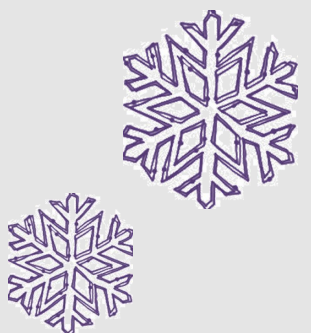


# geography

THE GRADUATE SCHOOL OF GEOGRAPHY AT CLARK UNIVERSITY



WHERE'S YOUR WORLD? winter, 2012/2013

# GO WE

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WINTER 2012/2013



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[Or visit the Geography site!](#)

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Questions or comments about the newsletter?  
Email Colleen Dolan at [CDolan@clarku.edu](mailto:CDolan@clarku.edu)

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# welcome

## Greetings from Director Bebbington

In these difficult economic moments it might be easy to forget that Clark's motto is to "Challenge Convention, Change our World." When resources are tight, the temptation is to step back from challenging and changing and instead look for security and a smaller space of one's own to protect. We see this happening right around us, and of course these are insecure times. But perhaps they have become insecure because researchers (and others) have not challenged convention enough: our institutions have been on autopilot, steering our world towards increasing uncertainty and away from brave and bold decisions. And so in that vein, the theme for this newsletter is the work of Geography faculty who are challenging convention, who are absolutely committed to change, and who are inspiring students and doing world class scholarly work that they then take into the world. I do not think that we have a single faculty member who is not doing one or more of: advising the National Research Council, government agencies, Ministers or international organizations; maintaining frequent, sometimes constant contact with serious journalists; or working closely with activists, non-profits and local governments.

Of course, our faculty members do this because they want to: it is a consequence of their commitment. But it's important to pause a moment and recognize that this does not come free: just as students pull all-nighters, so also GSG professors burn every end of the candle. This newsletter features articles

that celebrate some of this work. These articles are just a few examples. Other faculty are doing research through which they engage with: authorities in Worcester on responses to the Asian Longhorn Beetle infestations destroying the city's trees; environmental activists on the socio-ecological effects of the livestock industry; NGOs and multinational corporations on market and industrial development in South Asia and Africa; activists and administrators on the issue of municipal bankruptcies in the US; the federal government and Congress on adaptation, resilience and climate change; the Intergovernmental Panel on Climate Change's Fifth Assessment Report on the topic of glacier wastage in and beyond North America; government ministries, international NGOs and UN organizations concerned to address drivers of land-cover change, energy futures and the socio-environmental impacts of mining; and so on. The links on page 14 take you to articles on some of this other work.

Mottos can often be just so much fluff. But the Geography faculty is genuinely struggling to challenge those conventions that have led our world to its current moment. They are also going many extra miles to try and make their research contribute to changing these same conventions.

In our next newsletter we will feature student research and innovations in Geography.

## reminders»



### 2013 CONDAKES FELLOWSHIP

We are now accepting applications for the 2013 Peter Condakes Summer Research Fellowship. This generous fellowship was established by Peter Condakes, an alumnus and geography major from the class of 1978, and provides funding to support research that will address worldwide environmental concerns. The fellowship provides a stipend of \$1,000 for an undergraduate geography or GES major or ESS concentrator to work as a summer research assistant with a geography faculty member.

>>Anyone who is interested in applying should contact Colleen Dolan at [CDolan@clarku.edu](mailto:CDolan@clarku.edu), with the email subject of "Condakes Research"

### LOGO CONTEST

The Geography department and CUGA are co-sponsoring a contest to come up with the best logo and/or slogan to represent Geography. This contest is open to anyone who has an interest in Geography, GES, or ESS.

Submissions will be judged by a panel of faculty and students, and the submission that best answers the question of "What is Geography?" will be the winner!

All submissions should be sent to [cdolan@clarku.edu](mailto:cdolan@clarku.edu) by February 6th, 2013.

