

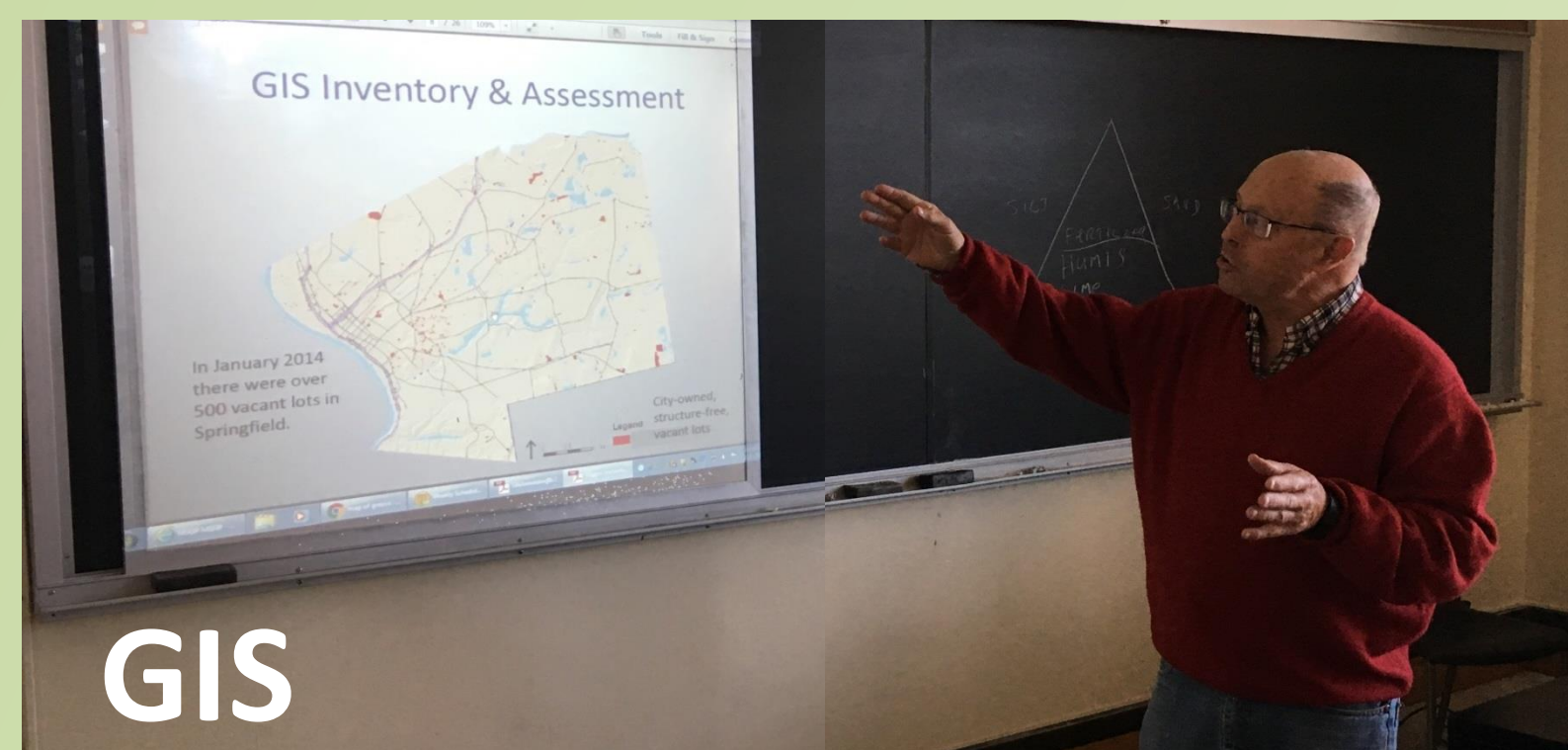
To increase minority participation and enrollment in STEM fields through Sustainability and Urban Ecology (SUE)

Goals

- Creating Learning Communities on campus through projects and activities.
- Stipends to reduce the need for commuting to off campus jobs.
- Proximity to the work place means more time spent on classwork.
- Increase knowledge of Sustainability and Urban Ecology a field of relevance to the urban community which our school serves.
- Using SUE to train students in laboratory, field, computational, and theoretical skills.
- It is also a way to recruit students in our fledgling SUE degree program.

Themes and Activities

- Education**
Charter School Idea, Flipped Classroom, Edtech Journal
- Biology**
Agriculture, Labs, Campus Garden, Journals, software
- Math-Engineering-Physics**
AutoCAD R, Journal (forthcoming) *Blackfilm.com*
- Social Science**
Urban Development.

