On February 28th, faculty, staff and students from across campus took part in the first Sustainability Science Symposium & Workshop at UGA. CICR coordinating this event to galvanize sustainability research and education at UGA; strengthens the network of existing sustainability initiatives; increase the likelihood of funded sustainability science proposals at UGA; and ultimately, to advance sustainable practices at the state, national, and global level. The event was made possible by the support of the President’s Venture Fund, Office of the Vice President for Research, Bioenergy Systems Research Institute, Office of Sustainability, Center for Undergraduate Research Opportunities, Department of Geography, Department of Management Information Systems, Department of Marine Sciences, Odum School of Ecology, Plant Genome Mapping Laboratory, and the Sustainability and Landscape Performance Lab at the College of Environment and Design.

The day kicked off with an opening keynote by Dr. Marshall Shepherd, Georgia Athletic Association Professor of Geography, Director of UGA’s Atmospheric Sciences Program and 2013 President of the American Meteorological Society. The next session featured 15 unique presentations from faculty and staff; these presentations highlighted the diverse and innovative ways in which UGA is addressing the grand challenge of sustainability. Research topics ranged from energy informatics to sustainable food systems. During and after lunch attendees viewed 30 posters from faculty, staff and students. The afternoon faculty workshop provided an opportunity for facilitated discussion of emerging research areas in the field of sustainability. Several faculty groups left the workshop with ideas for future grant proposals. The day concluded with a keynote address by Dr. Stephen Polasky, Fesler-Lampert Professor of Ecological/Environmental Economics, University of Minnesota, and member of the National Academy of Sciences.

All in all the day was a success: faculty, staff and students actively working in the field of sustainability research and practice had the chance to interact with each other and learn about initiatives on campus. CICR is already planning for a follow-up event to take place in early spring 2015. If you are interested in helping coordinate next year’s event, please contact Talley Vodicka (tallev@uga.edu).

Another year has come and gone, and both CICR and the ICON program have seen many positive developments. CICR has been undergoing a review since the fall which has been a rewarding process as it has allowed us to reflect on what we have accomplished. With the review has also come an opportunity to sharpen our focus on the things we hope to achieve in the coming years. As such, we are poised to begin strategic planning in the fall of 2014.

During the last year we have had the opportunity to co-sponsor several great talks by prominent scholars and practitioners, including talks by Valerie Peters, Axel Borsdorf, Tyler McCreary, Jacqueline Echols, Marlene Zuk, and Josh Ginsberg. We also had several full days of talks and meetings with Paul Robbins, Director of the Nelson Institute at the University of Wisconsin-Madison.

In the fall of 2013 CICR organized a UGA-NSF Video Conference on Funding for Sustainability Research. CICR collaborated with OVPR to host this campus-wide event, in which 12 NSF Program Officers met with interested UGA personnel to present the portfolio of NSF Programs in Science, Engineering and Education for Sustainability (SEES). The event had more than 60 faculty, students and staff participating. As a follow-up to the video conference, CICR coordinated a Sustainability Science Symposium & Workshop at UGA in February. 137 faculty, staff, and students attended the symposium. The success of this event was such that we are planning to make the symposium an annual event, and planning for next year’s symposium is already underway.

Continued on page 2
ICON hosts inaugural SIC

On February 7th, the Organized ICON Network and Cooperative (OINC), ICON’s graduate student organization, hosted the inaugural Symposium on Integrative Conservation (SIC) at the Tate Student Center. The main goal of SIC was to cultivate interactions between three cohorts of ICON students in multiple departments. To this end, the full-day event featured presentations by 21 ICON Ph.D. students, across all three cohorts (first, second and third year students) and all four departments (Anthropology, Geography, Ecology and Forestry and Natural Resources). One of the program’s sessions featured five-minute, “rapid fire” talks, which served as a “great example of strategic communication at its best,” according to Steve Padgett-Vasquez, who is a second year ICON student in Geography.