### ATWOOD RECAP

Anyone who missed the 2012 Wallace W. Atwood lecture featuring Professor Erik Swyngedouw can now view the lecture in its entirety online. The lecture was titled "Contested Hydro-Modernities: From Manufacturing Rivers to Desalting the Seas."

Dr. Swyngedouw is Professor of Geography in the School of Environment and Development at the University of Manchester. The lecture can be found [here>>](http://www.youtube.com/watch?v=ovBgfBaUZ0) (<http://www.youtube.com/watch?v=ovBgfBaUZ0>)



## “RICHARD PEET: GEOGRAPHY AGAINST NEOLIBERALISM”

New Book Showcases the Life and Work of  
Professor Dick Peet



Professor Peet in Barcelona for the book premiere

>> Núria Benach, Professor of Geography at the University of Barcelona, has written a book about [Professor Peet](#) as part of the series “Espacios Críticos” (Icaria Editorial). The series highlights

prominent scholars and aims to make geographical radical thought more available to a Spanish-speaking audience worldwide.

“**Richard Peet: Geography Against Neoliberalism**” includes an anthology of texts written by Peet, as well as interviews, seven of his previously published essays translated into Spanish, and some of his new work focused on the ongoing global economic crisis. The book was launched in October with public lectures given by Professor Peet in the Center of Contemporary Culture of Barcelona and at the Catalan Geographical Society. Benach learned in her interviews with Peet that in the 1970s Clark University was a center of the “radical geography movement,” a Geography concerned with social and environmental problems, and a discipline immersed in critical social theory. A group of graduate students and faculty started a radical journal called *Antipode*, and Peet became its second editor (1970-85).

“When we radicals moved Geography from studying crops and barn types to urban problems and development, it turned out that the available stock of geographic theories couldn’t explain very much,” Peet writes. In his class on the Geography of American Poverty, which was the first course on poverty ever in the discipline, he struggled to provide his students with complete or even available theories to explain the geography of poverty in the United States. Peet continues that “experiences like this drove many of us towards Marxism, a radical but also highly structural



conceptual framework that could explain things deeply.”

Benach and Peet discussed this political-theoretical transformation, what it meant at the time, the critiques that Peet and his colleagues came under in the 1980s and '90s, and the re-emergence of a powerful Marxist critique of neoliberal, financial capitalism over the last decade. “We also talked about teaching at Clark, which consistently gets intellectually engaged, opinionated and expressive students,” Peet writes. “And they even do most of the reading! I think Nuria got the message that I love my career, and wouldn’t have wanted it any other way, or in any other place.”

After her extensive interviews with Peet, Benach returned to Spain to complete “Geography Against Neoliberalism,” which is especially relevant for its audience in Spain, a country in the midst of the global economic crisis and austerity programs. Public employees like Benach, for example, just had their salaries cut by 20 percent, Peet notes. During the book’s launch in October, Peet remembers walking on La Rambla in Barcelona and encountering a massive demonstration against the austerity measures imposed by the European Union – “and it was the police who were demonstrating!” In Spain, Peet gave lectures on austerity as a class struggle to an audience of 250 people at the Center for Contemporary Culture in Barcelona and at the Geographical Society of Catalonia, co-sponsors of his trip.

At Clark University, Professor Peet teaches political Economy of Development, Development Policy, Explanation in Geography, and Global Society. His areas of interest include social and

economic geography, political ecology, liberation ecology, development theory, geography of consciousness and rationality, philosophy and social theory, iconography, semiotics, and critical policy studies. He co-authored, along with several of his students, “Unholy Trinity: the IMF, World Bank and WTO,” which has been widely translated and re-published all over the world. He also wrote books on “Geography of Power: Making Global Economic Policy ” and co-wrote “India’s New Economic Policy: A Critical Analysis,” as well as numerous re-editions (with his wife, Elaine Hartwick) of the best-selling “Theories of Development.” <<



Story contributed by Jane Salerno, Senior Associate Director of Media Relations at Clark University

# FACULTY FORUM

AGU FALL MEETING

San Francisco | 3-7 December 2012

## Clark Geography features prominently at American Geophysical Union: Professor Chris Williams in organized press briefing to profile his work



>> Professor [Christopher A. Williams](#) presented two invited talks and participated in a NASA-sponsored media briefing on “[Fire in a Changing Climate and What We Can Do About It](#),” at the American Geophysical Union’s (AGU) 45th annual Fall Meeting, Dec. 3-7 in San Francisco, California.



