. This presentation reports on a research program applying borderlands competencies of multi-cultural students to ethical, multi-disciplinary inquiry.

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Cross Assembly **Harbor IIA**

Addressing Ethical Issues in a Policy Setting

The Good, the Bad, and the Ugly: Reflections on the Human Development Report 2001

Judi Wangalwa Wakhungu
Pennsylvania State University, University Park, PA

The Human Development Report 2001 laments the uneven distribution of the benefits of technology between rich and poor. The report addresses how this imbalance can be redressed so that all people — not just the wealthy — can enjoy the benefits of technology. A pro-technology stance notes that the 20th century's achievements in eradicating poverty resulted from technological breakthroughs in information and communication technologies, new medicines, and new crop varieties. Blatant omissions include a lack of understanding of the production problems that the poor face in surviving in marginal environments. It is not lack of technology *per se*, but injustices and inequities in access to resources that hold the poor back. To detractors, the report reinforces a maligned development paradigm in which technology is seen as superior to society, and as a solution and not a problem. Worse still, the report puts technology and not humans at the center of development. Varied reflections on the Human Development Report 2001 are a cogent reminder of the complexity and challenges that lie ahead in harnessing science and technology to improve the living conditions of the majority.

9-11: The Ethics Call and the Ethics Program at the National Science Foundation

Rachelle D. Hollander, Visiting Scholar, Dept. of History of Science, Medicine, and Technology, Johns Hopkins University, Baltimore, MD, rholland@jhu.edu

The NSF has supported research and educational projects focused on ethics and science, engineering and technology since 1976. In this presentation, I try to identify some areas where research and educational activities might be especially relevant in light of the attacks the US experienced on 11 September 2001.

Banking on Inner-City Housing: The Story of Dwelling House Savings and Loan

Bob Wauzzinski, Wabber15@aol.com

This seminar will focus on the work of Dwelling House Savings and Loan (DHSL), a bank that is intentionally located in the heart of the inner-city of Pittsburgh, PA. This "Black managed" bank has developed a strategy that has successfully addressed, for over forty years, the root causes of urban poverty, which form a spiral of destruction. Conversely, DHSL has found and practices a spiral of renewal, focused on home ownership. DHSL believes that if people own their place of residence, then the causes of poverty can be addressed and thus a renewing spiral begins: they are more apt to make education a top priority, remain intact as a family, properly maintain their place of residence, take crime and filth prevention more seriously, and commit themselves to the renewal of crucial civic institutions.

Papers **Harbor IIB**

Interdisciplinary Research: Science, Technology, and Women's Studies

Women In Radiophysics: The Case of the Institute for Radium Research in Vienna, 1920-1938

Maria Rentetzi, Virginia Tech, Blacksburg, VA, mrentetz@vt.edu

During the first half of the 20th century, the work of women physicists was subject to many constraints stemming from the male-centered social system of physics, Nevertheless the Institute for Radium Research in Vienna from 1920 to 1938 constitutes a paradoxical exception in the world of physics since it employed an extraordinary number of women physicists who participated actively in scientific research and administration. In my paper, I explore the reasons for the extraordinary constellation at the institute that enabled women to play an exceptional role in radioactivity research both within the institute and in the broad scientific community.

Feminism, Peace, and America's War on Terrorism: Examining the Implications of Feminist Theories and the Pursuit of Feminist Peace

Laura M. Rosenberger, The Pennsylvania State University, University Park, PA

This paper examines some of the major theories and visions of feminist peace, in attempts to understand both the current "war on terrorism" and questions of peace in general. The quest for peace is a pressing feminist issue, because of the significant connections between war/conflict and the oppression of women. More importantly, a feminist understanding of peace is critical to the promotion of nonviolent conflict resolution strategies and the realization of lasting global peace. Women have been used as a tool of war, and women's bodies themselves have served as a metaphorical and literal battleground, both in combat zones and in the home. Thus, if it is accepted that war is rooted in patriarchal, imperialist values, then an alternative solution to war must be found in feminist contributions to the pursuit and realization of positive peace. This issue is particularly important because of the current "war on terrorism," where feminism itself has become part of the rhetoric, and perhaps even a tool, of war.