Over sixty people were in attendance, including faculty and students from both within and outside the ICON program. Thus, SIC provided ICON students a valuable opportunity to engage with the broader academic community at UGA, and to demonstrate how they are drawing on diverse perspectives in pursuit of effective solutions to their research problems. SIC also enabled presenters to receive feedback on their work from faculty and audience members through faculty and audience feedback forms. The feedback forms addressed both the content of the presentation as well as the delivery. In total, 52 audience feedback forms were completed and shared with presenters. In this way, SIC provided a space for the exchange of ideas between students and faculty interested in integrative research and practice.

Liz Guinnessey, who is a first year ICON student in Ecology, noted, “My favorite part was seeing how widespread all of our research ranges - both geographically and in subject matter.” This sentiment was corroborated by ICON Graduate Coordinator, Dr. Nate Nibbelink, who said: “It was so gratifying to see how the students have embraced alternate disciplinary perspectives and approaches in their graduate work. Even for me, having taught each cohort of students and seen most of their work in formative stages, I was astounded at the breadth of projects and the commitment of each student to tackle difficult work, often outside their comfort zone.”

The presentations did indeed span a diverse range of topics and geographical areas, from participatory forestry projects in Indonesia, to the socioecological dimensions of Brazilian fisheries, to public alligator harvest programs right here in the southeast. The diversity of presentations demonstrated how broad the potential applications really are for integrative research.

SIC also featured small group discussions to encourage more in-depth conversations on the meaning, value, and challenges of integrative research. In these discussions, students and faculty alike recognized the complexity of doing integrative research and the practical challenges of attempting to engage deeply with other disciplines. However, students and faculty also both recognized the value of ICON in creating a platform to communicate with and receive support from experts in other disciplines. Future SIC events will help ensure communication continues across disciplines, between cohorts, between ICON students and faculty, and between the ICON program and the broader UGA community.

In reflecting on SIC, OINC’s chair and third year ICON student in Geography, Dean Hardy noted, “It’s fascinating how each of us is approaching the task of making our research integrative. Watching everyone’s presentations raised intriguing questions for me about how we’re choosing to include other disciplinary methods and theories in our own research, especially just how challenging it can be to do effectively and meaningfully.”

- Katherine Brownson

Greetings from the Director, continued from page 1

After having succeeded in being chosen through an internal selection process, several CICR executive committee members and affiliates are working to submit a NSF Research Traineeship (NRT) Program proposal (the successor to the NSF IGERT) which is due June 24, 2014.

ICON currently has thirty students with three full cohorts progressing through the program, and we will be welcoming our fourth cohort in the fall. The first Symposium on Integrative Conservation (SIC) took place in February and will also be an annual event. SIC was organized and hosted by the graduate students of the ICON Program to provide an opportunity for the exchange of ideas between students and faculty interested in integrative research and practice. The symposium included presentations from 21 ICON students.

CICR and ICON are starting to experience some changes as we move into our next phase. I would like to thank Cathy Pringle (Ecology) and Laura German (Anthropology) who have stepped down from the executive committee. And, I’d like to welcome to the executive committee this year Julie Velasquez Runk (Anthropology) and Vanessa Ezenwa (Ecology). With thanks I want to acknowledge Meredith Welch-Devine who after having served as Associate Director for CICR for the last two years will be stepping down to become Interim Assistant Dean at the UGA Graduate School. I want to give a special thanks to Talley Vodicka who serves as the nerve center for all that we do.

Lastly, it is with mixed feelings that I announce I will be stepping down as the Director of both CICR and ICON. We are taking this opportunity to more clearly delineate CICR and ICON. The executive committee elected Nate Nibbelink (Warnell) to be Director of CICR and Nik Heynen (Geography) to be Director and Graduate Coordinator of ICON. It has been a pleasure working with the executive committee and with the UGA community to create and foster the development of CICR and the ICON program, and I am extremely optimistic about the future prospects for both. I’d like to take this opportunity to thank all those who have contributed to CICR and ICON in various ways and we look forward to your continued involvement.