Williams and other Clark University researchers were among more than 20,000 Earth and space scientists, educators, students, and other leaders gathered to present groundbreaking research and connect with colleagues at the AGU meeting. On Dec. 4, he joined the [press briefing and teleconference](#), then followed with a presentation titled “[Fire induced carbon emissions and regrowth uptake in western United States forests: Documenting variation across forest types, fire severity, and climate regions](#),” his part of a session focused on “[Fire as a Biogeochemical Catalyst in the Earth System](#).”

# FACULTY FORUM

During the AGU media briefing, Williams and other panelists presented NASA satellite data and climate models that indicate drier conditions likely will cause increased fire activity across the United States in coming decades. Other findings about U.S. wildfires, including their amount of carbon emissions and how the length and strength of fire seasons are expected to change under future climate conditions, were also presented. One key finding is that as the U.S. land area burned by fire each year has increased significantly in the past 25 years, so too have the emissions. Carbon dioxide emissions from wildfires in the western U.S. have more than doubled since the 1980s, according to Williams.

The satellite-based view allowed Williams and his colleagues to quantify how much carbon has been released from fires in the U.S. West. The team used data on fire extent and severity derived from Landsat satellites to calculate how much biomass is burned and killed, and how quickly the associated carbon was released to the atmosphere. The team found carbon emissions from fires have grown from an average of 8 teragrams (8.8 million tons) per year from 1984 to 1995 to an average of 20 teragrams (22 million tons) per year from 1996 to 2008, increasing 2.4 times in the latter period.

"With the climate change forecast for the region, this trend likely will continue as the western U.S. gets warmer and drier on average," Williams said. "If this comes to pass, we can anticipate increased fire severity and an even greater area burned annually, causing a further rise in the release of carbon dioxide."

On Dec. 5, Williams presented another invited talk titled ["Carbon consequences of droughts, fires, bark beetles, and harvests affecting forests of the United States: comparative analysis and synthesis,"](#) part of a session focusing on ["Impacts of Extreme Climate Events and Disturbances on Carbon Dynamics"](#) (available as video on demand).

Also at the AGU meeting, Williams co-chaired a session titled ["Biosphere-Atmosphere Greenhouse Gas Fluxes in Terrestrial Ecosystems,"](#) the largest session in the area of biogeosciences.

Williams noted that, as expected, Clark alumni were to be found among the scientists in attendance at the AGU meeting, including Claire Griffin (ES '10) a former undergraduate researcher in Frey's [Polar Science Research Laboratory](#) (and Polaris Project alumna). Griffin is in the Ph.D. program at the Marine Science Institute, University of Texas at Austin, continuing her research in Arctic river biogeochemistry and satellite remote sensing.

## Several other Clark faculty, graduate students, and scientists also contributed to the AGU meeting on different topics:

