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Sustainability Tip
Did you know a Boston Fern can help purify the air in your room?
Pg 4



.....

Garden Update
MU Community Gardens is making great progress and could use your help. Pg 6



.....

Environmental
Discover just how much environmental justice truly encompasses. Pg 12

starts with Sustainability

University of Missouri

Volume 1
Issue 11
Sept. 2019

Promoting Public Green Building Literacy: A conversation with Assistant Professor Laura Cole

When stepping back a little, we can notice each building we come into contact with somehow plays a part in altering our planet and those who inhabit it. For example, LED bulbs in lighting fixtures are more energy efficient compared to halogen lighting. Windows within a classroom setting can improve test scores. ADA accessibility within buildings allow equal access for all.

According to research completed by MU's very own [Dr. Laura Cole](#), green buildings and green modifications to structures "can make significant contributions to solving energy and atmosphere challenges and will require an increasingly knowledgeable workforce to design, build and maintain."

Prior to completing research on green buildings and green building literacy, Dr. Cole graduated from MU with a degree in the same department she now teaches in: architectural studies. While her career path was not initially focused on sustainability, the firm she worked for upon graduation offered each employee the



opportunity to become a Leadership in Energy and Environmental Design (LEED) accredited professional. And as life would have it, the more Cole learned about LEED, the more fascinated she became with the energy and environmental design world.

Cole went on to earn her Ph.D. in Architecture and Natural Resources and Environment from the University of Michigan, where she began exploring the contributions of school

designs to environmental education. "I don't think a lot of people realize the impact buildings have on our environment in terms of material use, energy use, the resources, the light, the water, and so on," Cole said when describing why she became so passionate about this niche of architecture. "Everything courses through buildings and is at our fingertips to use and misuse."

In 2015, Cole joined MU full-

Improving the quality of life for occupants of a building, whether they are there for work, visiting or living, while reducing social and environmental impacts that the structure has on its community is what defines a green building.

time as an assistant professor of architectural studies and has since gone on to publish several research papers regarding the importance of green building education which is helping to shape how building designs and functions are used as part of the curriculum in K-12 settings (see [here](#)).

“In some ways, if I’m successful in the green building design fundamentals course (that I teach) it would be to open eyes just a little bit to the way the built environment shapes us and is shaped by us so that you can advocate for different practices,” Cole said. “You can be a better occupant of buildings if you’re more aware of the impact the buildings have on the environment.”

Throughout Cole’s graduate studies and career, her path has been shaped by how to best deliver “effective green building pedagogy and help foster green building literacy” for the public. As Cole explained, architects, engineers and designers receive “intense” green building training, but everyone else may be less familiar with why or how such building models are significant.

“One of my first pilot studies when I got to Mizzou was working with the Columbia Public School system to look at a sweet little green building over at Grant Elementary,” Cole said. “And we got in there to try to understand how

and if they use that green building to help advance classroom teaching.”

Cole’s research team hopes the pilot project provides evidence for funding a full blown energy literacy and green building curriculum that would help students use their school buildings to gain a better understanding of energy and to help the students learn how one little school building connects to the ecosystem and infrastructure as a whole.

“Typically when I’ve done my research along the way I’ve gotten shuffled into the science education, because everyone puts sustainability into science education, but clearly we get into the aesthetics of green,” Cole explained. “You can get into history and place-based learning, and all kinds of great things that kind of extend beyond the typical scientific way of thinking.”

Looking at her research work collectively, Cole said at first she was surprised by schools that had extremely green buildings but did not incorporate the structure’s design into learning opportunities for the students. However, as she conducted quantitative survey work and a photo project with students, as well as focus groups with teachers she realized how this problem of disconnect could occur.

“I collected data in a lot of different ways and it helped me understand there are barriers to using these tools (within the green buildings),” Cole said. “It’s like giving someone a really fancy piece of technology. If you don’t translate it and help give them curriculum and help them understand ‘how does your building work’ and then ‘how do you translate that to meet the assessment goals in your classroom’, if that gap isn’t getting filled then that disconnect will continue.”