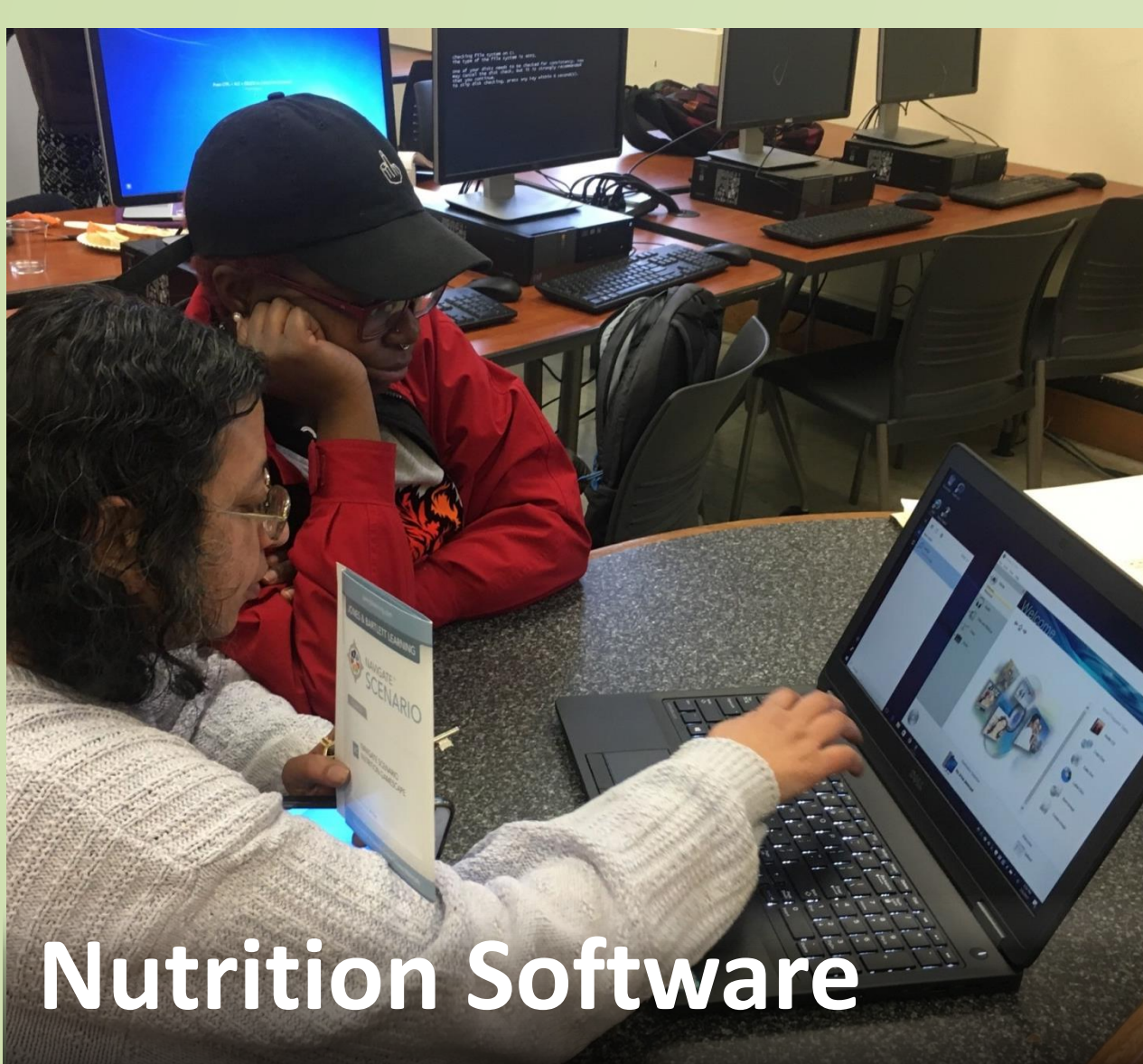


Faculty Presentations

Saturdays

- Dams and pollution
- Pollution and Dementia studies
- Sustainable fibers- banana silk, and pineapple leather.
- Food in the city- Available plots and GIS and Urban Agriculture impacts on health and economics.
- Overview of the program, black history talks, and activities.
- Sustainable Urban Environment and Friendly Plants.
- Pollution Reduction using Plants

- Dr. Kline-Cherry & Ms. Kyles-** Education-Charter Schools and Flipped Classrooms
- Dr. Kant-** Social Science and the environment: Tragedy of the commons- The Struggle to Govern the Commons, Academic versus popular articles.
- Dr. Podleski-** Math/Statistics Group-R
- Dr. Higgs –** GIS (Geographic Information System)
- Dr. Bashir -** Plant Science
- Dr. Bogler -** Mushrooms and Sustainability, Campus Garden plans.
- Mr. Jackson –** R Programming
- Dr. Balakrishna -** Reading, Autocad, R Programming
- Mr. Marango -** technical support.