-Pete Brosius
Karen Allen — On an average day I travel 20-30 miles on dirt roads to visit farms scattered throughout the northern end of the Bellbird Biological Corridor in Costa Rica. These farms are intentionally spread apart – part of a 100 landowner sample that comprises the focus of my research. Each landowner interview takes approximately one hour and it has three components. First, they participate in a landowner survey that includes a stated choice experiment – a nonmarket valuation technique designed to estimate landowner preferences. They also respond to specific questions regarding historical land uses on their farms. And finally, we have a general conversation about land uses, guided by semi-structured interview questions. The purpose of these three techniques is to use “triangulation” to understand complex concepts such as “drivers of land use decisions” and “landowner values.” I will use this information to analyze the patterns of land use change in the region, and the relationship between those changes and policy mechanisms designed to impact landowner preferences for ecosystem service provisioning on private lands.

Steve Padgett-Vasquez — Last summer I was fortunate enough to visit the Bellbird Biological Corridor (BBC) of Costa Rica. The goal of the BBC is to bridge diverse habitats from the Monteverde cloud forest to the mangrove forest of the Gulf of Nicoya. I was able to schedule my trip while Karen Allen (Anthropology) and Dr. Nate Nibbelink (Forestry) were teaching at the UGA-Costa Rica Campus. Through them, I gained a better understanding of the community concerns and met local stakeholders. Both Karen and I are interested in payment for ecosystem services (PES) within the BBC. PES is a market-based mechanism that provides payments to farmers or landowners who agree to take make certain management decisions in order to provide or maintain an ecological service. Karen is interested in the factors influencing land use decisions and conservation on private farms. While Karen’s focus is on the human landscape, I am interested on the vegetative landscape. I am interested in monitoring deforestation and disturbances within the BBC through satellite imagery and improving how this tool can be used to help direct and evaluate PES contracts. A successful BBC management strategy requires an Integrative Conservation approach.

Dean Hardy — As part of my preliminary ethnographic fieldwork last summer interviewing residents of Tybee Island, Georgia, I also “immersed” myself in the coastal landscape by cycling along parts of the predicted future high tide line (the 3’ contour). My intention was to gain some familiarity with the local terrain as it relates to sea level, coastal habitats, and development. During interviews, I benefited from this knowledge by having personal reference points when people referred to local places, streets, and habitats. This facilitated not only rapport during the interview, but also my connection with people’s place-based stories. For my research, I focus on understanding people’s knowledge about their own as well as their community’s vulnerability to sea-level rise, so the importance of positioning questions in a place-specific context is critical for eliciting insightful information. I chose cycling because of the efficient pace – not too fast or too slow – for observing a large portion of the landscape exposed to three feet of sea-level rise; the current scientific consensus expected by the year 2100. Cycling also allowed me to capture hours of video, which I plan to use for strategic communication of my research. You can see some preliminary video footage online at rdean-hardy.com.

Levi Van Sant — I finished the main phase of my field research in the South Carolina Lowcountry - the coastal region surrounding the port city of Charleston - in August of 2013. My dissertation examines recent changes in the area’s agriculture and their effects on land tenure and land use. During my stay in the Lowcountry I conducted extensive archival research; recorded more than thirty interviews with farmers, farm workers, and USDA employees; and worked with conservation and rural development organizations that promote local and sustainable agriculture. My initial analysis suggests that the century-long trend in the consolidation of agricultural land - especially African-American farmland - continues unabated. The next phase of research involves using GIS technologies to flesh out the dynamics of these processes. Ultimately, my dissertation aims to uncover the causes and consequences of this uneven agricultural landscape.
Fall 2013 Featured Researcher:
Levi Van Sant, Integrative Conservation & Geography

A PhD candidate in Geography and ICON, Levi just returned from a year of field research in the Lowcountry of South Carolina – the coastal area surrounding the port city of Charleston. Building from his personal experience working in both global agribusiness and small-scale organic agriculture, his research focuses on the consequences of recent food system changes for the Lowcountry’s agrarian landscape.