- [Clark Labs](#) Director **J. Ronald Eastman** and [Qingling Wu](#) (Ph.D. candidate in Geography, expected 2013) presented a paper, "Extended Empirical Orthogonal Teleconnection (EEOT) Analysis."
- **Professor Eastman** and [Neeti Neeti](#) (a recent graduate of the Clark geography Ph.D. program and current postdoctoral research associate at Boston University) presented a paper titled "Novel Approaches in Extended Principal Components Analysis to compare spatio-temporal patterns."
- Assistant **Professor** of Geography **Alex Gardner** hosted a session titled "The Changing Cryosphere" and presented his work titled "Narrowing the gap: A consensus estimate of glacier mass wastage for 2003-09" which looks at global glacier contributions to sea level rise.
- [Melanie K. Vanderhoof](#) (Ph.D. candidate in Geography and advisee of **Professor Williams**) presented "Surface energy flux consequences of bark beetle outbreaks in the south-central Rockies using MODIS data" in a session on Disturbance Impacts and Responses. It included results from her fieldwork in the Colorado Rockies studying the outbreak of mountain pine beetles and the devastation they are bringing to forests across the region.
- [Bardan Ghimire](#) (a recent graduate of the Clark geography Ph.D. program; current postdoctoral researcher in **Professor Williams'** lab and soon to be employed as a postdoctoral researcher at Lawrence Berkeley National Laboratory in Berkeley, CA.) presented his work titled "Challenges in model-data fusion: Detecting and quantifying parameter equifinality and uncertainty in a recently clear-cut site in Harvard forest." It included results from the lab's research site at Harvard Forest where Williams and his students are studying how vegetation is recovering following a recent clearcut and how this influences carbon balance and water balance.
- [Prajwal Panday](#) (a recent graduate of the Clark Geography Ph.D. program; now a postdoctoral researcher at Woods Hole) presented "An assessment of the snowmelt runoff model in the Tamor River basin in the eastern Himalaya using Markov Chain Monte Carlo (MCMC) data assimilation approach," co-authored by **Chris Williams**, Assistant **Professor** of Geography **Karen Frey**, and NASA research scientist Molly E. Brown. Panday also presented, within the session: "The Third Pole Environment (TPE) Under Global Changes."

Story contributed by Jane Salerno, Senior Associate Director of Media Relations at Clark University

# FACULTY FORUM

## Professor Colin Polsky Appointed to Co-Author Chapter on United States Climate Assessment



Professor Colin Polsky has been appointed co-Convening Lead Author for the Land-Use and Land-Cover Change chapter of the National Climate Assessment (NCA). The NCA, commissioned by the Office of Science & Technology Policy in the White House, is the official U.S. statement about impacts and vulnerabilities associated with climate variability and change.

Professor Polsky's task was to coordinate and synthesize input from a round of national public and scientific commentary on the topic of how land-use and land-cover change affects climate change and associated impacts and adaptation/mitigation options. Dan Brown, Professor in the School of Natural Resources and Environment and Director of the Environmental Spatial Analysis Laboratory at the University of Michigan, was the other co-Convening Lead Author for this chapter.

This effort is designed to produce a book chapter written for a lay audience. The NCA book is expected to be published in the spring/summer 2013.

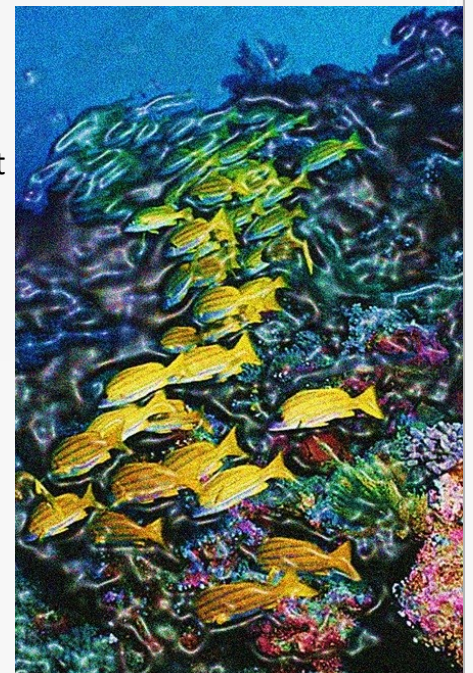
The NCA is conducted under the auspices of the Global Change Research Act of 1990, which requires a report to the President and the Congress every four years that "integrates, evaluates, and interprets the findings of the U.S. Global Change Research Program; analyzes the effects of global change on the natural environment, agriculture, energy production and use, land

and water resources, transportation, human health and welfare, human social systems, and biological diversity; and analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years."

National Climate Assessments act as status reports about climate change science, impacts and adaptation/mitigation options. These reports are based in part on observations made across the country and compare these observations to predictions from climate system models. The NCA aims to incorporate advances in the understanding of climate science into larger social, ecological, and policy systems, and with this provide integrated analyses of impacts and vulnerability.