Nutrition Software



Mushrooms and Sustainability



R Programming

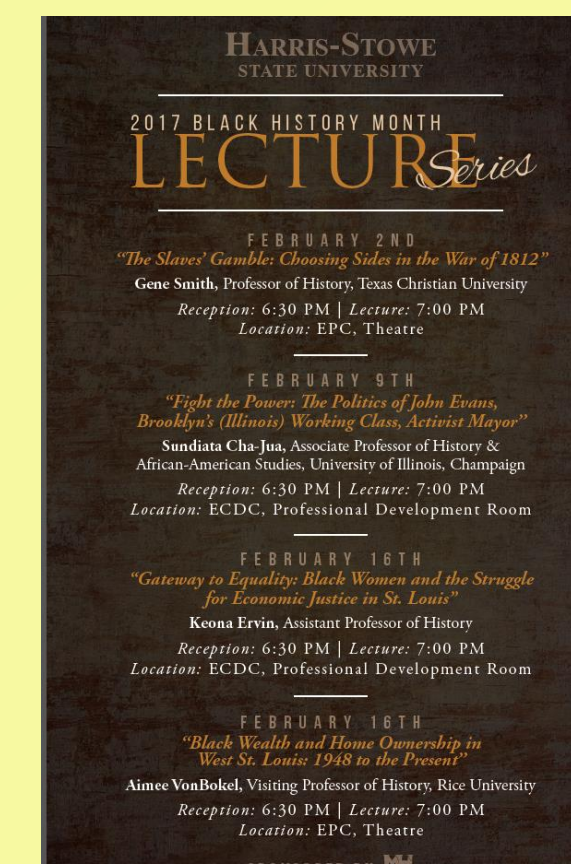
Other Presentations

- Dr. Bogler and Matt Evan (Outreach Management Gateway Greening): What it takes to start a campus garden.
- Dr. Bogler- Campus Garden- The where and wherewithal.
- Discussion Board Activities take place online based on the Saturday presentations.

Other Weekly Activities

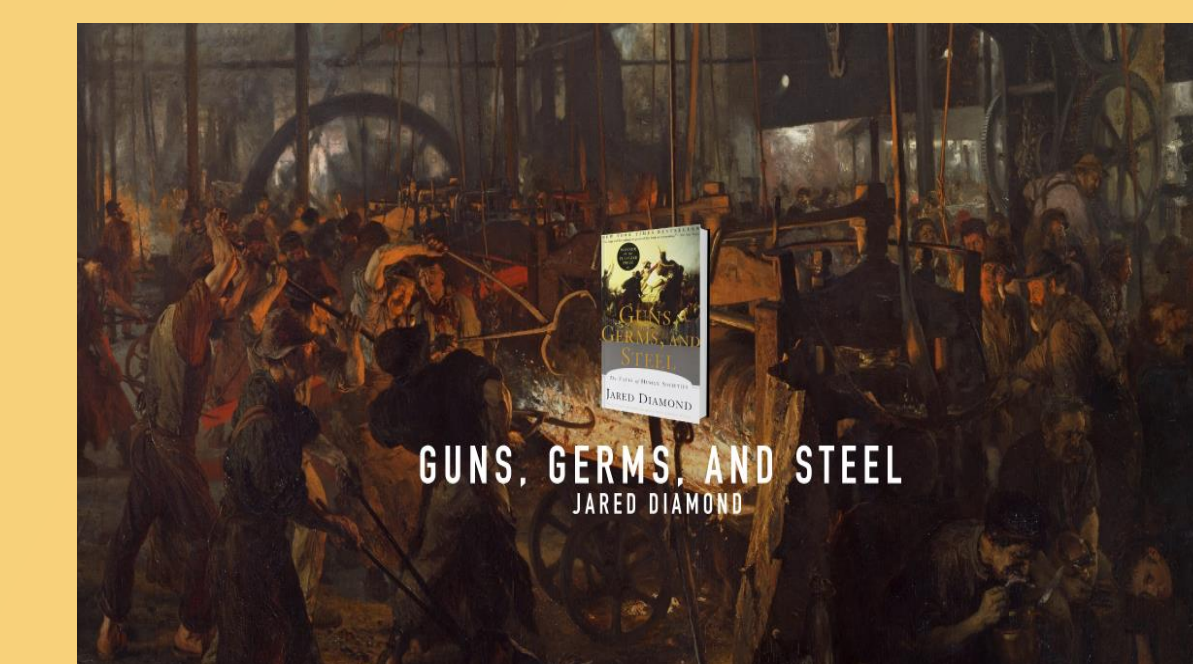
- Movies and Talks Hidden figures, Black history month talks.
- Reading, Discussions: Sustainability from educational, business, food, and social justice, and other perspectives.
- Saturday Presentations by faculty members.
- Visits: Operation Brightside, conferences.
- Discussions and readings members from the education, social science, and math-science departments.