Over the past two decades, entrepreneurs and regional non-profit organizations have cultivated a thriving local food system in the Lowcountry. Like many other places across the US, the growth of local food systems in this region supports a new class of growers: young, mostly of urban origin, and almost exclusively white. While this new class of growers increases, the number of established African-American farmers in the Lowcountry continues to plummet. From 1959 to 2007, for example, the number of white farm operators in Charleston County fell 18 percent, while their African-American counterparts declined in number by more than 90 percent. These trends are, of course, not “natural”. Recent scholarship and landmark legal decisions make it clear that systematic racism in the USDA and other institutions drove the dispossession of African-American farmers in the US South. Rather than assuming that the growth of local food systems represents a solution to the social and ecological weaknesses of global agribusiness, Levi’s research uses mixed-methods to question the degree to which sustainable production models diverge from the disturbing history of white supremacy in rural America.

The Lowcountry has a deep and troubled agricultural history rooted in slavery and sharecropping. Throughout the 20th century the region was dominated by “truck farming” (a system of fresh vegetable production for distant urban markets). In these decades the USDA and its agribusiness allies ruled the countryside.

Recent scholarship and landmark legal action has illuminated the many ways in which this system of agricultural governance, in the Lowcountry and beyond, perpetuated the marginalization of African-Americans, Hispanic migrant laborers, and small-farm households. Built on the exploitation of both people and the sandy Lowcountry soil, a thriving tomato agribusiness complex was planted in the region following World War II and ranked among the most productive in the world until the 1990s. The dramatic decline of the Lowcountry tomato industry, one which cost many workers and farmers their livelihoods and prompted several to commit suicide, created a void in the political and ecological fabric of the Lowcountry at the close of the 20th century. It was in this context and on some of these same plots of land that enterprising growers and non-profit organizations cultivated local food systems.

Levi’s field research reveals a paradox: the transition from truck farms to local food systems in the South Carolina Lowcountry appears simultaneously significant and superficial. Significantly, there has been a decline in both cultivated acreage and in the number of people engaged in agriculture; most new farmers have a different background – often highly-educated urbanites, many of whom are women; the USDA is a much less visible institution; and finally, much of the produce is consumed in Charleston rather than a more distant urban center. In other ways, however, the transition appears superficial: there are still precious few African-American farmers or large rural landowners; the USDA remains important as a source of funding; and farmworkers still have very little hope of saving enough money to buy their own piece of agricultural land.

His dissertation will develop a framework for sorting out the complex and contradictory processes which produce this paradox. To do so, it relies on a mixed-methods approach consisting of (a) archival research and interviews with multiple generations of farmers, farmworkers, and extension agents, (b) participant-observation with institutions of agricultural governance, and (c) GIS mapping of patterns in Lowcountry land use and land tenure change. This mixed-methods approach will illuminate the ways in which the growth of local food systems in the South Carolina Lowcountry challenges and/or reproduces the racial geographies of the tomato agribusiness complex.

Levi’s research is driven by a belief that questions of social justice and ecological sustainability must be tackled simultaneously. For him, the ICON PhD program provides a unique set of tools through which to pursue the twin goals of a “just sustainability”.

Climbing the wall: a first-hand account of the ICON ropes course challenge

When we showed up to complete the ropes course, we were told it would be a day of “team building,” though we were an unusual team as we didn’t even know everyone’s names! But by the end of the day there was no other way to describe us. We started off with exercises that involved us working together in small groups. They were complex exercises and required all of us to take our communication skills to the next level. Next, a group exercise called the helium hula hoop required us to slowly lower the hula hoop to the ground while keeping it level. Initially it didn’t sound like a difficult task, but it took several frustrating attempts. The final exercise seemed literally insurmountable at first: each of us was to climb over a 10 foot wooden wall. We stood at the bottom and looked up: there was no way we could do this alone. But amazingly, with the help and support of everyone there, we did the impossible! The task required an immense amount of trust in each other: something we had been building all day.

