



John T. Lyle

College of Environmental Design

CENTER for REGENERATIVE STUDIES

“Advancing the Principles of Environmentally Sustainable Living”

Winter, 2006

## Brelles-Mariño and Young Named Lyle Center Faculty Fellows

The Lyle Center has named **Dr. Graciela Brelles-Mariño**, and **Dr. Terence Young** as Faculty Fellows for 2005-06.

Dr. Brelles-Mariño is an Assistant Professor in the Department of Biological Sciences, studying biological nitrogen fixation in plants, an important process in regenerating soils for sustainable agriculture. Legumes interact with bacteria in the soil to form “nodules” along roots, and sometimes stems, that facilitate the transfer of nitrogen from the atmosphere into the plant. This process fertilizes the plant naturally and restores nitrogen to the soil, making it available to future crops and reducing the reliance on fertilizers to provide nitrogen for crop production.

### Center Develops Green Living Program for Campus Community

The Lyle Center has partnered with University Housing in the development of an innovative green living program for the Cal Poly Pomona campus community. This program focuses on instilling environmental awareness in students, and providing information about choices students can make in their everyday lives that enhance their environments and reduce their impact upon natural resources.

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Molecular signals between bacteria and the plant, known as Nod factors, are responsible for triggering developmental processes in the plant leading to the formation of nitrogen-fixing nodules. Dr. Brelles-Mariño is studying methods for treating plant seeds with concentrations of Nod factors, to determine if the result is greater nodulation in the plant, and greater yields. Preliminary laboratory results are encouraging, but Dr. Brelles-Mariño will be examining the effect of field conditions on these processes. Her research will include planting a series of alfalfa test plots at the Center.



*Brelles-Mariño*

Dr. Brelles-Mariño has been a member of the Cal Poly Pomona faculty since 2003. She received her Ph.D. in biochemical sciences from *Universidad*



*Young*

*Nacional de La Plata*, Argentina. She previously held a position at the *Centre National de la Recherche Scientifique*, in Toulouse, France, and *Consejo Superior de Investigaciones Cientificas*, Spain, where she researched biological nitrogen fixation.

Dr. Young is an Assistant Professor in the Department of Geography and Anthropology., and a member of the Lyle Center Graduate Faculty. He is preparing a monograph exploring the history and geography of American camping between the decades when it emerged as a distinct recreation and when the various modes of camping, for

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### Info-Structures Erected in Tijuana

In coordination with *Habitat 21: The Lyle Center’s Project for Sustainable Settlements*, students in Professor **Irma Ramirez’s** Special Topics Architecture Studio designed and built a series of “info-structures” in Nuevo Milenio, a colonia of Tijuana, Mexico.

The info-structures replaced traditional bulletin boards located throughout the neighborhood by Habitat 21’s partner, *Corazón*, Inc. Each provides space for posting notices about events, as well as gathering

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*Patricia Zaragosa designed this Info-Structure which marks the entrance to Nuevo Milenio.*

The initial components of this program were developed this past summer, by Lyle Center Project Coordinator **Debbie Scheider**, Center Intern **Jeremie Pertuis** (Business major, RS minor), Student Assistant **Sereywath Keng**, and Palmitas Hall Coordinator **Desiree Woodruff**. The group compiled booklets and informational displays that offer activities and background information concerning energy conservation, waste reduction, and food awareness. In the fall quarter, Lyle Center graduate students **Matty West** and **Jason Selwitz**, created two workshops on energy conservation and waste reduction/recycling, based on these materials. A third, on building “food awareness,” is in the works.



From Left: Matty West, Jeremie Pertuis, and Jason Selwitz, with Green Living program materials.

Together, Matty and Jason have consulted with Resident Advisors from on-campus housing, Senators from the Inter-Hall Council (IHC), and students engaged in environmental issues to program and schedule Green Living workshops on campus. As more Green Living modules are created, the plan will be to co-program events with Resident Advisors and IHC Senators so that they can program the lessons directly in the future — thus increasing the number of students that are reached by environmental awareness building workshops.

