Learn, share, explore and INNOVATE

April 15 & 16, 2013 @ DoubleTree by Hilton, Bethesda, MD

Pre-conference Workshop – April 14
Post-conference Workshop – April 16
Welcome to the 8th annual Smart and Sustainable Campuses Conference! The University of Maryland is proud to continue to host this conference with support from several associations, corporate representatives, and campus partners.

This year, the conference is being held in Bethesda, Maryland, home to the National Institutes of Health and the Walter Reed National Military Medical Center. Bethesda is a community that has undergone dramatic change since the 1970’s when it was a quiet bedroom suburb of Washington, D.C. Through concerted smart growth planning, Bethesda has become a vibrant community filled with restaurants and businesses that both reflect mixed-use development in some areas while retaining community neighborhoods in others. The suburb is an engine of economic vitality and a highly desirable place to live for young professionals and families alike.

This is the first year the Smart and Sustainable Campuses Conference is being held at a location other than the University of Maryland. The location was selected to give conference attendees the opportunity to enjoy a different venue with walkable amenities. Similarly, next year’s conference, scheduled for March 3-4, 2014, will be held at Baltimore’s Inner Harbor, an extremely successful smart growth redevelopment that has received accolades and become a destination boasting entertainment, culture, and vibrant public spaces.

The theme of this year’s conference is—“Learn, Share, Explore and Innovate.” Our host community of Bethesda and, next year, Baltimore reflect this theme and showcase successful urban redevelopment. These communities required bold visions, extensive collaboration and innovative solutions to become the models of new urbanism they are today.

Colleges and universities are also incubators of innovation and are often the birthplaces for new ideas that transform communities near and far. Sustainability efforts on our campuses promote shared learning, research, and innovation to solve the challenges we face today and tomorrow. We understand that innovation over the past 50 years has dramatically changed our lives and its continuance is essential if we are to mitigate and adapt to climate change and a growing world population.

Equally challenging is the need to ensure our students graduate with a depth of knowledge in global environmental challenges and understand their direct connection to social justice, economic vitality and public health. Many of us are asking, “how can colleges and universities best provide the blend of teaching and student experience to ensure the next generation is prepared to meet our challenges?”

To find answers, we must learn from each other, as well as our counterparts in public agencies and private companies who are investing in sustainability efforts and creating the critical “green” jobs our students will seek. Molding a future work force that understands complex sustainability challenges will require collaboration and innovation in itself. Higher education institutions, along with public and private organizations, need to share and learn from each other in pursuit of this goal. The Smart and Sustainable Campuses Conference is designed to provide a venue that celebrates the accomplishments of others because it pushes us to imagine our own.

The Program Committee thanks you for joining us to learn, share, explore and innovate. We hope this event provides you valuable connections, ideas, processes and skills that can enrich your campus community and lead us down the path to a more sustainable and resilient future.
A Carbon Neutral Conference

For the sixth consecutive year, the conference is carbon neutral. Thanks to a generous contribution from Washington Gas Energy Services (WGES), estimated greenhouse gas emissions from air travel, vehicle travel, hotel stays, energy use, landfilled waste and paper use have been balanced to zero with WGES CleanSteps® Carbon Offsets.

In partnership with WGES, one of the largest energy suppliers in the Mid-Atlantic region, the conference is offsetting 54 tons of greenhouse gas emissions and contributing funds to new clean air and water projects managed by the Chesapeake Bay Foundation, an independent organization that works to restore and protect the ecological health of the Chesapeake Bay and its tributary rivers. WGES CleanSteps® Carbon Offsets have a global environmental impact by reducing greenhouse gas emissions, a local environmental impact by contributing to the health of the Chesapeake Bay Watershed, and a local economic impact by supporting offset projects in the Mid-Atlantic region. This year’s offsets were generated by taking trucks off highways in the Chesapeake Bay region and moving them via rail instead, and preventing the release of methane from a landfill near Ocean City, Maryland. WGES carbon offsets also support multiple agricultural and horticultural projects that are aimed not only at creating greenhouse gas emission reductions but also reducing pollution in the Chesapeake Bay. To put the conference’s carbon offsets in perspective, reducing 54 tons of greenhouse gas emissions is like:

- Taking 10 passenger vehicles off the road for a year;
- Converting more than 6 average homes to renewable power for a year;
- Planting 225 trees in a typical Maryland urban forest; or
- Removing 60 tons of food scraps from the landfill and composting it.

Table of Contents

Bethesda Map..........................2
Sustainability.........................3
Exhibit Hall Map......................4
Conference Notes....................4
Hotel Floorplan.......................5
Keynote and Plenary Speakers........6-7
Conference At-A-Glance...........8
Poster Session.......................9
Concurrent Sessions At-A-Glance...10-11
Monday Session Descriptions.......12-20
Tuesday Session Descriptions.....21-25

This program is printed on FSC-certified paper that is made of 100% post-consumer waste.
Hop on and off the Bethesda Circulator (route is indicated in red) on your way to and from shops, theatres, restaurants, parking garages and metro. All of your favorite downtown Bethesda destinations are on or close to our route. The Bethesda Circulator is always free!