Women, Minorities, and Information Technology: A Review of the Literature

Franz A. Foltz, RIT, Rochester, NY, fafgsh@rit.edu

This presentation will report on the first part of a larger project to understand the reasons for persistence of women and minorities who succeed in degree programs in IT, as well as the reasons why members of these groups who have the potential for success in the IT workforce take alternative career paths. Questions regarding quality of life issues related to IT careers, as well as perceptions of the social and academic structure and environment will be included in the investigation. This paper will analyze the state of the literature to provide a framework for the larger study.

Workshop **Harbor IA**

Pittsburgh's Rivers & the Lewis & Clark Discovery Expedition: A Model Study using the STS by Green Design Instructional Strategy

Jane Konrad, PRCST, konrad+@pitt.edu
Kay Atman, U. Pittsburgh

This project is the development of an educational program linking participating schools/classes in an interactive study of the watersheds and wetlands of western Pennsylvania and the impact of historical events, with a special focus on the Lewis & Clark "Discovery Expedition". The re-enactment of the original expedition is planned for the Lewis & Clark Bicentennial in 2003-2006. The project will link studies of geology, geography, Earth science, and biology to the history and development of the region and the interface with the Lewis & Clark Expedition, a natural linkage of the natural and historical environments. Other areas can utilize this project as a model for a similar linkage in their regions. Participants will examine several discussion models through which students can be challenged to use higher order thinking. Many organizations, agencies and other programs are collaborating in this project.

5:15-6:15 p.m.

NASTS Membership Meeting

Harbor IB

Saturday, 23 February 2002

8 a.m.-noon. Registration **Harbor Foyer**

7:30-8:45 a.m., Continental Breakfast **Harbor Foyer**

PLENARY III

Saturday, 23 February 2002
9 a.m. - 12:30 p.m.
Harbor IB

9-10 a.m., Fifteen Years of NASTS: A Retrospective

Even though this is the 17th STS conference, this is the 15th anniversary of the NASTS organization. The Founding Mothers and Fathers of NASTS recall the early years of the organization.

Sara Anderson
Taft Broome
Steve Cutcliffe
Paul Durbin
Irma Jarcho
Janice Koch
Jane Konrad
Joe Piel
John Roeder
Rustum Roy
John Wilkes
Bob Yager

10:15-11:15 a.m., The Next Fifteen Years: What will the future bring?

What does the future hold for STS? Participate in a discussion on the future of STS building on the insights of the previous retrospective of the last 15 years of NASTS. Susan Cozzens of Georgia Tech will kick of the discussion with a 10 minute talk and then we will go to the floor for comments and questions for the entire body.

11:30 a.m.-12:30 p.m., MAGSET— The radically new systems-based thematic approach to science education for NSE

Don Evans, Arizona State University, Tempe, AZ, devans@aasu.edu

Robert Yager, University of Iowa, Iowa City, IA, robert-yager@uiowa.edu

Rustum Roy, Penn State, University Park, PA, rroy@psu.edu

R.P.H. Chang, Northwestern University, Evanston, IL, r-chang@northwestern.edu

Jim Jacobs, Norfolk State University, Norfolk, VA, jajacibs@nsu.edu

The reform of science education for the masses, or technology literacy, triggered by "A Nation at Risk," has not worked (direct video evidence will be presented) after the expenditure of several billion dollars. The fundamental error has been trying to fix the system by attacking one isolated (geographically and intellectually) component at a time. MAGSET is a consortium of a dozen major universities, national labs, and professional societies where each or the PIs has had long experience working on K-l 2 education. MAGSET, planned over two years, is based on the theme that materials is the gateway to science, mathematics, engineering, and technology. Touch is the primordial human learning gateway. Materials are the ubiquitous touchables and are directly linked to physics, chemistry, and biology. Repetitive encounters are the reinforcements necessary for most learners, unable to handle abstract concepts. Solid test data shows that it can work. MAGSET envisages developing every aspect of the system, from modular materials to the education professorate and teacher development. NASTS attendees are most likely to understand the rationale and provide feedback for this approach.

