

"There are no
passengers on
Spaceship
Earth. We are
all crew."

—Marshall
McLuhan, 1964

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Global Warming:

How the greatest sustainability issue of our time is creating opportunities for MES students

By John Pumilio
MES Student

SUSTAINABILITY GETS A NEW CHARGE AT EVERGREEN

When I first enrolled in the MES program my objective was straightforward: to absorb information on contemporary environmental issues, better qualify myself for relevant work after graduation, and most importantly, to earn my graduate degree. But then something got in the way—I began to realize the full extent of just how deeply and genuinely concerned I was about today's environmental and social problems.

In October of 2005, the course of my education and my relationship with the Evergreen community changed. One morning while browsing through my email, a job

announcement caught my attention. The newly-formed Sustainability Task Force (a group of faculty, staff, and students) was looking for a coordinator. The Task Force was to create a long-term sustainability plan intended to guide the Evergreen commu-



John Pumilio, Sustainability
Task Force Coordinator

nity to a sustainable future. This plan was to become the new sustainability section in the college's five-year strategic plan. Anything that ends up in Evergreen's strategic plan is considered fundamentally important and must be taken seriously. The purpose of the coordinator was to help lead and organize the Task Force in the development and implementation of this plan.

By the time I finished reading that email, I was no longer personally content or fulfilled with the way things were going. The Task Force was going to search for solutions to some of society's organizational problems and I wanted to be a part of it. Even more enticing was knowing that the focus was right here—at The Evergreen State College. So I

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Faculty Receives Laboratory Funding

MES faculty Maria Bastaki received a Sponsored Research Award from The Evergreen State College to set up a toxicology laboratory this summer. She will use the funding to develop projects related to chemical interactions that may result from concurrent environmental exposures. The projects will include computer-based chemical structure-activity modeling to identify potential candidates among environmental pollutants for toxicokinetic or toxicodynamic interactions, followed by laboratory experiments using cell cultures to

test the toxic effects of these candidate molecules in combinations. Her hypothesis is that environmental chemicals include substances that affect common biological pathways, and exposure to multiple chemicals will exert additive, synergistic, or antagonistic effects that are different from the effects of the individual chemicals. The preliminary data will be used to apply for a larger grant to further her research.

Maria will have a joint laboratory with Evergreen faculty Clarissa

Dirks, who studies the evolution of viruses in mammalian systems. The laboratory will also offer opportunities for students to be involved in research that links science, technology, human health, and public policy.

Maria Bastaki is originally from Greece and has a PhD in Pharmacology.



Maria Bastaki, MES Faculty

Moving On to Department of Ecology



MES presence at Ecology: Shannon McClelland, Rachel Jamison, Layne Nakagawa, Laura Schleyer, Sarah Boyle, John Means, Jessica Moore, and Al Jospehy.

Two current students and five recent alumni have recently been hired at the Washington State Department of Ecology:

Layne Nakagawa (alumnus) manages the Litter and Recycle hotlines and assists in the "Litter and it will hurt" campaign as a Litter Assistant in the Solid Waste and Financial Assistance Program.

Brandon Slone (alumnus) is an Environmental Specialist I in Water Quality where he spends time in the field and in the lab, taking and analyzing water samples.

John Means (student), an Environmental Specialist 3 in the Toxics Clean-up Program, is responsible for planning and policy development for the statewide brownfield program.

Jessica Moore (alumnus) is a 401 Assistant and is involved in projects requiring state water certification under the Clean Water Act. She has recently been working with dam removal projects.

Sarah Boyle (student) is a Response Equipment Specialist responsible for managing the Oil Spill Response Equipment

Caching Grant, which will pre-stage equipment at 97 sites in Washington.

Rachael Jamison (alumnus) is a Green Building Coordinator responsible for implementation of Washington State Beyond Waste Plan's Green Building Initiative.

Shannon McClelland (alumnus) is the Sustainability Specialist for the SW Region in the Solid Waste and Financial Assistance Program. She provides technical assistance on waste reduction, recycling, and sustainability programs.

Local Solutions to a Global Problem

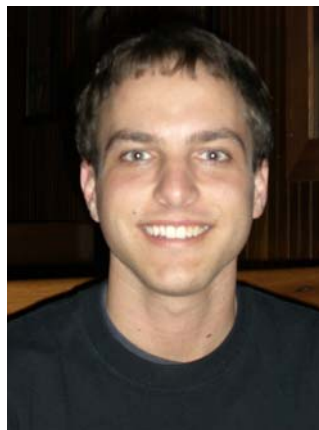
By Andy Deffobis
MES Student

In January 2007, Andy Deffobis was hired by the City of Tumwater to help the city find ways to comply with the Kyoto Protocol. Tumwater has signed onto the US Mayors' Climate Protection Agreement, where participating cities pledge to reduce their greenhouse gas emissions to 7% below 1990 levels by the year 2012. Currently, 413 mayors representing more than 60 million Americans have signed onto the agreement.