As Cole continues her research within the community and teaching at the university, she hopes that disconnect will eventually cease to occur. She uses her talents to help provide as much aid and understanding to this area of sustainability because Cole recognizes the need and how her own skillset falls into solving environmental, economic and social issues as a whole.

“If we can improve knowledge of green building strategies and knowing how to act, to reduce resource use then we’re a step closer to solving those problems,” Cole said. “For me if I try to think too big picture I get overwhelmed and I feel I’m not achieving my goals. If I can put the boundaries a little closer I can make an achievable goal that fits into the bigger picture.”



Mizzou Green Buildings Education 101

1. MU uses Combined Cooling, Heat and Power (CCHP) technologies to produce steam, chilled water for cooling and electricity for the campus. The efficiency of this process is nearly twice that of conventional “electric only” power plants, reducing fuel use and emissions.
2. Most of MU’s renewable energy is sourced from regional biomass fuel, which is used to produce steam and electricity. MU’s biomass boiler uses more than 127,000 tons annually of biomass from regionally sourced biomass, mostly using wood residues from Missouri saw mills and wood product companies.
3. Plaza 900 has solar powered seating outside that has four outlet plugs and two USB ports which can help charge all of your electronics while still being eco-friendly.
4. MU is home to 5 platinum LEED buildings, 6 gold LEED buildings, 1 silver LEED building and 2 certified LEED buildings. This includes Blueford, Johnston, Wolpers and Brooks Residence Halls!

Looking to Learn More?

- ▲ [ARCHST 2323 Sustainable Building Design](#) online course with Laura Cole
- ▲ [ARCHST 4323 Sustainable Technologies and Systems](#) on-campus course with Michael Goldschmidt
- ▲ Env_Sc 2600 Sustainability Foundations: An introduction to sustainability on-campus course with Damon Hall
- ▲ Book: [Eaarth by Bill McKibben](#)
- ▲ Website: www.350.org
- ▲ Additional Courses: A full list of MU sustainability-focused courses and programs [can be found here](#).



“Being green is more than just buying ‘eco’. It is an unshakable commitment to a sustainable lifestyle.”

– Jennifer Nini, writer and activist

Tips and tricks for Greening Up Your Living Space

Brock Andreasen

Initially, we may think it can be hard for those of us living either in a rental house, apartment or dorm to have much of a say over the sustainability of our living space. However, here are some tips that can help get you started on “greening” up your dorm, apartment, or home!

1. Don't let your efforts of being sustainable tumble

and dry up! Using a drying rack saves a significant amount of energy that otherwise heats and turns your clothes in a dryer.

In the summer, running a dryer can also heat your place. This in turn makes your A/C unit work harder; using even more electricity! Plus it's better for the fabric if you dry the pieces on a rack!

2. Transform your room into an indoor garden! Adding plants not only automatically makes your dwelling look way less sad, but plants also help to naturally filter the air - improving indoor air quality for you, your roommates and your pets. A couple examples of plants that excel at purifying the air are the Boston Fern and the bamboo palm.

3. Use power strips with an on/off switch! By plugging your electronics into power strips and turning them off when not in use, you save energy and money. This is because items plugged into an outlet will continue to draw electricity even when not actively in use (Also known as “vampire power” or “phantom energy”).

4. Invest in a solar powered battery charger! The price of these devices has dropped drastically and can be a great step toward green energy independence! Most solar powered battery

chargers can be purchased for around \$50 on Amazon and have USB ports to charge your phone or wireless headphones.

5. Check for leaky showers and sinks! Don't drip drop your sustainability gains away. If you live in a dorm, contact maintenance immediately to have the faucet repaired. If you live off-campus, go to your leasing office and let them know about the issue as soon as you notice it. A leaky faucet can waste more than 3,000 gallons of water per year! ●





University of Missouri Community Gardens Update

Dan Yuhasz

August 29, 2019 – Welcome to all of the new and returning students, faculty, staff and other members of the Mizzou campus community!

