Based on a competitive application process, each year the HERO program selects a diverse group of undergraduate students from a variety of programs across the country to be HERO Fellows. HERO values students who demonstrate energetic and inquisitive minds, and who are fearless when charting new intellectual territory. Previous course work in human or environmental geography—such as urban and population studies, GIS, landscape ecology, land-use planning, statistics, and remote sensing—is required. Evidence of outstanding scholarly and professional potential is essential, while there is no minimum GPA.

Because HERO is supported with NSF funds, you must be a US citizen or permanent resident of the United States or its possessions to participate, and you must take undergraduate classes at your institution in fall 2013. Women and minorities are encouraged to apply.

**TO APPLY:**
Visit hero.clarku.edu for an online application and instructions. Applications are due to HERO Admissions at heroadmissions@clarku.edu no later than Friday February 15, 2013.
This summer, the Human-Environment Regional Observatory (HERO), located at Clark University in Worcester, Massachusetts, offers an exciting opportunity for approximately 10 undergraduate students from institutions across the country to collaborate with experts conducting research at Clark University, Harvard Forest, and State Parks on the effects of the infestation and eradication of Asian Longhorned Beetle in Worcester County.

PROGRAM DESCRIPTION: This eight-week curriculum is sponsored by the U.S. National Science Foundation (NSF) through its Research Experiences for Undergraduates Site (REU Site) Fellowship program. HERO Fellows will analyze the causes and consequences of the Asian longhorned beetle (Anoplophora glabripennis), an invasive wood-boring insect that is a severe threat to both urban and ex-urban forests in New England. The Asian longhorned beetle (ALB) infestation of central Massachusetts occurs in a region characterized by a predominance of favorable host-species, a finely interconnected interface of urban-rural forests, and the presence of a competitive interaction at the federal-stakeholder-neighborhood level surrounding how the infestation should be treated and understood. As a result, this outbreak poses a greater stress on ecosystem services and response groups, ranging from federal/state resource managers to local residents, than any previous ALB-outbreak in other localities in the U.S. Unanswered questions abound regarding the social and ecological impacts of ALB. Each Fellow will be paired with 1 or more Clark faculty mentors and other researchers in one of two research streams below. Fellows will learn how to use and engage with several research methodologies, including landscape metrics, GIS, remote sensing, geostatistical modeling, and qualitative methods such as surveys, interviews, and focus groups.

RESEARCH AREAS:

HERO ENGAGES TWO MAIN AREAS OF RESEARCH:

- **Beetle Impact Assessment Stream** This stream will examine the biophysical impacts of spatial and temporal changes in tree cover composition in the ALB-infestation area. This stream will also evaluate impacts of ALB on forest diversity and cover at present and in the future.

- **The Place-Making Assessment Stream** This stream will assess stakeholder and policymaking responses to ALB impacts, including local and federal governments, non-profits, and residents. This stream will also evaluate ALB impacts by socio-economic status, race/ethnicity and management/governance regime.

The research will produce salient results to provide resources for practitioners and urban-rural communities experiencing changes associated with loss of urban forest; publications will be produced for both scholarly and stakeholder (e.g., USDA-APHIS, federal/state/municipal/community groups/selected officials) audiences. Undergraduate students will be integral in the implementation of established research design, and learning outcomes will be assessed using a proven methodology within HERO-MA.

HERO is a program offering undergraduates hands-on research experiences. The program has received competitive funding from various prestigious sources, including the National Science Foundation, National Oceanographic and Atmospheric Association, Moskowski Institute for Public Enterprise and O'Connor '78 Fund, and the Culpeper Foundation. The research conducted by HERO Fellows has often resulted in scholarly publications, presentations at scientific conferences and professional settings across the USA, and awards & honors.

Compensation: HERO Fellows are paid $4,500 for the eight weeks of full-time research, plus a substantial allowance for room and board. Transportation to Worcester, MA will be at the student's expense. Six of the students will be chosen to attend the April 2014 Association of American Geographers scholarly meeting in Tampa, Florida, to present their research to an audience of scholars and professionals.

“I learned just how complex it can be to tackle an issue involving multiple stakeholders and their perspectives of each other. Qualitative research has never been my strong suit conceptually, but I now have a handle on how I can formulate a research idea relevant to not only the scientific community, but the subjects as well.”

– HERO Fellow 2012

“The most important part of my research experience was learning how to effectively communicate with different project stakeholders and learning how to develop appropriate methodology to answer scientific questions.”

– HERO Fellow 2012

“I gained a broad range of research skills. This included how to gather background on the topic to provide a framework for the research question, develop the research questions, goals and methods, and carry out the research in a team setting.”

– HERO Fellow 2012

“The most important part of my research experience was putting together a presentation to give in a professional setting. It made us think about how to simply explain our research and I learned presenting skills that are invaluable to other aspects of my life.”

– HERO Fellow 2012