The City of Tumwater is working with the International Council for Local Environmental Initiatives (ICLEI). Andy will be using software developed by ICLEI that allows cities to quantify their emissions and realize emissions reduction potential through a varied host of actions. The software is broken into both community and local government analyses; Tumwater has elected to complete the government emissions audit to create an example for the rest

of the community to follow.

Andy has been working with city officials and staff from Puget Sound Energy; Lacey, Olympia, Tumwater, and Thurston County Alliance (LOTT); Pacific Disposal; and ICLEI. He has been auditing energy use for Tumwater's city government operations, including facilities, water and sewage, vehicle fleet, and waste disposal. Once these audits are complete, Andy will be teaming



MES student Andy Deffobis is helping Tumwater reduce emissions.

up with Tumwater's General Government Committee to create a list of actions the city can follow to meet the goals laid out by the US Mayors' Climate Protection Agreement. These recommendations are likely to focus on facility efficiency, lighting, heating and cooling, insulation, and water system retrofits. He may also recommend making a greener vehicle fleet through utilizing hybrid and biodiesel technology and trying to find ways to reduce the total number of vehicle miles driven. In addition, he will be researching grants and green tag programs, which supplement a percentage of a facility's energy use with clean power, including solar, wind & biomass.

He hopes to complete his work with Tumwater by June 2007. This work will also be used as his Master's thesis, integrating his interest in climate change and energy and resource efficiency.

Andy Deffobis is originally from Pennsylvania, but he enjoys the outdoors and is beginning to feel at home in the Pacific Northwest.

"Andy Deffobis was hired by the City of Tumwater to help the city find ways to comply with the Kyoto Protocol."

MES Student Wins Award at National Conference

By Mariam Ubilava
MES Student

The National Association of Environmental Professionals (NAEP) is a multidisciplinary professional association with members from a wide variety of backgrounds. NAEP holds an annual conference, giving professionals and students a chance to present their research and projects.

Last year, with funding from MES, I participated in NAEP's 31st annual conference held in Albuquerque, New Mexico. During my first year in the MES program I conducted research for my candidacy paper comparing water quality, supply, and wastewater treatments for the Southern Caucasus countries during and after the period of the Soviet Union. I presented the paper, "Water Quality of the Transboundary River Kura-Araks and Implementation of Water Resources Management Principles in the Southern Caucasus Coun-

Mariam Ubilava won award for Best Student Paper at 2006 NAEP Conference

tries," at the conference and won a Student's Award for 2006 Best Student Paper.

The MES program gives students many opportunities to conduct research in their own areas of interest. During my time in the program I have conducted several research projects on water resources quality and management plans and have presented at four different conferences during the 2005-2006 academic year.

During my summer internship at the Climate Institute in Washington, DC, under John Topping's



supervision, I conducted research on "Development of Non-Carbon Energy Power Projects in Ukraine, Kazakhstan and Russia." The objective of this research was to see how these three countries, which possess huge amounts of fossil fuels, are developing a non-carbon energy sector. Their goal is to reduce greenhouse gas emissions below the Kyoto standards, which would allow them to participate in emission trading. I will be presenting this paper at NAEP's 32nd annual conference, which is to be held this April in Orlando, Florida.

I would greatly recommend that all MES students participate in conferences and present their own research. The conferences provide a great opportunity to develop academic and professional skills, network, meet with leaders of private and consulting companies, and discuss future career goals.

Mariam Uvilava, from The Republic of Georgia, is at Evergreen on the Edmund S. Muskie Graduate Fellowship from the US Department of State. She speaks four languages and has already published nine papers.

"The conferences provide a great opportunity to develop academic and professional skills..."

Get to Know JT Austin

Jennifer (JT) Austin completed her undergraduate studies in Anthropology at the University of Washington in 1994. She then went on to work for the Harvard University Semitic Museum's Leon Levy Expedition in Ashkelon, Israel, among various other archaeological sites throughout the Middle East. JT returned to the US to work as a Sub-Saharan Africa Researcher for Amnesty International, USA in Washington, DC.

She went on to law school and graduated from the Seattle University School of Law in 1998. JT took a leave of absence after her first

year of law school to work with the Organization for Security and Cooperation in Europe for one year based in Sarajevo, Bosnia and Herzegovina. She was the Director of the Media Experts Commission and worked with post-war Bosnian Muslims, Bosnian Croats, and Bosnian Serbs in an effort to provide unbiased print and television media.

JT returned to Olympia in 1998 and worked for the Washington State House of Representatives for two years before becoming a political consultant for various statewide political campaigns.

She began working for Evergreen in 2001. JT has a two-year-old son, two cats and a dog. She can be seen hiking the beach trails with her dog, Bindi, most days at low tide.