We are excited to announce the Henry Kirklin Community Garden is in its first-ever growing season and is open to anyone who wants to participate in the various aspects of gardening or orcharding.

There are volunteer opportunities to help maintain and beautify the garden whether you'd like to help by yourself or as part of a team.

Reserve a Raised Bed

If you're a club, organization, office, department or MU student, staff or faculty member who would like to reserve an area for a raised bed please let us know. It is not too late to plant something for the late summer growing season.

The garden is open throughout the week for individuals who would like to maintain their beds and we already have had some students begin to reserve and maintain their raised beds throughout the summer.

The Henry Kirklin MU Community Garden is located on campus at the old University Village Apartments, just south of the MKT Trail at Providence Road.

Help with Current Efforts

So far we have planted elderberries, plums, persimmons, okra, tomatoes, basil, tomatillos, lettuce and calendula.

Landscape Services is currently completing the installation of an 8-foot high deer fence. This important addition should eliminate all of the damage

caused by both the deer and the groundhogs, which will make our future gardening efforts much more fruitful.

The garden will be open for tours and volunteering every Saturday during September beginning at 12 p.m.

We could use help with weeding, raking, planting and general upkeep of the current items we've got in the ground so far, so drop on in the Saturdays when you can!

Come out to Relax Between Classes

In addition, the garden has a beautiful new shed where we store a wide variety of tools and seeds, plus garden furniture.

We have added comfortable patio chairs and a shade canopy which is perfect for enjoying the fall weather

and watching the wildlife we have out at our garden.

We invite you out to relax and rejuvenate at the Henry Kirklin location in between classes or as a great way to wrap up the day.

MU Garden Background

The Henry Kirklin Garden is the first garden planned for the larger George Washington Carver Community Garden Project at Mizzou.

The Annie Fisher Garden is still being planned for the Tara Apartments and has yet to break ground.

Overall, the George Washington Carver Community Gardens project sheds light on the injustices that persist, not just in our food system, but throughout our society. We welcome input and collaboration from students, staff, faculty and community members as we continue to make the MU gardens all that they can be.

For More Information

If you are interested in visiting the garden or participating in any other way, please let us know.

The George Washington Carver Community Garden Project is coordinated by Mizzou Botanic Garden's Dan Yuhasz. He can be contacted at dfy7dk@mail.missouri.edu or via the George Washington Carver Project on Facebook.



RIGHT: A small portion of the Henry Kirklin Garden where eggplant, basil and rosemary are featured (Photo by Dan Yuhasz).





Beginner's Guide to Thrifting in Columbia

Zoë Westhoff

Whether you are new to Columbia or just never dived in deep to the thrifting scene, here is your go-to list for second hand shopping. Thrifting is good for the environment and it's good for your wallet.

The Wardrobe

715 Park Ave
Closes Early
Average Price: Low
Bonus Info: Gives vouchers from

social services & churches to provide free clothing to low income people.

The Love Seat

19 Business Loop 70 E
Closes Early
Average Price: Low-Medium
Bonus Info: Profits go to organizations dedicated to guiding people out of poverty. They also do free large item pickup so you don't have to send your good, used furniture to the landfill!

New Beginning Consignment Clothing

7 S 10th St.
Open Later
Average Price: Low-Medium
Bonus Info: Great sales and discounts for almost everyone. Good vintage selection.

Maude Vintage Clothing & Costumes

818 E Broadway
Open Late

Average Price: Medium - High
Bonus Info: Great if you're looking for specific vintage items or fun pieces to add to your wardrobe.

Goodwill

507 E Nifong Blvd
Open Late
Average Price: Low - Medium
Bonus Info: More of a retail store that dabbles in community involvement.