The NCA will help evaluate the need for and effectiveness of our mitigation and adaptation activities, and to identify economic opportunities that arise as the climate changes. It will also serve to integrate information from multiple sources and highlight key findings and significant gaps in scientific knowledge.

The NCA aims to help the federal government prioritize climate science investments, and in doing so will help to provide the science that can be used by communities around the country to plan more sustainably for our future.



Photos courtesy of U.S. Global Change Research Program ([www.globalchange.gov](http://www.globalchange.gov)), edited by Clark Geography staff



# FACULTY FORUM

## Professor Karen Frey Awarded Two Arctic Science Research Grants

Professor Karen Frey recently received Arctic Science research grants from the National Science Foundation (NSF) and the National Oceanic and Atmospheric Administration (NOAA).

The NSF grant is for a collaborative effort between the University of Maryland Center for Environmental Sciences, Clark University and the Woods Hole Oceanographic Institution. In her project, called “The distributed biological observatory: A change detection array in the Pacific Arctic sector,” Frey will lead field collections and analysis of particulate matter and optics to validate satellite observations. The award from the NSF is for \$201,018 over five years.

The second grant is funded through NOAA. Over 18 months, Frey will receive \$36,980 to work on a project titled “Satellite observations of sea ice variability and primary production in the Pacific sector of the Arctic Ocean.” She will compile a satellite-

based time series of sea ice cover images, and integrate additional observations.

This project brings together a multidisciplinary group of Arctic scientists and Alaskan coastal community representatives to explore information from completed and current marine research in the Pacific Arctic region. By creating an overarching platform of collaboration between scientists and Alaska Arctic residents, the Synthesis of Arctic Research (SOAR) aims to increase scientific understanding of the biophysical environment, enhance capability to predict future conditions, and effectively transmit findings of the synthesis to local residents, resource managers, science societies, and the general public.

In addition to assisting the Bureau of Ocean Energy Management in its evaluation of oil and gas development in the Arctic, SOAR specifically focuses on understanding the relationships among oceanographic conditions, benthic organisms, lower trophic pelagic species and higher trophic species in the Pacific Arctic.



# LEEP

## CLARK GEOGRAPHY STUDENTS TAKE THE NESTVAL BOWL BY STORM

This past October, six Clark University Geography students attended the New England-St. Lawrence Valley Geographical Society (NESTVAL) Conference at the University of Maine in Farmington, where they presented posters and current research. While at the conference, these six students also participated in, and **won**, the World Geography Bowl.



Seated (front row): Alida Cantor, Young-Long Kim, Andrew (A.J.) Shatz, and Christopher Knudson. Standing: Matthew Manley and Shannon Palmer.

The team was comprised of three Doctoral students (Alida Cantor, Christopher Knudson, and Young-Long Kim), one fifth-year Masters student (Andrew Shatz) and two undergraduate students (Matthew Manley and Shannon Palmer). This win is a great example of the skills, talents, and camaraderie of our Geography students at all levels!