12:30-1:30 p.m., Lunch (box lunches available in Harbor Foyer)

1:30-2:30 p.m. Concurrent Sessions V

Workshop **Harbor IB**

MAGSET Material Demonstration

Don Evans, Arizona State University, Tempe, AZ, devans@aasu.edu
Robert Yager, University of Iowa, Iowa City, IA, robert-yager@uiowa.edu
Rustum Roy, Penn State, University Park, PA, rroy@psu.edu
R.P.H. Chang, Northwestern University, Evanston, IL, r-chang@northwestern.edu
Jim Jacobs, Norfolk State University, Norfolk, VA, jajacibs@nsu.edu

Members of this morning's panel discussing the MAGSET curriculum initiative will demonstrate material and answer any questions. This session will allow for more direct interaction with the plenary speakers and direct access to course materials.

Papers **Harbor IIA**

S&T Policy: Policy and Technology

Disability Rights and the Technological Revolution

Doris Fletcher and Frieda Zames, New Jersey Institute of Technology, Newark, NJ, sirod@inch.com, FriedaZames@Erols.com

The expansion of rights for people with disabilities and chronic illnesses, allowing them access to mainstream society, is a by-product of the technological revolution. Yet, with technological advancement, questions emerge. Instead of expecting people to adapt to the built environment, why can't that environment be designed to meet the needs of all people? How can we assert the primacy of the individuals served over the business ethics of biotech and pharmaceutical companies or a deficient health care system? The presenters will discuss these issues to elicit audience response through questions and role-plays emanating from these concerns.

Interaction Between Technology Transfer and Social Change

Shawn Collins, University of Connecticut, Storrs, CT

TBA

Ann Howard, RIT, Rochester, NY

Cross Assembly **Harbor IIB**

Environmentalism Across the Assemblies

Formulating Goals for Scientific and Information Literacy: Case Study of Students' and Specialists' Evaluation of a News Report Concerning Computer Models of Climate Change

Stephen Adams, sadams2@csulb.edu

The ability to evaluate scientific claims from print and electronic sources critically is vital to scientific literacy and information literacy. This presentation compares how high school students and specialists (scientists and policy analysts) evaluated the coverage of a mainstream news magazine regarding a report of the Intergovernmental Panel on Climate Change. Specialists' responses illustrate what is possible with in-depth scientific knowledge, while students' responses illustrate both pitfalls and areas of competence for a non-expert. This presentation is the fifth in a series using climate change as a context for inquiries into scientific literacy and information literacy.

Considering Biophilia in Aristotle

Rick Shearman, RIT, Rochester, NY, rlsgsh@ritvax.isc.rit.edu

Biophilia has been defined as an emotional attraction of human beings to other living things. The Biophilia Hypotheses of E. O. Wilson describes this emotion as being innate, thus representing a fundamental need. There are alternative ways of conceiving our "other regarding" attitude toward the nonhuman natural world, however. One was provided by Aristotle as a manifestation of human virtue. In this presentation, I aim to provide an Aristotelian approach to biophilia that emerges from our desire to live according to Nature.

Student Inquiries Into Neglected Research For A Sustainable Society

Joshua M. Pearce, Science, Technology, and Society Program, The Pennsylvania State University, University Park, PA, jmp228@psu.edu

By applying the interdisciplinary approach of Science, Technology and Society, students can solve often-neglected research problems of shifting society's operation towards a sustainable state. This paper analyzes the factors that affected the successful implementation of sustainable practices put forth by Penn State University students in the Mueller Report. This report contained a comprehensive ecological footprint analysis of one campus building and addressed methods to optimize its ecological performance by utilizing both behavioral and technical improvements. This presentation will engage the audience in a discussion of a university-led and student-driven shift to a sustainable society.