Continued on next page
Spring 2014 Featured Researcher: Brian Crawford, Integrative Conservation & Forestry and Natural Resources

Brian is a PhD student in the ICON program through the Warnell School of Forestry & Natural Resources. Since coming to Warnell in 2009, Brian has earned an MS degree and expanded his project into a PhD focusing on long-term conservation research and management of road-associated threats to declining species – specifically, the diamondback terrapin (Malaclemys terrapin).

Roads have become a pervasive human footprint on most landscapes, especially in the United States, that frequently impact wildlife. For terrapins, coastal causeways from New York and New Jersey to Georgia and Florida have been recognized as hot spots of road mortality, where adult female terrapins are struck by vehicles during nesting forays each summer. However, roads are also a public asset important to people’s daily lives and to local, regional, and national economic growth. Since management of roads will impact wildlife as well as drivers, conservation solutions need to be biologically effective and socially acceptable.

By using the Jekyll Island Causeway leading to Jekyll Island, GA as a model system for studying these issues, Brian has placed equal emphasis on traditional ecological research to estimate the impacts of roads on terrapin populations and human dimensions research to measure the values, attitudes, and conflict among several groups using the road.

To date, Brian and collaborators have shown that road mortality on the Causeway is contributing to current population declines, which are predicted to continue if no management actions are taken. Through surveying visitors, residents, and employees of Jekyll Island, Brian ranked several management actions designed to reduce this threat by their public acceptability and has begun applying and testing some of the most acceptable options.

Specifically in 2013, he and collaborators at the GA Department of Transportation implemented the first-ever flashing warning signs for turtles (similar to school zones) that flash and alert drivers around high tide each day of the nesting season when terrapin activity on the road is highest.

Ultimately, Brian’s dissertation will develop a structured decision making framework that identifies optimal management actions that meet socio-economic and biological objectives, which will guide conservation plans on Jekyll Island and be adapted by agencies to reduce road impacts to terrapins in other parts of the species’ range.

Throughout this process, Brian will use the tools and lenses promoted in the ICON program to acknowledge multiple perspectives and anticipate trade-offs regarding road management in order to improve communication and buy-in among user groups and produce durable conservation decisions.

Taking an uncharacteristic break from the coast, Brian has just returned from completing a fellowship at Rare – an international conservation non-government organization based in Arlington, VA. Rare’s mission is to “conserve imperiled species and ecosystems around the world by inspiring people to care about and protect nature.” Rare has targeted global conservation issues by implementing signature social marketing strategies, known as Pride campaigns, to motivate people in local communities tied to threatened natural resources to replace destructive behaviors with more sustainable ones, including reciprocal watershed agreements and no-take zones for local fisheries.

The Pride approach operates under an integrative model for achieving pro-environmental behavior change and positive biophysical results. In the fall of 2013, Brian worked with Rare’s Conservation Research and Monitoring team to complete a meta-analysis across 84 campaigns to estimate the effects of this previously-untested model on communities. The analysis showed substantial increases in pro-environmental behaviors, attitudes, and knowledge within communities during the course of campaigns. These results support that Pride’s approach can effectively produce conservation behavior change related to local anthropogenic threats and highlight the utility of social marketing strategies in achieving these goals.

Through his collective experience in Warnell, the ICON program, and Rare, Brian has become firmly committed to practicing conservation by placing equal importance on natural resources and people, especially those groups contributing to negative impacts. He intends to use his training to continue a career in conservation management of at-risk species that integrates research of biological and social dimensions, intervention, and outreach into a position at a non-government organization in the future.