Salvation Army Family Store

1304 Parkade Blvd
Closes Early
Average Price: Low-Medium
Bonus Info: Has more of a retail store vibe with slight community involvement. Has different styles

and options in comparison to the Walnut location.

Salvation Army Red Shield Stores

23 E Walnut St.
Closes Early
Average Price: Low-Medium
Bonus Info: Has more of a retail store vibe with community involvement as well. Different than the Parkade location.

Plato's Closet

2609 E Broadway
Open Latest
Average Price: Medium-High
Bonus Info: Good for making a quick buck for your donations and good for shopping for specific name

brands as well.

Leo's Old Clothes

9 N 9th St.
Open Later (Closes at diff. times)
Average Price: Medium
Bonus Info: There is a cat that you can pet at the store. The store itself may be hard to find, so look out for a tiny door.

Consign & Design

9 N 10th St.
Closes Early
Average Price: Medium-High
Bonus Info: Perfect for buying and selling high-end, luxury brands.

UNIVERSITY OF MISSOURI SURPLUS PROPERTY

1507 CAPEN PARK DR
COLUMBIA, MISSOURI

7:30 A.M. TO 4 P.M.
CLICK HERE FOR MORE INFO

DONATE, SHOP, PARTICIPATE IN AUCTIONS

Campus & Community Events

Find a sustainability-focused event that piques your interest and helps you become more involved in your area.

Sept. 5, 10 a.m. - 2 p.m.



Campus Farmers' Market
Support local businesses this fall and stop by the Campus Farmers' Market between 10 a.m. and 2 p.m. on Thursday, Sept. 5 and Sept. 19, located in Lowry Mall. Our vendors will have you covered for breakfast AND lunch, with food items including stir-fry, fresh-grilled hamburgers and banana bread. After you grab some yummy food, our newest vendors can also help you update your dwelling/office with plants, art and retro finds.

[Lowry Mall, Cost varies](#)

Sept. 7, 8 a.m. - 12 p.m.



Columbia Farmers Market
The mission of the Columbia Farmers Market is to provide both the local farmer and consumer a reliable, regulated marketplace for the direct exchange of high quality and safe food. By facilitating such commerce the market strives to meet the needs of the local consumer while encouraging sustainable agriculture in mid-Missouri.

[1769 W Ash Street, FREE](#)

Sept. 13, 4 p.m. - 8 p.m.



Share the Load of Mental Health
The Mental Health Committee is proud to re-announce the Share the Load of Mental Health event on Friday, September 13 from 5pm to 8pm at Logboat Brewery. We will have vendors providing education and awareness on mental health issues, a weight lifting exhibition, music & entertainment, and activities for children and families, all in a friendly social setting.

[Logboat Brewing, FREE](#)

Sept. 14, 8 a.m. - 12 p.m.



Columbia Farmers Market
The mission of the Columbia Farmers Market is to provide both the local farmer and consumer a reliable, regulated marketplace for the direct exchange of high quality and safe food. By facilitating such commerce the market strives to meet the needs of the local consumer while encouraging sustainable agriculture in mid-Missouri.

[1769 W Ash Street, FREE](#)

Sept. 7, Times Will Vary



Tiger Tailgate Recycling
Are you interested in helping the environment AND attending an MU home football game for free? Students, staff, faculty and community members who are interested in this volunteer opportunity will visit tailgating lots to pass out recycling bags to fans and have interactions about environmental awareness. View shift times and locations on our website.

[MU Sustainability Office, FREE](#)

Sept. 13, 4 p.m. - 6 p.m.



Shyrocks Farm Corn Maze
The 2019 Corn Maze is a tribute and celebration of the beautiful landmarks across the United States! Make plans now to come out to the opening day of the farm to enjoy our life-size corn maze, Fun Barn playground, group hayrides, roaring campfires, pumpkins, and the famous gumball coaster!

