

## **Research projects (opportunities) and ideas for SRP topics Urban Studies and Planning 2005-2006 Senior Sequence**

### **UCSD Superfund Basic Research Program (SBRP) Research Translation Core**

[http://superfund.ucsd.edu/research\\_translation/index.html](http://superfund.ucsd.edu/research_translation/index.html)

The Research Translation Core (RTC) of UC San Diego's Superfund Basic Research Program (SBRP) has four specific aims: (1) Build partnerships with government agencies and Tribal science labs to advance the practical contributions of toxicogenomics in environmental policy and planning; (2) Evaluate the utility of molecular biomarkers/biosensors, microtechnologies and bioremediation as new biological models/methods for improving environmental monitoring, risk assessment and remediation; (3) Organize technology showcases, entrepreneurs/innovators forums and educational workshops to foster the commercial development and utilization of innovative SBRP technologies; and (4) Communicate complex research findings to broad audiences through periodic workshops; symposia; participation in regional, national and international conferences; publications, and Web-based systems. The broad long-term objective is to apply toxicogenomic knowledge and biomolecular technologies to real-life problems concerning hazardous substances and environmental health.

You can do a SRP that adds value to the RTC in a number of ways. Biomarkers developed by SBRP scientists need to be evaluated, in partnership with the San Diego Baykeeper, Tribal labs and government agencies responsible for water quality monitoring, as potentially effective new cellular and analytic tools for detecting Superfund toxicants in contaminated watersheds. At the same time, SBRP-industry partnerships need to be established to promote the experimental development and commercialization of novel bioremediation technologies (e.g., transgenic plants that can hyper-accumulate heavy metals out of contaminated soil), and microtechnologies (e.g., labs-on-a-chip that can be used as biosensors for detecting exposure to pesticides). We are looking for students who would like to document the extent to which the "new biology" is being used in environmental monitoring in San Diego. We also need students to study the technology transfer process that gets UCSD science out into the real world –particularly in ways the improve environmental conditions. *Contact info: Keith Pezzoli, kpezzoli@ucsd.edu*

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### **Establishing a "Health-based" Approach to Environmental Mitigation**

The goal is to help develop a model for environmental mitigation in the San Diego River Watershed that will benefit citizen monitoring groups and American Indian groups whose lands are increasingly coming under pressure. We will build a historical database of mitigation and permitting data to allow for temporal and spatial queries on 12 years worth of critical urban and permitting data. The student will help analyze, and build interfaces to this strategic data, which will be correlated with quality of life data in the San Diego River Watershed. This approach departs from a strictly permit and process driven approach to environmental mitigation and tries to promote the cumulative beneficial uses of the environment. *Contact person: Richard Marciano, marciano@sdsc.edu*

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### **Invisible Planning Compared: A Tale of Two Cities**

A historic analysis of the National Archives files relating to the redlining of East St. Louis will be conducted and contrasted with San Diego. This study will examine the residential controls used in segregating blacks, Jews, Mexicans, Japanese, Chinese, and Mexicans from white neighborhoods and the resulting policies of systematic urban disinvestment (see "Making the Invisible Visible", by Leonie Sandercock). *Contact person: Richard Marciano, marciano@sdsc.edu*

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## **Improving Public Health and Well-Being in Vulnerable Populations**

We will explore the connections between social (in)justice and environmental health outcomes of interest to the NIEHS, trying to relate health-disparities to patterns of exclusionary housing in the city of New Orleans. For example... in <http://grants.nih.gov/grants/guide/pa-files/PA-02-102.html>, the role of gene-environmental interactions underlying the health disparity of premature birth is discussed: "The majority of the health disparity of premature birth is commonly associated with racial and ethnic groups living under the burden of adverse societal, behavioral, and environmental conditions. These adverse factors include low social and economic status, racism, stress, sexually transmitted disease, tobacco/alcohol/drug use, and exposure to environmental toxins. Epidemiological studies indicate that over half of this health disparity can be attributed to these adverse conditions." The analysis will proceed from the historic redlining files of the National Archives and connect to work in the SBRP at UCSD with linkages Potential connections with David Pellow's proposed study on "Toxic Inequalities in Louisiana -- Disasters by Design". *Contact person: Richard Marciano, [marciano@sdsc.edu](mailto:marciano@sdsc.edu)*

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## **Center on Policy Initiatives <http://www.onlinecpi.org/>**