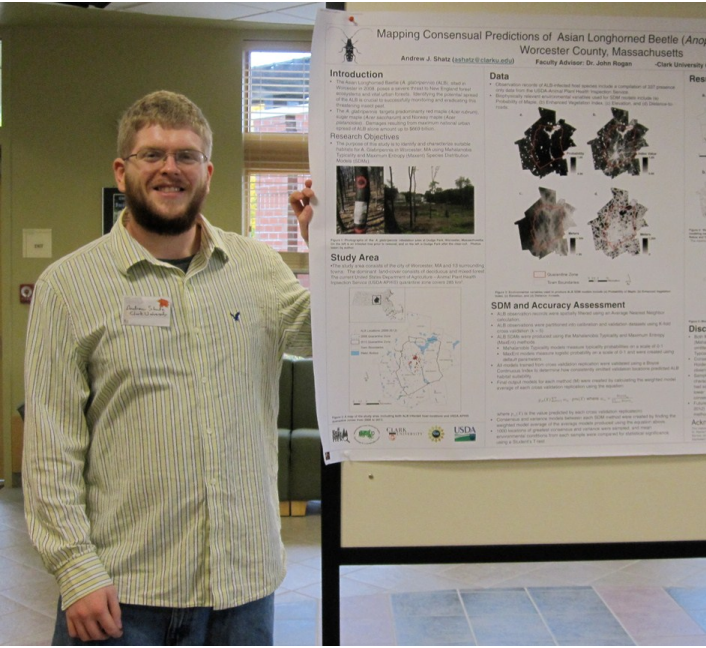


The winning team posing with their trophy and AAG President, Eric Sheppard.

**Congratulations to the team!**



Doctoral students Alida Cantor and Christopher Knudson held on tightly to their Geography Bowl win **and** to the globe!



MA GIS fifth-year student A.J. Shatz stands beside his poster, which he presented at the NESTVAL conference.



Geography undergraduate students Matt Manley and Shannon Palmer stand with their poster, which was also presented at the NESTVAL conference.

**NOTE:** Save the Date! The 2013 NESTVAL conference will be held here at Clark University, October 18th-19th.

# CUGA corner

## Clark undergrad named 2012 O'Connor HERO Fellow

Clark University senior Andrew E. Hostetler is among a select group of student researchers who are members of the national Human-Environment Regional Observatory

(HERO) program based at Clark and coordinated by the Graduate School of Geography. On Oct. 16, Hostetler received the added honor of being named the 2012 O'Connor HERO Fellow.

The O'Connor HERO Fellowship is named for the late Clark University Trustee John O'Connor (Class of '78) who was a prominent Massachusetts environmentalist and community activist.

The eight-week HERO research curriculum at Clark is sponsored by the National Science Foundation (NSF) through its Research Experiences for Undergraduates Site (REU Site) program. HERO Fellows – each paired with a Clark faculty mentor and other researchers on the HERO team – analyze the causes and consequences of global environmental changes at local scales.



Hostetler with Clark University President, David Angel

This past summer, Hostetler and other HERO Fellows engaged in a new research program titled, "REU Site: Mapping Beetles, Trees, Neighborhoods, and Policies: A Multi-Scaled, Urban Ecological Assessment of the Asian Longhorned Beetle Invasion in New England." A three-year \$329,992 NSF grant to professors John Rogan and Deborah Martin supports the study, which gathers and analyzes data on the ALB, an invasive species that has devastated hundreds of acres of trees across New England.

Hostetler worked on measuring changes in tree cover composition and evaluating existing and future impacts of ALBs on forest diversity. His group mapped the tree canopy loss to the Asian Longhorned Beetle in the USDA quarantine zone for Worcester County. In addition to identifying causes of tree canopy loss, Hostetler and his team investigated the impact of this loss on land surface temperatures using satellite imagery.

“ I believe the real-world experiences such as the HERO program that Clark provides for undergrads and the extremely supportive and encouraging faculty are invaluable assets to help students make the best of their undergraduate and prepare for life after undergraduate, wherever that may lead them. This is certainly true for me. ”

-Hostetler

Hostetler, a senior, majors in Geography. He is a member of Gamma Theta Upsilon, the International Geographic Honor Society at Clark, as well as a Gryphon and Pleiades Senior Honor Society member. Gryphon and Pleiades emphasizes leadership and extraordinary academic achievement.

After graduation in May 2013, Hostetler intends to enroll in Clark's accelerated master's degree program in Geographic Information Science (GIS) and continue the research he began as a HERO Fellow.

# photo album

These photos were contributed by GSG faculty and graduate students, and they depict some of the fieldwork and field trips that took place over the past year.

“this is how we  
**LEEP**”

This photo was taken in the summer of 2012 from the roof of the field station in Cherskiy, East Siberia while participating in the Polaris Project.

Depicted here are four generations of Clark Geography researchers!