[Shyrocks Callaway Farms, Cost varies](#)

Sept. 13, 6 p.m. - 8 p.m.



Moon Festival
Celebrate family and friends by sharing an evening together. Bring your lawn chairs or blankets and a picnic, if you like, to Peace Park. The MU Confucius Institute will perform Chinese dance and music, and end the festivities by sharing moon cake under the full moon.

[Mizzou Peace Park, FREE](#)

Sept. 14, Times Will Vary



Tiger Tailgate Recycling
Are you interested in helping the environment AND attending an MU home football game for free? Students, staff, faculty and community members who are interested in this volunteer opportunity will visit tailgating lots to pass out recycling bags to fans and have interactions about environmental awareness. View shift times and locations on our website.

[MU Sustainability Office, FREE](#)

Sept. 14, 11 a.m. - 12 p.m.



Tee-2-Tote
Does your favorite old t-shirt need some sprucing up? Bring it along to our MU Family Weekend Event: Tee-2-Tote and turn it into a tote bag that you can use for grocery shopping, classes, events and so much more! It's a quick and simple crafting project that can help open up the door to more repurposing projects in the future. We will supply the necessary tools to turn your tee into a tote so all you need to supply is the shirt! This event is free and open to students and/or their families.

[MU Sustainability Office, FREE](#)

Sept. 17, 6 p.m. - 8 p.m.



Recycling Training
Volunteer Recycling Ambassadors promote waste reduction, reuse, and recycling. Trainees are asked to share a minimum of 12 hours a year promoting recycling. Opportunities include staffing education booths, community outreach projects, giving presentations, assisting with waste audits and education events.

[1701 W. Ash Street, FREE but registration required](#)

Sept. 19, 6 p.m. - 9 p.m.



The Africa Film Series: Film Screening of The Boy Who Harnessed
MU African Interdisciplinary Studies Hub presents a free screening of *The Boy Who Harnessed the Wind*, which is about William, the young inventor who brought electricity to his Malawian village. When a drought struck William Kamkwamba's tiny village in Malawi, his family lost all of the season's crops, leaving them with nothing to eat and nothing to sell. William began to explore science books in his village library, looking for a solution.

[Jessie Wrench Auditorium, FREE](#)

Sept. 19, 10 a.m. - 2 p.m.



Campus Farmers' Market
Support local businesses this fall and stop by the Campus Farmers' Market between 10 a.m. and 2 p.m. on Thursday, Sept. 5 and Sept. 19, located in Lowry Mall. Our vendors will have you covered for breakfast AND lunch, with food items including stir-fry, fresh-grilled hamburgers and banana bread. After you grab some yummy food, our newest vendors can also help you update your dwelling/office with plants, art and retro finds.

[Lowry Mall, Cost varies](#)

Sept. 21, Times Will Vary



Tiger Tailgate Recycling
Are you interested in helping the environment AND attending an MU home football game for free? Students, staff, faculty and community members who are interested in this volunteer opportunity will visit tailgating lots to pass out recycling bags to fans and have interactions about environmental awareness. View shift times and locations on our website.

[MU Sustainability Office, FREE](#)

Earn a Green Volunteer List Certificate This Semester

The MU Sustainability Green Volunteer List was established in the fall of 2019 to recognize University of Missouri students who dedicated a set amount of volunteer hours each semester to making their campus and community a more sustainable place to live.

To be eligible for the Green Volunteer List in a given fall or spring semester, a student must meet the following requirements:

- Gold – Volunteer dedicated 20 hours or more this semester helping their campus and Columbia community.
- Silver – Volunteer dedicated 11 hours to 19 hours this semester helping their campus and Columbia community.
- Bronze – Volunteer dedicated 10 hours or less to helping their campus and Columbia community.

Activities on this calendar are included! For more information and to see what other activities are all included please visit our website.