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## MSRS Program Welcomes Diverse Group of New Students

Fall, 2005 marked the second year of our Master of Science program in Regenerative Studies. This unique program prepares students to solve environmental problems facing our global society in the 21<sup>st</sup> century. Most of our students from our inaugural class are wrapping up their course work and actively pursuing thesis projects. Seven new students entered the program this past fall. They bring a range of backgrounds and interests. This group includes the following:

**Enrique Huerta** has a background in city and regional planning and is interested in reducing energy consumption by adapting sustainable architectural principles to transit-oriented developments. He hopes to conduct research that will guide the development of innovative land use policies.

**Karen Keltz** has a background in teaching, interior design, and architecture. Interests include green building materials and renewable energy. She hopes to combine these areas of study with her developing interests in energy generation and transformation, and how its healing properties can be applied to revitalizing the building industry.

**Jason Selwitz** has a background in outdoor environmental education/leadership,



Students and Nuevo Milenio residents lay mosaic tiles at the site of an info-structure.

counseling adolescents, and community development. His focus is on the integration of regenerative wastewater treatment with renewable energy/fuel production. He hopes to design, manage, and implement such projects for rural, indigenous, and developing world communities.

**Matty West** is a New Jersey native who has an interest in solar heating technologies. He has a B.A. in Philosophy from Denison University. Over the years he has built an off-grid straw bale cabin in Ohio, installed PV solar systems in Austin, TX, and driven buses filled with humanitarian aid to Central America and Cuba. He is enjoying the Southern California “winter.”

**Eric Zentmyer** is a former media dropout with a background in journalism and farming in Central America. He is interested in the role of plants in regenerative design, including agriculture, phytoremediation, and regenerative design as public art. Current research includes a citywide green roof program for the City of Santa Monica, introducing a sustainable bamboo textiles industry into Mexico, and developing community gardens around Los Angeles.



Students and residents review the results of a transect walk through an El Monte neighborhood.

## Lyle Center News and Notes

In October the Center held a Welcome Reception for new Cal Poly Pomona faculty. Approximately 15 new faculty attended the event.....MSRS students **Thom Metcalf** and **Jonah Swick** passed the LEED certification exam this past fall.....In December, students, faculty and staff volunteered to remove vegetation from the ponds, in preparation for **Dr. Stephen Lyon's** Surface Water Treatment class this Winter.... In September, Lyle Center Director, **Dr. Kyle Brown** presented a paper at the Council of Educators in Landscape Architecture Conference in Athens, GA .....results of research on "test cells" being conducted at the Center by **Dr. Pablo La Roche** will be included in an upcoming volume on passive cooling systems, being edited by UCLA Professor Baruch Givoni.....Several MSRS students are actively pursuing their thesis studies this Winter. **Jonah Swick** has constructed a temporary superadobe structure at the Center to

assess its heating and cooling performance. **Carlo Gavina** is constructing a test cell with a shower cooling system to assess its performance. **Brian Meux** is analyzing Kelp restoration efforts in Santa Monica Bay. **Maddalena Serra** is preparing to travel to Panama to study the characteristics of waste generated by island tourists. **Eric Humel** is studying traditional agricultural knowledge of Latino immigrant landscapers. **Tony Jusay** is examining the bicycle as a symbolic tool for cultural transformation and developing environmental consciousness. **Doug Kent** is developing a method for assessing size, composition, energy use for maintenance, and greenwaste produced in residential landscapes. **Thom Metcalf** is studying unregulated plug loads, energy budgets, and thermal comfort in a LEED Platinum building.....due to a Mediterranean Fruit Fly quarantine, the Center is unable to distribute fruit to visitors until further notice.

## RS Course Examines Participatory Processes in El Monte, CA

A participatory research project was the focus of a graduate seminar offered by the Center this past fall. Professors **Jeff Juarez** and **Kyle Brown** led an effort to investigate the appropriateness and effectiveness of various participatory community appraisal methods for the practice of sustainable environmental design. An interdisciplinary group of seven students from Regenerative Studies, Landscape Architecture, and Architecture worked with members of the Park-El Monte Improvement Association and interested community members to articulate issues affecting quality-of-life in El Monte, and opportunities for positive change.