Black History Month Talks



- **"The Slave's Gamble:** Choosing sides in the war of 1812 by Gene Allen Smith" The speaker was himself Gene Smith, History professor from Texas Christian University. In the 1812 war with a shortage of manpower some slaves took the gamble for freedom in exchange for fighting, some with the Americans, others for the British, Spanish, and Native American tribes.
- The book traces the destinies of some slaves. Eg. i)Bali a fugitive slave joined with the British, to find runaway and fugitive slaves, but ends up himself finally getting re-enslaved. ii)Ned Simmons a slave who joined the British Colonial Marines to win his freedom was later returned to the Americans with his weapons and rank being taken away.
- The war led to a redefinition of the relationship between blacks and whites in North America. Contributions of blacks to the war were minimized, White America became fearful of arming blacks, Northern states outlawed blacks, cotton field plantations in the South expanded and causing slavery to be more entrenched there.
- **"Fight the Power: The Politics of John Evans,** Brooklyn's (Illinois) Working Class, Activist Mayor" given by Sundiata Keita Cha-Jua, Associate Professor of African American Studies & history at Univ. of Illinois in Champaign Urbana.
- Brooklyn (Illinois) has become part of the metropolitan Saint Louis area. It is a black township founded by freed and fugitive slaves in 1830. It was distinctive as an antebellum (pre-civil war) township that survived into the twentieth century.
- This political clout did not translate economically with most jobs in the riverine industries, farming, and labor being in surrounding white settlements. Even with growth of industries, racism and racial discrimination led to exploitation. From 1886-1894 John Evans the first African American mayor led the movements for Black Power and promoted a "freedom conscious political culture"
- Other sources: <http://ir.uiowa.edu/cgi/viewcontent.cgi?article=10520&context=annals-of-iowa>; https://en.wikipedia.org/wiki/Brooklyn,_Illinois
- Keona K. Ervin a Saint Louisan who talked about the **struggle for economic justice by black women in Saint Louis.** Keona Ervin has a PhD from Washington University and teaches at UMColumbia.
- During the depression (1930s) when housing authorities decided to raise rents tenants in Saint Louis refused to pay rent, leading to negotiations of capping the rent and requiring maintenance and repairs to be done within a certain time. These economic justice and equality movements put Saint Louis on the map of the civil rights movement. This was a community based non-cooperation movement by black women from all walks of life.

- Aimee VonBokel: Visiting Professor of History Humanities Research Center Rice University* **Black Wealth and Home Ownership in West St. Louis: 1948 to the Present"**
- Most black St. Louisans are familiar with the history of redlining, "white flight," and the urban crisis. But who, exactly, is responsible for the racial and class segregation in St. Louis today?
- Black people faced difficulty purchasing property in the city, and were also blocked from moving west in search of home ownership Redlining and privately enforced covenants hardened the racial boundary between city and suburbs. While black families could not move across the border, their money travelled easily into the coffers of emergent white municipalities whose denizens collected rent from them.
- Professor VonBokel examines the life-cycle of one duplex north of Delmar. Purchased by her great grandfather in the 1920s, passed down to her grandfather in the 1940s, the house became a tool for transmitting wealth from an increasingly black city to the rapidly expanding white suburbs after the 1948 Shelley v. Kraemer ruling.



Guns, Germs, and Steel

The Fates of Human Societies (*How we got Urbanized*)

This book explores cultural development through geography. Agriculture and domestication of animals followed from the availability of plants and animals that could be domesticated (Not kangaroos and Oak trees) more than due to the availability of fertile lands and water.

GERMS: Agricultural societies developed immunity to disease through exposure to germs due to proximity to animals. Introduction of these germs into originally isolated populations decimated those populations.