Make sure you fill out a Conference Evaluation before you leave!

Symposium **McHenry/Camden**

B-STS SYMPOSIUM 2: Thinking About the Environment (1:30-4:00 p.m.)
Convener: John Byrne, University of Delaware

Panel 1:

Venkatesh Iyer, Noah Toly, and John Byrne (Univ. of Delaware), **"Environmental Non-Violence: An Imagined Gandhi-Mumford Conversation"**

Steven Hoffman (Univ. of St. Thomas), **"Negotiating Eternity: Energy Policy, Environmental Justice, and the Politics of Nuclear Waste"**

Bruce Imboela, **"Development, Violence, and Sustainability — a Critique of the Cure"**

Panel 2:

Willem Vanderburg (Univ. of Toronto), **"On the Concept of an Environment"**

Leigh Glover, **"Environmental Myths of Globalization"**

Roundtable discussion on Technology, Environment, and Society

Workshop **Harbor IA**

Imagine This: A Systems Thinking Approach to Problem Solving

Diane Boyd, Facing the Future: People and the Planet, diane@facingthefuture.org

The challenges of the 21st century require us to think and learn in new ways. This session provides tools and hands-on activities to help identify and shift mental models that determine our future actions and shape our world. Despite conclusive scientific data that our survival is threatened by population growth, environmental destruction, excessive consumption, and scarcity-driven conflict, our policies and actions continue these trends. We'll explore self-limiting models that often keep us from pursuing new solutions. We'll learn how to think outside the box using a systems thinking approach that can empower individuals and groups to transition from knowledge to vision and action.

2:45-3:45 p.m. Concurrent Sessions VI

Workshop **Harbor IB**

Combining a Workshop Model with Service Learning Practica: UMBC Elementary Science Methods

Susan M. Blunck, University of Maryland, Baltimore County (UMBC), blunck@umbc.edu

Students enrolled in The University of Maryland, Baltimore County (UMBC), Elementary Science Methods Course -- EDUC 330/623 — participate in a series of professional development workshops and earn certificates for their participation. The two workshops offered through the course are Global Learning Observations to Benefit the Environment (GLOBE) and a Solar Systems Educators Workshop. These workshops provide preservice teachers the opportunity to learn key science concepts within a authentic context, design instruction for specific purposes, and be recognized for their professional skills and accomplishments at the beginning of their careers.

The workshop facets of the course are linked to professional service learning opportunities. The students enrolled in the course work and share their understandings with children at The Maryland Science Center — SpaceLink Program, The Choice Middle School At-Risk Intervention Program, private day cares, and after-school programs. Teacher candidates can earn service learning credit through the UMBC Service Learning Center for their participation. These nontraditional practica experiences provide teacher candidates with opportunities to apply what they have learned in authentic context and gain a deeper understanding of how science teaching can move beyond the classroom.

Papers **Harbor IIA**

The (Very) Belated Linking of Cognitive Styles and Pedagogy

When Scientists Err as Peer Reviewers

John Wilkes, WPI, Worcester, MA, jmwilkes@WPI.EDU

A paradigm of creativity and intelligence prevailing at the College Board and among creativity researchers measured intelligence by "convergent thinking" and creativity by "divergent thinking." Reviewing research on a purported measure of creativity called "remote association" by those committed to this paradigm, I found that while the logic that ended research on remote association in the field of psychology seems reasonable on the surface, it is rather bizzare when put into context. We know this because research based on this measure in sociology and organizational behavior has been both fruitful and theoretically justified. Even now the field of psychology seems unaware of the resurgence of remote association and the potent critique of the SAT that is possible when SAT scores are examined through the lens of this indicator, in combination with a few others. Detecting this error 40 years late leads to the question of how many other such scientific "hatchet jobs" have gone undetected.