JT Austin, Assistant Director and Resource Faculty, is available to current and prospective students for help with admissions, advising, registration, financial aid, navigating the bureaucracy, or even as a shoulder to cry on.



JT Austin and her two-year-old son, Mason, at the beach.

Research in the South Pacific



Charley Waters,
tan from the
South Pacific sun.

By Charley Waters
MES Student

Two years ago I conducted independent research on the coral reef ecology of Aitutaki, a small atoll in the South Pacific. Toward the end of my project, a team of researchers from New Zealand's Ministry of Marine Resources (MMR), similar to our Department of Fisheries, invited me to join a restoration project that involves the re-introduction of giant clams (*Tridacnidae* sp.) to the lagoon. Activities such as over-harvesting and nutrient runoff have significantly marginalized marine ecosystems in the lagoon. Just before I left, a few Maori tribal leaders asked me two poignant questions: What was making the lagoon unhealthy? And can the health of the lagoon be restored?

I returned to the US and ap-

plied for admission to the MES program to see how such questions could be addressed.

With my thesis work due to begin next quarter, two topics are under consideration, both of which relate to global climate change. One project involves contributing to our understanding of a highly intricate symbiotic association between a species of dinoflagellate called zooxanthellae and corals, clams and other marine organisms. Zooxanthellae are



Aerial view of Aitutaki,
a small atoll in the
Cook Islands.

responsible for meeting large percentages of coral and clam respiratory requirements, and visa versa. The second project investigates the possible relationship between elevated levels of atmospheric CO₂ and the calcification process in seawater.

Either project will take place on Aitutaki and likely include controlled experiments designed in collaboration with MMR and the tribal elders. My ultimate goal is to position myself as a viable candidate in helping inform policy with respect to questions posed by the Maori chiefs two years ago.

Charley Waters has extensive experience writing technical publications for computer science firms and plans to use his MES degree to communicate on topics surrounding the ecology of marine environments.

Thesis with International Audience



Alla Sushko presented
at the Environmental
Research Event
in Australia

By Alla Sushko
MES Alumnus

I would like to thank the Studebaker foundation for supporting me in presenting my master's thesis at the 10th annual Environmental Research Event conference in Sydney, Australia in 2006. The theme of the conference was "Environment: Working Together," which

focused on multidisciplinary approaches to resolving environmental issues.

My presentation, "Recreational Impacts on the Environment: Analyzing Appropriate Updates and Improvements in the

Washington Administrative Code," which focused on Washington State regulations and environmental policy, was primarily based on my thesis research that I completed at the Evergreen State College in the summer of 2006. In spite of the fact that my topic was very specific to Washington State, it generated a great deal of interest from the audience.

This opportunity allowed me to share my research and network with environmentalists from many countries around the Pacific Rim. It was a wonderful experience that inspired me to continue and expand my research. This was the first conference where I had an opportunity to share my research with an international

audience in the environmental field. My paper was peer reviewed and is due to be published in the International Journal of Global Environmental Issues.

I believe this conference is a great way for dedicated graduate students to present their own research, network with others in the field, and even have their research published. I would strongly recommend it as good experience for the start of an environmental career.

Alla Sushko attended MES on a Muskie Fellowship and graduated in 2006. She has returned to Belarus, her home country, where she is working on developing environmental projects there.

Global Warming (continued)

applied and have been Coordinator of the Sustainability Task Force ever since, a paid position through the college.

As a Task Force, we spent our first year developing Evergreen's long-term sustainability plan. We realized that in order for our plan to be both meaningful and enduring we had to engage the Evergreen community as a whole. We initiated a broad-based community conversation on what sustainability means to the people at Evergreen. We developed workshops, hosted meetings, and facilitated many conversations with community members. By the time Spring Quarter 2006 was over, we had face-to-face interactions with over 380 employees and students. These discussions provided directive and great insight as we labored toward our final report. I am glad to announce that a few weeks ago, Evergreen's board of directors approved our Sustainability Report and it is now an official part of Evergreen's updated strategic plan.

FROM EVERGREEN TO THE NATIONAL STAGE:

Last October, seven members of the Sustainability Task Force, with generous support from the MES program, attended the largest campus sustainability conference in the

history of North America. More than 650 faculty, staff, and students representing 44 states and 4 countries gathered at Arizona State University to attend the Association for the Advancement of Sustainability in Higher Education (AASHE) meeting.