The course included an examination of current trends in participatory action, including participatory rural appraisal approaches

from the field of international development. Students explored methods that empowered locals to develop their own plans as opposed to ones which extract data from locals, to be used by outside experts in identifying problems and developing solutions.

Students facilitated a number of participatory activities for the community, including transect walks through neighborhoods, oral histories about the community, popular theater and analyses of the interrelationships between community organizations. The results yielded interesting insights into the effectiveness of these methods, trained students in facilitating participatory methods, and provided community members with a set of tools they can apply in future planning efforts.



*Nuevo Milenio residents made mosaic tiles that were integrated into each info-structure.*

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spaces for residents and a strong sense of identity for the community. The structures also incorporated mosaic tiles made by members of the community, a design strategy developed by Professor Ramirez to instill a sense of ownership for the structures and a realization that residents can affect positive change in their community.

Students developed 20 different designs, which were reviewed by *Corazón* staff and community members, who ultimately selected four different designs for construction in the community on eight different sites. Students from the Architecture studio facilitated a tile-making workshop in Tijuana for the community prior to erecting the structures over a weekend in November - an intensive process that involved participation of community members and *Corazón* staff.

The construction of bulletin boards in Nuevo Milenio may seem like a modest accomplishment, but *Habitat 21* views it as a critical step in their work with *Corazón*, and this community - an opportunity to facilitate positive change in a highly visible manner. This quarter, work continues in Tijuana related to the sustainable shelters grant *Habitat 21* received last year. A design team led by **Dr. Pablo La Roche**, Professor Ramirez, and **Dr. Kyle Brown** is currently working on concepts for a sustainable shelter prototype, which will be constructed and tested at the Center this spring.

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The program explores topics from a global, as well as local perspective, as students become empowered to lead a more regenerative life. For example, the workshop on energy challenges participants to think critically about the energy consumed in daily activities. Consumption may include electricity used when running an appliance, or energy embodied in the making of a product, growing food, disposing of waste, or transporting goods and services. The Green Living Program team believes that an understanding of embodied energy and consumption are crucial elements to developing a more sustainable and regenerative world.

The Green Living Program Team looks forward to developing additional programs and facilitating more workshops at Cal Poly Pomona. For more information about these programs, please contact the Center.

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example backpacking and motorized camping, reached maturity.

One of Dr. Young's goals is to understand camping in terms of regeneration and sustainability. In his book *Regenerative Design for Sustainable Development* (Wiley, 1994), John Lyle argued that the "linear flows" of our urban-industrial society were responsible for degenerative patterns around us. Our collective response to the degeneration – the Environmental Impact Assessment (EIA) – leads to alternative plans and mitigation measures, but these approaches, Lyle declared, are mere palliatives that only help in the short run. Dr. Young's work argues that even as Americans have attempted to mitigate society's negative impacts on the physical environment, they also have sought to alleviate damage to their own individual and collective

psyches through a form of recreation, camping. Like EIAs and alternative plans, camping is a palliative that has not brought us closer to sustainability. It has only helped Americans feel better without addressing deeper issues.

Dr. Young's work describes, analyzes and explains the prescriptive camping literature's justifications for camping and thus opens a window into the motivations of campers and camping's cultural meaning. He will use the Fellowship to aide in developing a manuscript for scholarly publication, which will ultimately be incorporated into his upcoming book: *Heading Out: American Camping from 1860 to 1990*.

Dr. Young received his Ph.D. in Geography from UCLA, and is the author of *Building San Francisco's Parks, 1850-1930* (Johns Hopkins, 2004).

## Upcoming...

### Spring RS Courses:

RS 303: Organization of Regen. Practices

RS 499: Landscape Ecology

RS 499/499L: Environmental Land Art

### Earth Day Celebration -

Friday, April 21st, 2006

### Commencement for First MSRS Class -

Sunday, June 11th, 2006

### Amphitheater Mosaic Unveiling -

Summer, 2006

### Solar Living Institute Workshops -

Summer, 2006

### Application for Fall, 2007 MSRS Class -

October 1, 2006 - January 15, 2007.



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