Science Education Reform, STS and LRPGs from a Cognitive Styles Perspective

George Spino, Joshua Carvalho, Mirek Cymer, John Wilkes, *et al.*, WPI, Worcester, MA

Over a period of about 12 years, student teams from WPI have looked at the ChemCom curriculum, several S-STS units of their

own design, Barlow's alternative science text, *From GAIA to Selfish Genes*, MCAS State Achievement test scores, a Nuclear Power STS curriculum with an live role playing game (LRPG) siting dispute in it, and now the AEGIS LRPG, asking the question of what students are best and least served by these different approaches to education.

Featuring the most recent LRPG study, but reviewing the prior findings, the authors will make the case that these innovations usually, but not always, serve to help the sensing students perform better in social and physical science courses. Here the intuitives tend to have an advantage due to prevailing teaching and testing practices. Too often this is construed as having greater intelligence or a better feel for the subject matter itself.

Panel **Harbor IIB**

Education: Out of Sight, Out of Mind: Cycling and Recycling through the Day

Coordinator: Wenda K. Bauchspies
Bugrahan Yalvac, Lucy Avraamidou, and Danusa Munford, Pennsylvania State University, University Park, PA, bxy119@psu.edu, avraamidou@psu.edu, dxm320@psu.edu, wkb4@psu.edu

This presentation will begin with a ten-minute classroom performance on our relationship to the trash that we generate that will include audience participation. It is designed to merge our everyday experiences with our environmental curriculum. This will be followed by three short papers: the first about the foundations, development and objectives of the performance, the second about students' responses and reactions to the activity, and the third about positive and negative outcomes of the performance with recommendations for use in classrooms K-12 and college level.

Workshop **Harbor IA**

EarthComm: Making Earth Science Relevant in High School Classrooms (2:45 - 4:45 p.m.)

Caitlin N. Callahan, Matthew C. Smith, and Michael J. Smith, American Geological Institute, cnc@agiweb.org, mcs@agiweb.org, mjs@agiweb.org

This session features a comprehensive Earth science program for high school developed by the American Geological Institute called EarthComm. EarthComm emphasizes student-driven inquiry into relevant issues in their communities, such as preparing for natural hazards, developing land wisely, and managing natural resources. Participants will engage in hands-on activities as they explore an EarthComm "Chapter Challenge," which sets the context for student inquiry and will also explore ways to use the Internet to support an STS approach, opportunities for further EarthComm leadership training, and how to incorporate this research-based curriculum into courses for pre-service teachers.

Visit our vendors in Harbor Foyer!

4:00-5:00 p.m. Concurrent Session VII

Papers **Harbor IB**

Education 9-12

It's All Out There, Folks!

Bernice Hauser, Horace Mann School, Riverdale, NY, Bernice_Hauser@horacemann.org

This paper is an informal discussion of what occurred naturally in a 2nd/3rd grade class when students, working in teams of four and coached by mentors (other adults, older students), on an Interdisciplinary miniunit — "Animals in Their Habitats" — identify a significant community problem (The Central Park Zoo) and develop strategies and options to promote change. Using historical/scientific approaches exploring, analyzing, gathering data, evaluating, and drawing conclusions, they suggest actions to alleviate the ethical problem. What they encountered on their route are detours and mishaps which prove to be, perhaps, the most valuable lessons of all.

Also included will be a curriculum overview of an eighth grade "Ethics and Values" course offered under the aegis of the Guidance Department. I will discuss, identify and share with you how we provide opportunities for the students to engage in, research and present papers with their lens focused on the importance of ethics in everyday life by including specific topics such as the Tuskegee Experiment, Love Canal, and the reading of books such as *Longitude* and *Galileo's Daughter*, by Dava Sobel, and *Hiroshima,* by John Hersey. Resources will be provided.

