

iSEE QUARTERLY REPORT: SPRING 2023

Greetings, Colleagues!

Our Spring iSEE Quarterly (iQ) is chock full of major news from the Institute on our research, education/outreach, and campus sustainability missions.

The biggest news of all came in mid-March, when the U.S. Department of Energy renewed the iSEE- and IGB-led Center for Advanced Bioenergy and Bioproducts Innovation (CABBI) for five more years and \$147.5M! One of the world's major challenges is to provide sustainable sources of energy that meet societal needs as the population continues to grow, and the University of Illinois Urbana-Champaign is uniquely qualified to help lead that challenge along with its 20 partner institutions nationwide. [Read the full news release.](#)

Here is more from the past few months:

IN RESEARCH

- iSEE's [RFP for \\$300k low-carbon transportation solutions research](#) received 11 applicant teams, and a May 8 workshop allowed interested participants to discuss team building and future directions.
- Two [Campus as a Living Laboratory](#) projects earned [seed funding](#) this spring: a computer-modeled classification of waste (and eventual automated sorting); and a study of automating high tunnel urban farming. More recently, the high tunnel project received a [\\$975,000 grant from USDA NIFA](#) to supplement iSEE seed funding.
- iSEE Affiliate Jonathan Coppess outlined a new College of ACES/iSEE Agricultural Policy Design Center in an article for [FarmDoc Daily](#).
- From the Agroecosystem Sustainability Center and [SMARTFARM project](#):
 - Team members earned a [\\$650k grant](#) to study (from space) tillage effects on yields, emissions, and nutrient loss.
 - Team members published a [paper](#) on cover cropping effects and the tradeoffs between soil organic carbon benefits and row crop yields.
 - View a [video](#) on one SMARTFARM team making unprecedented field measurements.
 - Team members published papers on [accurately mapping tilled land](#), as well as [predicting nitrogen drainage under various management scenarios](#).
 - Lead Investigator Kaiyu Guan earned [GroundBreaker Prize](#) and was featured in [AgFunderNews](#) in a Q&A discussing ag technology.
- From the [Leverhulme Centre for Climate Change Mitigation](#):
 - LC3M launched [RockFACE](#) at Illinois; read U of I student Megan Allen's [blog post](#) about it.
- From [I-GUIDE](#):
 - The Center was featured in [Directions Magazine](#).
 - Read a [feature](#) on Pranjali Borse, a U of I graduate student who applies her civil engineering lens to climate change and sustainability.
- From the [SCAPES agrivoltaics project](#):
 - Check out the new [overview video](#).
 - Planting at the U of I's Solar Farm 2.0 started this month!
 - Team members earned a [Reimagine our Future prize](#).
 - Arizona researchers received a [\\$1.2M funding boost](#).



- From the [Illinois Regenerative Agriculture Initiative](#):
 - Read about a seed-funded Basil Harvest project: [The Microbiome Connecting Thread](#).
- From [CABBI](#):
 - Director Andrew Leakey [answered 17 questions](#) during Earth Week for The Science Coalition.
 - CABBI was part of a multi-Bioenergy Research Center [study](#) on the leaf microbiome in miscanthus fields, and the Center published a [paper](#) from all three of its themes on a new wastewater process for enhancing biorefineries.
 - Check out media coverage on the five year, \$147.5M renewal from [The News-Gazette](#), [Illinois Public Media](#), and [WAND-TV](#) as well as regional and national sites like [Crain's Chicago Business](#), [FarmWeek Now](#), and [Yahoo News](#).
 - Read a [feature](#) on new Conversion Co-PI Melanie McReynolds and Penn State.
 - CABBI's Ernst Cebert and Xianyan Kuang were featured prominently in a new article from [Southern Science](#) about Alabama A&M University's contributions to ag and climate science.
- From the [Illinois Geothermal Coalition](#):
 - Team members [installed a geothermal battery on the Energy Farm](#).
 - IGC published a white paper on [geothermal in the Midwest](#).
- From the [Energy-Enhancing FEWS project](#):
 - Conversion of manure into asphalt binders and fuel was featured on Chicago's [WGN Radio](#).
- [Seed-funded project updates](#):
 - Graduate students on the Next-Gen Model for Urban Sustainability project led by Lei Zhao received the [Andrew Slater Award](#) from the U.S. National Center for Atmospheric Research. iSEE seed funding also partly funded three new papers by project members in [Nature](#), [Environmental Research Letters](#), and [Journal of Hydrology](#).
 - An iSEE project led by Xiao Su recently published a study in [Nature Communications](#) that demonstrates energy-efficient capture and conversion of nitrate pollutants into ammonia.
- The new [iCOVER](#) grant was covered in [Farmweek Now](#) and [MorningAgClips](#).
- Meet [Heidi Leerkamp](#), new iSEE Proposal Development Lead.

IN EDUCATION & OUTREACH

- ISEE published two videos about the [Sustainability, Energy and Environment Fellows Program](#): one [recruiting students](#) for our campuswide honors minor; the other featuring Busey Bank and Tovala to [recruit partners](#) for research projects in our capstone course.
- [Congress 2023](#) drew 320 attendees over two keynotes and four panel sessions. Coming soon: A [Critical Conversation on climate-smart commodities in Fall '23](#).
- [CEW and Q Magazine](#), which published Volume 5, Issue 2 this spring, recently opened the annual Janelle Joseph Environmental [Writing Contest](#) for all undergraduate students.
- [The Spring 2023 Environmental Leadership Program](#) featured 25 students who proposed policies in Springfield and to local city councils; read five entries our [blog](#) by a student cohort member.
- Levenick Teaching Fellow [Samantha Lindgren](#) taught the course she developed, EPOL 471, a second time this spring.

IN CAMPUS SUSTAINABILITY

- During [EARTH MONTH](#), ISEE and partners' events drew: 75 volunteers for a trash pickup that totaled 160 pounds of waste and recycling; 71 participants in our [Energy Conservation Challenge](#); 40 at "Kindness Rocks" on the Quad; 92 at our clothing swap; and 75 at the Green Globes ceremony to honor student groups. Green Quad Day attracted more than 40 environmental organizations visiting with hundreds of students about sustainability opportunities.
- Our popular [Illini Lights Out](#) program drew record numbers over 10 dates during 2022-23: 1,450+ volunteers flipping off 42,574 bulbs in as many as 38 campus buildings, saving as much as 73,400 kwh and \$6,477 — and averting up to 47 tons of GHG — over those weekends!
- ISEE Associate Director Jennifer Fraterrigo visited the [White House](#) this spring to discuss sustainability; a University Birmingham contingent [visited Illinois](#) as part of exchange of decarbonizing ideas, and we returned the visit this month.
- Greener Campus updates: 1 [office](#), 3 [chapters](#), and 26 [events](#) were certified this spring.
- Records were set at the [Zero Waste basketball game](#) March 2: 92 students collected 1,280 pounds of recycling (28% diversion) — 340 lbs aluminum, 500 plastic, 440 mixed material. COMING IN FALL: A ZW football tailgating effort.
- Read our features on the [20th anniversary of the campus green fund](#); [Arbor Day and campus tree efforts](#); the [Sidney Lu Mechanical Engineering Building](#) (numerous sustainable attributes); and a [Q&A](#) with new Zero Waste Coordinator Daphne Hulse.