- Brian Crawford

Afterwards, Dr. Nik Heynen, Professor of Geography and one of the ICON program’s founders, summed up the experience nicely when he said, “I’ve spent days sitting in my office, thinking about the ICON program, and here today I saw it in action: people from different disciplines and backgrounds coming together to solve problems. It’s incredible.” Jennifer Demoss, a third year ICON student in Anthropology had this to say about our day: “The ropes course helped me get to know the incoming cohort of ICON students better than any other activity we’ve done so far… It gave me the sense that I am part of a larger ICON program, and I think that we should make sure that there is a good mix of cohorts next time we do it.” We hope to see everyone at next year’s ropes course! - Jessica Chappell

Group photo of fall 2013 ICON ropes course participants
The goal of the Center for Integrative Conservation Research (CICR) is to engage in research and teaching on conservation and sustainability. We promote an integrative approach that utilizes insights and methodologies from across the social and ecological sciences. Through our research, teaching, and support of the Integrative Conservation Ph.D. Program (ICON), we seek to emphasize the social and ecological trade-offs that are associated with managing complex systems and responding to contemporary environmental challenges, and to engage with policy and practitioner communities to support effective and equitable solutions to these trade-offs.

Kudos & Congratulations for the following achievements during the last year:** Alana Shaw and Karen Allen were both awarded NSF DDIGs; Graduate School Dean’s Awards in the Social Sciences went to Karen Allen, Dean Hardy, Levi Van Sant; Levi Van Sant also received an award from the Harvard History Project; Sara Heisel received a Field Research and Conservation grant from the St. Louis Zoo; Brian Crawford won 1st place and Tara Crawford won 3rd place PhD student presentation at the Warnell Graduate Student Symposium; Tara also won 1st place Student Presentation Award at the Wildlife Society Georgia Chapter Annual Meeting, Graduate School Innovative & Interdisciplinary Research Grants went to Jen DeMoss, Emily Horton, Jennifer Bloodgood, Katherine Brownson, Linda Kosen, and Steve Padgett-Vasquez; Steve Padgett-Vasquez is the recipient of the 2014 Ta Liang Memorial Award; "Acknowledging Trade-offs and Understanding Complexity: Exurbanization Issues in Macon County, North Carolina," by Richard Vercoe, Meredith Welch-Devine, Dean Hardy, Jen DeMoss, Shannon Bonney, Karen Allen, Pete Brosius, Brian Crawford, Sara Heisel, Nik Heynen, Rebeca De Jesus Crespo, Nate Nibbelink, Lowery Parker, Cathy Pringle, Alana Shaw, and Levi Van Sant, was published in Ecology and Society (Volume 19, Issue 1). Elizabeth King and Laura German were awarded an NSF-CNHI Exploratory Grant for their project “Pastoralism in Transition: Linking Localized Interactions and System Behavior to Evaluate Social-Ecological Vulnerability,” Ryan Unks will collaborate on this project and receive travel funds. Jillian Howard won 1st place for PhD research proposal presentation at the Warnell Graduate Student Symposium; Rebeca De Jesús Crespo received a Ford Foundation Dissertation Completion Fellowship; Emily Horton received a Tinker Foundation, Inc. Field Research Grant through UGA LACSI; Jon Hallemeier was awarded a Small Grant for Collaborative Problem Solving from the Anthropology and Environment Society; Rachel Bornmann won best poster at the Gopher Tortoise Council annual meeting and best student presentation at the SOFOR GIS conference; Adam Clause published five natural history articles in Herpetological Review (and was lead author on two of these); Walker Depuy was awarded a 2014 U.S. Department of State Critical Language Scholarship; a proposal by Joy Ganguly and Meredith Welch-Devine was accepted by the Willson Center for Humanities and Arts to bring Amanda Conchola to campus during fall 2014; Rachel Guy was the recipient of a NOAA/GA DNR Coastal Incentive Grant; Jessica Chappell won 3rd place for Proposed Dissertation Research Presentation at the Ecology Graduate Student Symposium; Caitlin Mertzluff, Linda Kosen, Hannah Burnett, Elizabeth Guinessey, Amy Nichols, Katherine Brownson, Jessica Chappell, Jillian Howard, Sebastian Ortiz, Jennifer Bloodgood, and Tara Crawford were featured the Franklin (TN) Press for their work with the Land Trust for the Little Tennessee River; and “A pedagogical model for integrative training in conservation and sustainability,” by Meredith Welch-Devine, Dean Hardy, Pete Brosius, and Nik Heynen, was published in Ecology and Society (Volume 19, Issue 2).**