Hello Dolly! Using Literature to Explore Biotechnology's Ethical Questions

Kathleen Howard, Horace Mann School, 72164.3116@compuserve.com

With the cloning of the sheep, Dolly, molecular genetics and bioengineering have become household terms and concepts. Any discussion of biotechnologies raises questions, which are, by definition, interdisciplinary. Aldous Huxley's *Brave Nev. World* and George Orwell's *1984* are fictions which depict their authors' visions of frightening futuristic societies. Hawthorne's short story "Rappaccini's Daughter" raises some of the issues debated in modern discussions over biotechnology and its uses. Decisions of how to use our new technologies calls forth not only all the power of our intellect, but also our deepest prejudices and passions. Some questions for debate and discussion might be (1) Is there anything wrong with making nature more perfect? (2) Is it possible for man to distort the innate design of the world? (3) Does science solve societal problems or does it exacerbate existing deficiencies and inequalities? (4) Is it possible to learn too much? What are the alternatives?

STS in the Kuwaiti Educational System: Problems and Possibilities

Yaquob Jafer and Rebecca Monhardt, Utah State University, mrjacob64@hotmail.com, beckym@coe.usu.edu

This presentation will examine the use of a Science Technology/Society approach to science instruction in Kuwait. While the STS movement seems compatible with the goals of the educational system in the United States, this may not be the case in other countries such as Kuwait. The Kuwaiti educational system will be dis-

cussed as well as the social and political framework, which guides the educational system in that country. Barriers to acceptance of an STS philosophy will be discussed as well as solutions to overcoming these barriers. Finally, the impact of STS as a transforming mechanism in the educational system of Kuwait will be explored.

Papers **Harbor IIA**

S&T Policy: Energy Policy

Deciphering Myths in the Bush Energy Plan: Rhetoric vs. Reality

Raymond P. Scattone, RIT, Rochester, NY, rpsgsm@ritvax.isc.rit.edu

This presentation will examine the interaction of language, thought and mythology as it relates to recently released Bush Energy Plan. It will contrast the rhetoric and reality of the Bush Energy Plan on the areas of energy conservation, energy efficiency, renewable energy alternatives, and energy security concerns.

Reform or Chaos? Energy Policy in Ukraine

Constantine Hadjilambrinos, Florida International University, Miami, FL, hadjilam@fiu.edu

Public Forum **Harbor IIB**

STS-Today: Where it's been and where it's going

John Craven, Dowling College

This session is structured to provide a forum for interested NASTS members to discuss the current and future status of the community's newsletter, *STS-Today*. While there has been renewed commitment to transforming the newsletter into a valued resource for the STS community, there remains much to do in the way of disseminating this commitment to others in a way that results in meaningful contributions to the publication. Come join others in this session to share your ideas and vision for improving *STS-Today*.

Roundtable **McHenry/Camden**

B-STS: The Next Step

Convener: Willem Vanderburg, University of Toronto

This roundtable will address where the *B-STS* sponsored symposium should go next.

6:00-7:00 p.m. **Reception** **Harbor Foyer**

7:00 p.m. **Banquet** **McHenry**

Presentation of Graduate Student Contest Awards: Franz Foltz, Conference Chair

Banquet Speaker: **Bill Shireman,** The Future 500, billshire@aol.com

Topic: **"Value by Design"**

Today's businesses excel when they emulate what they once sought to conquer. The principles by which businesses will maximize performance in the new economy are principles by which rainforests operate such as feedback, information, profit, design, diversity, and succession. As we move beyond the industrial toward a knowledge-based economy, business is beginning to recognize that the real profit to be earned from nature comes from the applying nature's design principles. Examples from Coors, Coke, Nike, and others illustrate the talk.



NASTS

National Association for Science, Technology and Society

An Association With a Mission

- To re-integrate western culture to include Technology and Society
- To create a *technologically* literate citizenry
- To help human societal values direct an evolving technology
- To provide a radically new approach to education concerned with science and technology at all levels

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