The Center on Policy Initiatives (CPI) is a nonprofit research, organizing and advocacy organization dedicated to improving the lives of the working poor by building a movement for economic justice in San Diego. They conduct a lot of interesting research <<http://www.onlinecpi.org/publications.html>>. The CPI's work on "Community Benefits Agreement (CBA)" would be a great topic for a SRP. On September 20, 2005 an unprecedented CBA was reached between Ballpark Village LLC (Lennar and JMI Realty, Inc) and A Community Coalition for Responsible Development (ACCoRD). A CBA is the result of negotiations between the developer and the community, commonly represented by various grassroots community organizations, that identifies how a proposed development project can benefit residents and workers in neighboring communities. Once the CBA is finalized and the development project is approved by city officials, the CBA becomes a legal document that is part of the city's agreement with the developer. It would be good to document how this CBA came together in San Diego. How does the San Diego case compare to similar efforts around the country. See <http://www.signonsandiego.com/news/metro/20050926-9999-1m26ballpark.html#>

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## **UPZONING and urban equity**

Research opportunity regarding profits from upzoning land use (developers gain profit when they get farmland upzoned for new subdivisions). Don Wood is interested in legislation that can capture some of the value created by upzoning (divert some of the financial gain realized by increased land value away from the developers and toward funds for public sector urban core infrastructure improvements). If you are interested in this initiative read these two documents: SmartGrowthBill and ZoningTransationTaxQAs. If you want to contact Don Wood, he can be reached at [dwood8@cox.net](mailto:dwood8@cox.net)

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## **Broadband (building cyberinfrastructure for the 21<sup>st</sup> Century)**

John Eger (Professor and Van Deerlin Chair of Communication and Public Policy Executive Director, International Center for Communications) is exploring the prospects of making broadband internet access more readily available throughout the San Diego metropolitan area. What is the public vs private sector's role in building the broadband superhighway?

<http://www.envisionsandiego.org/Creative%20Community%20Journal.html>

This is a great project involving cyberinfrastructure policy: (see the articles below for details)

<http://www.public-cio.com/newsStory.php?id=2005.05.22-94066>

[http://www.govtech.net/magazine/channel\\_story.php/95065](http://www.govtech.net/magazine/channel_story.php/95065)

<http://webdocs.nyccouncil.info/attachments/66683.htm?CFID=622238&CFTOKEN=80343337>

<http://www.websiteoptimization.com/bw/0508/>

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**Digital Divide Study**

John Kim, Ph.D. is a member of an organization that brings free wireless networks to low-income neighborhoods. The organization very recently installed a free wireless network in a housing project in Barrio Logan (San Diego), and it's still in testing phase. John would like someone to study/document the economic and/or social effects of such networks on low-income neighborhoods? He'd like to better understand how low-income families are affected (or not) by the availability of free high-speed Internet. The housing project is administered by <http://maacproject.org/> and the wireless group is <http://socalfreenet.org>. John Kim, Ph.D. (619) 594-2896 jkim@sciences.sdsu.edu <http://fs.sdsu.edu/> SDSU Field Station Programs: Supporting the Collection, Sharing & Understanding of Environmental Information

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**Scripps Park Project**

I am a member of a fifteen person advisory group, the Scripps Park Project, which is working to develop and implement a long-term plan for Ellen Browning Scripps Memorial Park (the Cove). Our efforts have been endorsed by the Mayor and Scott Peters, the district Councilperson. Our group also has representatives from all of La Jolla's major planning groups and the City's committee for the disabled. You could find out more by checking out our website, scrippspark.com. At present, we have two recently-formed committees that are gathering pertinent information to be used by a professional park planning consultanting firm, Campbell and Campbell, in preparing for and conducting a public workshop, as yet unscheduled. The two committees have to do with the Cultural Landscape and Usage Patterns. I am chairing the latter and another SPP member chairs the former. Contact person: "Neil Murray" <nmurray1@san.rr.com>

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**Sustainable Development Initiative (Industrial Environmental Association, IEA)**

The IEA has a new initiative underway to get industry, government and community groups working together around issues of "sustainable development." The focus is on what business leaders can do. The IEA "promotes environmental responsibility through effective communication and interaction with our members, government, regulatory agencies, business and the community. We use proven technology, scientific methods and common sense to achieve a beneficial relationship between environmental protection, public health and economically sustainable growth. <http://www.ieasdc.org/> They have a number of interesting projects. They also want help organizing a Climate Change workshop, for which they will take on an intern from October through December 14. Contact Patti Krebs <iea@iea.sdcoxmail.com Phone: 619-544-9684

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**Los Laureles Canyon - Erosion Control Project**