Downtown Bethesda’s restaurant community showcases diverse cuisine from around the world. Whether you’re looking for a deli, bakery, sushi or fine American cuisine, Bethesda’s nearly 200 restaurants are sure to deliver a delectable dining experience.

To find out more, visit www.bethesda.org
The DoubleTree by Hilton—Helping Reduce our Footprint

The DoubleTree by Hilton Hotel & Executive Meeting Center Bethesda is recognized as a Gold Tier participant in the International Association of Conference Centres (IACC) Green Star program, which means that the DoubleTree has achieved 85 percent of IACC’s Code of Sustainability. The DoubleTree’s green practices include:

- Energy conservation measures and use of 100 percent wind power
- Waste reduction measures including bulk toiletries, reduced paper use, and recycling collection
- Water conserving fixtures on showers, toilets and sinks
- Sustainable food procurement including locally grown and/or certifications
- Green cleaning practices

Supporting the Local Farming Community

Working to ensure our meals are sourced from the local farming community can sometimes be a challenge. Our smart and sustainable hats are off to the DoubleTree by Hilton for making our jobs easier this year.

The Chef has been working with local suppliers to ensure that our nourishment during the workshops and conference is sourced from within 200 miles of Bethesda. We also had the opportunity to select menu items including produce, meats, cheeses, breads, fruits, and veggies from a list of over 30 local farms that are less than 100 miles away. Our local farms include:

- Bob Arnold’s farm in Queen Anne’s County, MD
- Bear Mountain Orchard in Adams County, PA
- The Davis Mushroom Company in Kennett, PA
- JC Bean Sprouts in Springfield, VA
- Lois Produce and Herbs in Leedstown, PA
- McCutcheon’s Apple Products in Frederick, MD
- Lehman’s Egg Products in Greencastle, PA

These farms are providing salad greens, coking greens, bosc pears, apples, apple cider, mushrooms, bean sprouts, garlic, sweet potatoes and more! We hope you enjoy your meals and we encourage you to work with your caterers, hotels, or convention centers to make sure the local farming community is your source for food and beverage.
A special thanks to VHB and Waste Strategies for being silver sponsors.

Please visit our exhibitors in the Grand Ballroom A-B (second level).

A Spring City Electric  
B Tremco  
C 8760 Engineering  
D Max-R  
E Xlnt Tint of Mid Atlantic & Tint King, Inc.  
F National Wildlife Federation  
G Aircuity  
H Re-TRAC Connect  
I FOR Solutions  
J Waste Strategies  
K Sustainable Water  
L Busch Systems  
M Better World Books  
N MyEnergyPro  
O VHB/Vanasse Hangen Brustlin, Inc.

Conference Notes

Badges
Please wear your name badge at all times during the conference. It is your admission ticket to sessions, meals and other conference programming. We will have drop boxes available to recycle your name badge at the end of the conference.

Student Scholarships
Thanks to scholarships provided by the University of Maryland, more than 20 students are able to participate in the conference!

Free WiFi
Visit the conference registration desk to receive your wireless code.

Twitter
Join the conversation. Tweet about your conference experience. Follow @smartandsustainable, tweet using #smartsustain.
**OPENING PLENARY**

*Greening the Supply Chain*

Corporate Panel with **Edan Dionne**, Director Corporate Environmental Affairs, IBM Corporation; **Catherine Reeves**, Director, Communications & Systems, Environmental Health, Safety & Sustainability, Xerox Corporation; and **Andrew Essreg**, Senior Manager, Climate Change and Sustainability Services, Ernst & Young

Institutions can use their purchasing power to help build a sustainable economy: each purchasing decision represents an opportunity for institutions to choose environmentally and socially preferable products and services and support companies with strong commitments to sustainability. Universities play a unique role, as they are not only consumers but also centres of knowledge: they have the capacity to collaborate and shift the status quo, through identifying opportunities to work with vendors towards a more sustainable supply chain.

This panel addresses some ways vendors are rethinking their supply chains with a more holistic view in consideration of social and environmental concerns — designing for life-cycle management instead of planned obsolescence, sustainable sourcing of raw materials, streamlining processes to reduce waste, communicating and informing consumers through carbon labelling — towards their commitment to be sustainability leaders in their industry.
In 2006, Colin Beavan attracted massive international attention to the environmental agenda using his lifestyle experiment described in the book and the film *No Impact Man*. Since then, his non-profit has attracted over 50,000 people to environmental living. In this talk he will discuss engaging students, university administration and the public in the quest for solutions to our crises.