The purpose of the conference was for academic institutions to share information and demonstrate how higher education can lead the way to a sustainable future. Developing a comprehensive sustainability plan is one of the first significant challenges awaiting any forward-thinking institution. Because Evergreen is one of the only colleges to have developed such a plan and have that plan become one of the major foci of the college strategic plan, we had an important story to tell. I co-authored a paper with Evergreen faculty member and Task Force co-chair Nancy Parkes, and we presented our paper at the conference. Our message was straightforward: academic institutions should consider a community-based approach (as an alternative or complementary to top-down planning) as they develop their comprehensive sustainability plans. Evergreen offers one prime example of how this was done. Ultimately, the AASHE conference gave us a wonderful opportunity to showcase the

progressive work being done on our campus while reconfirming that Evergreen is one of our nation's leading institutions in sustainable thinking.

I learned a great deal at the conference. A central theme was global warming. Clearly, global warming is not just an environmental issue. There are many social and economic consequences of our continued reliance on fossil fuels and inadequate land-use habits. Global warming is a sustainability issue.

Members of the Sustainability Task Force are in the initial phase of planning for a major upcoming event stemming from the conference, Focus the Nation. We are looking for Evergreen community members willing to participate. If you are an MES student who is concerned about global warming issues and still seeking a thesis topic then be sure to contact me for ideas. Evergreen's renewed commitment to sustainability is creating many potential opportunities for MES students.

John Pumilio is originally from New York and has traveled extensively as a field biologist and as director at an international ecotourism company.

"Evergreen's renewed commitment to sustainability is creating many potential opportunities for MES students."

Upcoming Rachel Carson Forum

Mark your calendars for the 17th Annual Rachel Carson Forum, to be held on **May 8th at 6 pm** in the **Evergreen Longhouse**.

The Rachel Carson Forum, honoring the author of *Silent Spring*, was founded by MES student Eli Sterling in order to bring a prominent environmental speaker to campus each year. The event is hosted by the Graduate Program in the Environment, and the speakers are elected

by the students.

This year's speaker will be **Denis Hayes**, known for coordinating the first Earth Day in 1970. He continues to be prominent in the environmental community as an activist and proponent of solar power, having won numerous awards including being named "Hero of the Planet" by Time Magazine. He grew up in Washington State and is currently the President of the Bullitt Founda-

tion in Seattle, a private philanthropic organization whose mission is "to protect, restore, and maintain the natural physical environment of the Pacific Northwest for present and future generations."



EVERGREEN

THE EVERGREEN STATE COLLEGE
OLYMPIA, WASHINGTON

Graduate Program on the Environment Master of Environmental Study

The Evergreen State College
Lab I 3022
2700 Evergreen Parkway NW
Olympia, WA 98505

Visit us online:
<http://www.evergreen.edu/mes>

Director: Edward (Ted) Whitesell, PhD
360/867-6768 whiteset@evergreen.edu
Assistant Director: JT Austin, JD
360/867-6225 austinj@evergreen.edu
Newsletter Editor: Dana Kiehl

Graduate Study at Evergreen

- ✦ MES integrates the study of the biological, physical and social sciences with public policy.
- ✦ Its core curriculum explores the interactions among environmental problems, policy responses and environmental science.
- ✦ Electives and a thesis project allow students to develop specialized skills and knowledge in areas of their choice.
- ✦ Faculty members come from biological, physical, social science, providing a full understanding of environmental issues.
- ✦ The program is centered on highly participatory evening classes that accommodate full- or part-time students.
- ✦ MES alumni combine an interdisciplinary understanding of environmental sciences with the skills and wisdom to intelligently address environmental problems.
- ✦ Many alumni are employed in the public, private, and non-profit sectors, while others continue their graduate study in related PhD programs.

**Now accepting
applications for Fall 2007!**

Letter from the Director

The increasingly dire news coming in these days about the environmental problems we all face is not easy to take. Yet, there is also a lot of good news. This issue of MESsages is a prime example of that. The articles here tell heartening stories of leadership, initiative, creativity, energy, and excellence being brought to bear on environmental problems by our student body, alumni, and faculty members. Whereas we could react to the depressing



**Ted Whitesell, Director of the
Graduate Program on the
Environment**

news about environmental crises with despair, denial, and neglect, those reactions are nowhere to be found here. In fact, in my relatively short tenure as MES Director (September 2005 – present) I can sincerely say that my greatest reward in this position has been the inspiration I get from the students and faculty in the program who are working so hard to better understand and solve the environmental problems confronting us. The items in this newsletter represent just the tip of that iceberg. I can assure you. Additional information can be found in our web pages (I recommend starting with the student and alumni profiles at <http://www.evergreen.edu/mes/studentprofiles.htm>). For my part, along with the Assistant MES Director, JT Austin, I have been working to support the wonderful students in

our program by, among other things, instituting significant curricular reforms and improving communications between everyone in the program. I encourage current, past, and potential future MESers to stay in touch with us to share their news and ideas about how the MES program can serve as a center for fostering much-needed environmental solutions.

Best wishes,



Ted Whitesell, PhD
Director, Graduate Program on the Environment
(360) 867-6768
whiteset@evergreen.edu