Environmental Justice:

It's about more than just the environment

Sydney Schack

Sustainability efforts and discussions can sometimes be guilty of being too focused on the environment. This critique might seem counterintuitive to the main mission of sustainability, to make sure those on this planet can all have equal access to resources without compromising the ability of future generations to access those same resources.

And in many ways, this critique is counterintuitive, especially in a world where climate change and environmental issues are so dire. Floods, droughts, and other climate

change related natural disasters are becoming more frequent and causing more harm.

However, when we narrow the sustainability lens to focus only on the environment, we are then only focusing on the symptoms. When doing so, we then ignore the social and economic conditions that cause environmental consequences.

We can sometimes miss the real cause of an issue by misinterpreting the issue to be solely environmental. The water crisis in Flint, Michigan is an

example of this. We think of this terrible story in the context of the environment, that the people there do not have access to clean water. However, we should be focusing on what led to the city switching to a contaminated water source to begin with.

When major car companies closed factories in the area in 2011, the city of Flint Michigan went into major debt. The people who could afford to were able to move out of the area to find other jobs. In fact, Flint lost about half its population according to reports, such as [Vox](#).

The city went bankrupt, and to save money, the city decided to stop buying water from Detroit and switch to a regional water system instead.

The Public Health crisis that happened in Flint can be looked at as an issue of environmental justice. The Environmental Protection Agency defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” ([EPA](#)).

Like those who suffered the worst in Flint water crisis, in matters of environmental justice, the people who suffer the worst from

environmental problems are not usually the people who are causing the problems to begin with.

People having the power to make decisions that they do not suffer the ramifications of is not a concept unique to environmental justice. The hypocrisy of power is an unfortunate universal truth. However, what environmental justice seeks to do is understand the specifics about how this concept creates climate consequences that then affect large bodies of disenfranchised people.

The current risks that rising sea levels pose to low-lying islands is another situation to which we can apply an environmental justice analysis. Many of these islands lie in the Pacific and Indian oceans. According to USA Today, “one of the biggest concerns is the Republic of the Marshall Islands, which has more than 1,100 low-lying islands and is home to numerous island nations and hundreds of thousands of people” ([USA Today](#)).

As sea levels continue to rise, these communities risk flooding, contamination of fresh water sources and other issues, leading ultimately to uninhabitability.

The hundreds of thousands of people living in these island communities are not the ones contributing to CO2 emissions in the same way industrialized nations do. However, the people on these islands are suffering the worst of the consequences. What's worse is most of the industrialized nations that contribute to these rising sea levels do not have the immigration policies to accommodate people

displaced due to climate change.

We can also use environmental justice to look at the sustainable inequality of people in the United States. Cities and other urban areas are the clearest examples of drastically unfair conditions. Within just a few blocks of any city in the United States you can find drastically different living conditions for the people there. Wealthier areas have healthier food options, more green spaces and are often away from the biggest carbon emitting sources in the city (factories, freeways, etc.).

On the other hand, the parts that are poorer and more diverse are often in food deserts, higher pollution rates and overall poorer public health. The people living in the poorer areas of the cities suffer the most from CO2 emissions, but they are not the people producing them, all because they cannot afford to live somewhere else. This goes back to my earlier point with Flint, Michigan.

Environmental justice gives us all a way to look at the world through a sustainable lens as well as understand the intersectionality of all three sects of sustainability: economic, social and environmental.

When we look at sustainability beyond just its typical environmental constructs, we can begin to see the full picture. And if we have any hope of solving any of these issues, we need to be able to fully understand what is causing the problem in the first place. ●



MU Sustainability's Bike Resource Center strives to make bicycles a safe and affordable option for commuting, to reduce environmental impact through the use of non-motorized transportation and to encourage personal health through exercise. With that said, the Bike Resource Center helps repair MU student bikes throughout the year, FREE of charge, to keep them going strong. Visit our [website](#) for times and location.

 **Sustainability**
University of Missouri

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Columbia, MO 65211

   sustainability.missouri.edu