STEEL: Giving up a hunter gather lifestyle and having a settled one led to the development of steel technology, and weapons used dominate the world.

An example: Two Polynesian tribes (the Maori and the Moriori were at peace until one tribe (agricultural that had developed weapons) decided to take over the land of the other because of the lack of food. The Moriori were hunter gatherers and were destroyed in a few weeks by the Maori.



Social Science Focus: An Example

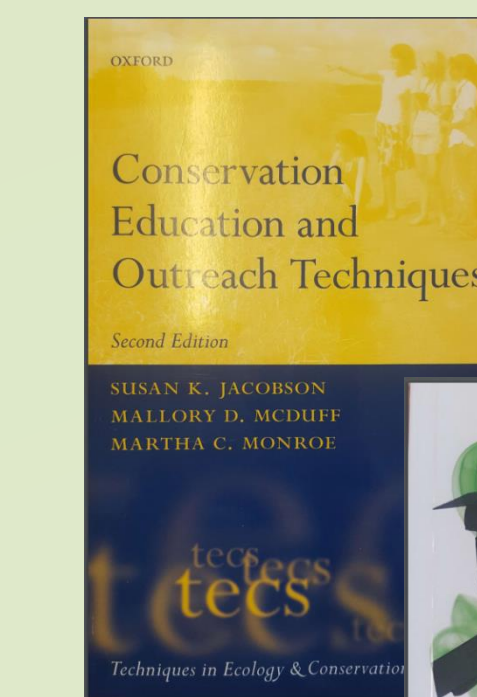
Tragedy of the Commons (shared Resources) by Garrett Hardin American ecologist & philosopher

- Neo-Malthusian "theory that population growth can easily outstrip food resources if not held in check."
- Hardin's First Law of Human Ecology
 - "We can never do merely just one thing. Any intrusion into nature has numerous effects, many of which are unpredictable."
- Member of End-of-Life Choices, belief in individuals choosing the time of their death.

- Though Hardin's work has been influential it has been criticized for its oversimplification.
- Hardin questioned the results of increasing population growth & it's effect on our resources. In the *Tragedy of the Commons*, Hardin wrote that, "The population problem has no technical solutions; it requires a fundamental extension in morality." Even such a solution may not work because selfish individuals who did not believe in that morality would then abuse resources without worrying about those effects on others.

The Struggle to Govern the Commons (Dietz, Ostrom, Stern) the authors wrote, " In the absence of effective governance institutions at the appropriate scale, natural resources and the environment are in peril from increasing human population". In essence, Hardin believed that we as individuals should take responsibility while Dietz, Ostrom & Stern thought that population should be governed.

Sustainability Education and Conservation Education Outreach: Sample Reading Jacinda Nielsen



- Techniques to help with outreach.
- Examples: Success stories from conservation educators around the world, that inspire creative thinking, and show how techniques can be applied in a variety of circumstances
- Provides guidelines for the planning, implementation, and evaluation processes enabling readers to implement their own new ideas.
- SUE is interdisciplinary & requires people to come together from different perspective for a single cause.
- Universities can make a major contribution towards a sustainable future by transforming curricula, teaching, and learning.
- The problems with introducing sustainability pedagogy into curricula because the word 'sustainability' comes with so many political implications.
- Universities have become places of such specialization that many academics do not explore interdisciplinary and transdisciplinary research.
- Sustainability education will require academics to figure out how sustainability fits into their field, how their field can contribute to sustainability, and looking at sustainability projects that have components in their field as well as others.



A conference that includes educators from other institutions, students, and other experts in different areas of conservation, is a great way to exchange ideas.

Any endeavor to live more sustainably must be done collectively if it is going to translate into any statistically significant reduction in the human carbon footprint.

There must be conversations between diverse groups of people to come up with solutions about how we build, travel, grow and deliver food.

- It is also important to create more jobs in the green sector. Meeting and learning from people who work in these areas, can open up service learning opportunities, and internships for students.



http://media.excerpt.nl/media/cache/uploaded_images/asset_image/Block_Scale_Annotated-NL_pure_image.jpg

The RESCUES (Research, Education, Science, Computation, Urban Ecology & Sustainability) TEAM

- Wesley Agee
- Jason Clemon
- Donna Hall
- Rickey Johnson
- Richard Kraka
- Brittney McFarland
- Jacinda Nielsen
- Robin Rayford
- Kweli Shotwell
- Iran Williams
- Sharetta Williams
- Tawana Williams