Los Laureles Canyon is a small 4.6 mile sub-watershed of the Tijuana River Watershed. It is located only about 1-2 miles from the coast and 90% of the watershed lies in Mexico. This sub-basin is of particular interest and concern as it flows directly into the Tijuana River National Estuarine Research Reserve (TRNERR) and is a significant source of sediment in the south end of the Estuary. Over time, this sub-basin has become increasingly developed and degraded, and lacks the basic infrastructure to support this development. Representatives from agencies in Mexico and the United States will work together on a community based slope stabilization and erosion control project located within Los Laureles Canyon, under the scope of the TRNERR's new Coastal Training Program (CTP). This project aims to restore Los Laureles Canyon, to prevent sedimentation into the Tijuana River Valley, and offer quality passive recreation for the residents of Tijuana through numerous goals and objectives. This trans-border effort will promote a sustainable approach to the erosion control problem, achieving success in the environmental and social realms.

**Native American Traditions and Vireo Habitat Restoration:  
Ecological Field Experiments in Anza-Borrego Desert State Park**

Click here for proposal by Jared Aldern

Founded in 2004 and directed by the author of this proposal, The Land Conversation, Inc. (TLC) is an organization that helps to restore ecosystems and revitalize languages and cultures. We increase expertise in ecology, history, language, and cultural studies among people of all ages and diverse cultures by coordinating the resources offered by schools, universities, tribes, community-based organizations, and public agencies. In July 2004, TLC received funds for its Traditional Land Management Research Program from the Blasker-Rose-Miah Fund and the Colonel Frank C. Wood Fund at the San Diego Foundation. The purposes of this research program are to investigate traditional human-environment interactions as windows into historical ecology, and to apply traditional practices as methods for ecological restoration. The Land Conversation proposes a five-year program to enhance habitat in the Anza-Borrego Desert State Park's San Felipe Valley property for the State and Federally endangered least Bell's vireo (*Vireo belli pusillus*) using innovative methods – namely, by reintroducing indigenous people's interactions with willows (*Salix* spp.) and other plants. The program offers other potential benefits, as well, including increased collaboration between State Parks and tribal agencies, new educational opportunities, and a demonstration of the integration of ecological restoration with indigenous cultural and linguistic revitalization. Jared Aldern, Executive Director, The Land Conversation, Inc. email: [jaldern@sctdv.net](mailto:jaldern@sctdv.net) , <http://www.thelandconversation.org>

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**Urban Growth and Air Quality: An integrated Regional perspective for the Tijuana San Diego Border Area**

The Center for U.S.-Mexican Studies is leading an effort to raise awareness of issues concerning air quality along the border. They hope to begin a dialogue between academic, public officials and the private sector. Professor Molina is developing a comprehensive project on air quality in the region, and the roundtable will serve as an informal launch for that project. Contact: [kpezzoli@ucsd.edu](mailto:kpezzoli@ucsd.edu)  
<http://www.epa.gov/osp/myr.htm#cs>

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**Inequitable Taxation and Native American Nations in San Diego Region**

SBRP Tribal Partner Mike Connolly Miskwish (Councilmember, Campo Band of Kumeyaay Indians) is looking for undergraduates who are interested in researching the extent to which Native nations in the County generate tax revenue (primarily sales tax) that the County receives but never returns to the tribes. In California, Native nations receive 0% of the sales tax, which is interesting considering Governor Arnold Schwarzenegger's declaration that gaming tribes "need to pay their fair share" back to the state. What about what the state owes them? This is of particular importance from a research perspective since tribes in Nevada and New Mexico do receive a portion of such taxes (around 25% and 40%, respectively). What is the reasoning behind this policy? Is it related to the fact that, by comparison to New Mexico and Nevada, California's Native American population is much smaller and exercises less political influence over the legislature? Or is this policy in fact, reasonable, just, and equitable? If Native tribes do generate taxes that are used by City and County governments to fund environmental protection projects (among other things), could some of that revenue be returned to the tribes to be used for their own such projects? Mr. Connolly has informed us that he has documents and reports (most available via the Internet) that students could use to research this issue.

**Other Opportunities:** See [http://regionalworkbench.org/databank/rwbc\\_search.php](http://regionalworkbench.org/databank/rwbc_search.php)

Watershed planning support systems (RWBC Project)

Carlsbad watershed/ Agua Hedionda Lagoon Foundation nature center (RWBC Project)

Environmental Management Systems (EMS) and regulatory innovation (RWBC Project pdf file)

Industrial ecology (RWBC project)

San Diego River Park Foundation (RWBC Project)

Land Trusts, Conservancies, and Biological Diversity Conservation (Conservation Biology Institute)

Laureles Canyon erosion control project, and the Matadero Canyon conservation park, (RWBC project)

Also:

Campus GIS, and Campus Greening, UCSD Campus Planning