From left:

**Sam Berman** (ESS undergraduate student)

**Dr. Karen Frey** (Geography professor)

**Dylan Broderick** (MA GIS 5th year student)

**David Mayer** (PhD student)



This photo shows students from **Dr. John Rogan's** GEOG 232: *Landscape Ecology* course at Myles Standish State Park (south of Plymouth MA) walking through a Frost Bottom – a micro-climatic event that maintains a treeless habitat within Pitch Pine forest due to sub-zero temperatures caused by cold air deposition in landscape depressions. These depressions were caused during the last ice age when large chunks of ice melted over time. If the depressions are above the water table they are called ‘bottoms’, and if they are at or below the water table they are called ‘kettle lakes/ponds’

Photo 1:

Environmental Justice boat ride through the Bronx River with 'Rocking the Boat'

From left: undergraduate students Liam Byrne, Faye Terry, and Ann Salerno, Professor Dianne Rocheleau, with a member of the 'Rock the Boat' staff

These three photos were taken during Dr. Dianne Rocheleau's GEOG 280 *Urban Ecology* field trip to New York City in the fall 2012 semester. A story detailing the full trip will be featured in the next newsletter!

Photo album (continued)

Photo 1



Photo 2:

Meeting with the garden coordinator in Lower East Side gardens in Manhattan

Depicted here are several undergraduate students and Professor Dianne Rocheleau listening to an impromptu lecture about the history of the garden, given by an art historian. The garden is the [Liz Christy Garden in the Lower East Side of NYC](#), founded on a reclaimed rubble-filled lot in the 1970's and widely recognized as an anchoring site of the community garden movement in the Lower East side.

Photo 3:

Enjoying the view at the [Brooklyn Grange](#), the largest rooftop farm in the world

From left: undergraduate students Stella Doughty, Ann Salerno, Emma Pierson, Nara Baker, Faye Terry, Peter Cunningham, Elena Cohen, and Johnathan Koenig



Photo 2

Photo 3

## GRADUATE SCHOOL OF GEOGRAPHY ►

# colleen dolan

undergraduate . program . coordinator



>> Colleen Dolan has recently transferred from her role as Office Coordinator to the new Undergraduate Program Coordinator. As Undergraduate Program Coordinator, Colleen will be available to help Geography and GES majors (as well as potential majors) with basic advising questions. She will also act as the first point-of-contact to anyone with questions about the programs offered within Geography, and help students to find appropriate advisor pairings.

One of Colleen's goals within her new position is to work closely with CUGA to help coordinate various events and projects. Colleen is a self-described "people-person," and she is excited to take on a role that will allow her the opportunity to work more closely with students. <<

Colleen can be reached via:  
Email: [cdolan@clarku.edu](mailto:cdolan@clarku.edu)  
Phone: (508) 793-7282  
Or by stopping by: Jefferson 220 B

For more faculty news stories from the past year, please explore the following links:

APRIL 2012:

- ▶ **Director Anthony Bebbington**  
“‘Mining can undermine development efforts,’ Clark U. expert warns Canada lawmakers”

MAY 2012:

- ▶ **Professors Deborah Martin and John Rogan**  
“Clark receives 329K NSF grant to extend REU Site designation, fund HERO program into 2015”

JUNE 2012:

- ▶ **Professors Deborah Martin and John Rogan**  
“Clark launches HERO research to study devastating beetle invasion”
- ▶ **Professor Karen Frey**  
“Back to Siberia! Clark professor and students embark on ‘Polaris Project’”

OCTOBER 2012:

- ▶ **Professor John Rogan and Marsh Institute Research Fellow Deborah Woodcock**  
“Clark researchers warn: region’s glacial landscapes are ‘at risk’”
- ▶ **Director Anthony Bebbington**  
“Research finds social movements can change the developing world”

Clark Geography would like to extend a special thank you to Senior Associate Director of Media Relations, [Jane Salerno](#), for her significant contributions to our departmental newsletters. To stay up-to-date on all Clark news and press releases and to subscribe to receive press releases by email, please visit the Clark University news website >>

<http://news.clarku.edu/news>



**NEWSHUB**



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