New economy is not a revolution, and it needs to be embraced by universities and colleges — it’s an evolution, a long-term plan that reimagines capitalism with intent, and creates businesses with conscious design that respects communities and environment.

Van Jones is president and co-founder of Rebuild the Dream, a platform for bottom-up, people-powered innovations to help fix the U.S. economy. A Yale-educated attorney, Van has written two *New York Times* Best Sellers: *The Green Collar Economy*, the definitive book on green jobs, and *Rebuild the Dream*, a roadmap for progressives in 2012 and beyond.

The costs of extreme events on lives, livelihoods, and the U.S. economy continue to rise. 2011 and 2012 were the most expensive years on record for extreme events with a total of over 25 separate events costing over one billion dollars, adding to the untold costs carried by families and communities. To effectively plan for and respond to weather and climate extremes, it is vital to understand their historical frequency and intensity, as well as how we can expect them to change in the future. In this plenary session, Dr. Thomas R. Karl, Director of NOAA’s National Climatic Data Center, will discuss the state of the science regarding the extremes of climate, and the challenges that lie ahead.

Thomas Karl currently serves as director of NOAA’s National Climatic Data Center in Asheville, N.C., and Chair of the U.S. Global Change Research Program. Karl is a fellow of the American Meteorological Society and has recently completed his term as President. He is also a fellow of the American Geophysical Union and has published more than 150 peer-reviewed scientific reports and articles and has authored several books as Editor and Contributor. He has served as Editor of the *Journal of Climate* (1997-2000) and has been the Convening and Lead Author and Review Editor of all the major IPCC assessments since 1990. He was Co-Chair of two US National Climate Assessments.
**SUNDAY, April 14**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am</td>
<td>Continental Breakfast</td>
<td>Outside Ballroom D</td>
</tr>
</tbody>
</table>
| 9:00 am-5:00 pm | Pre-conference Workshop: *(Pre-registration required)*  
**Recalibrating Sustainability for the Northeast**  
Northeast Campus Sustainability Consortium | 2nd Level Ballroom D          |
| 12:00 pm     | Lunch                                                                | 1st Level Share Bistro          |
| 3:00 pm      | Coffee Break                                                         | Outside Ballroom D              |

**MONDAY, April 15**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am</td>
<td>Registration Open</td>
<td>2nd Level Foyer</td>
</tr>
<tr>
<td>7:30 am</td>
<td>Continental Breakfast Open – <em>Please visit exhibitors in Ballrooms A-B.</em></td>
<td>2nd &amp; 3rd Level Foyer &amp; Outside Ballroom D</td>
</tr>
<tr>
<td>8:40 am</td>
<td>Concurrent sessions and workshops</td>
<td>2nd &amp; 3rd Level Breakout Rooms</td>
</tr>
<tr>
<td>10:00 am</td>
<td>Coffee Break, sponsored by <strong>VHB</strong> – <em>Please visit exhibitors in Ballrooms A-B.</em></td>
<td>2nd &amp; 3rd Level Foyer &amp; Outside Ballroom D</td>
</tr>
<tr>
<td>11:30 am</td>
<td>Lunch – <em>Please visit exhibitors in Ballrooms A-B.</em></td>
<td>1st Level Share Bistro</td>
</tr>
</tbody>
</table>
| 12:30 pm | Opening Remarks  
Opening Plenary: **Greening the Supply Chain**  
Corporate Panel | 2nd Level Ballrooms C-D         |
| 2:00 pm  | Concurrent sessions and workshops                                    | 2nd & 3rd Level Breakout Rooms  |
| 3:00 pm  | Coffee Break – *Please visit exhibitors in Ballrooms A-B.*          | 2nd Level Foyer & Outside Ballroom D |
| 5:00 pm  | Keynote Address: **Beyond Green Jobs: The Next American Economy**  
**Van Jones, Rebuild the Dream** | 2nd Level Ballrooms C-D         |
| 6:00 pm  | Networking Reception and Poster Presentation – *Please visit exhibitors in Ballrooms A-B.* | 2nd Level Ballrooms A-B         |

**TUESDAY, April 16**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am</td>
<td>Registration Open</td>
<td>2nd Level Foyer</td>
</tr>
<tr>
<td>8:00 am</td>
<td>Continental Breakfast Open – <em>Please visit exhibitors in Ballrooms A-B.</em></td>
<td>2nd &amp; 3rd Level Foyer &amp; Outside Ballroom D</td>
</tr>
</tbody>
</table>
| 9:00 am  | Morning Plenary: **Modern Climate Change: Where have we been and where are we headed?**  
**Thomas Karl, Director, NOAA National Climatic Data Center** | 2nd Level Ballrooms C-D         |
| 10:00 am | Coffee Break, sponsored by **Waste Strategies** – *Please visit exhibitors in Ballrooms A-B.* | 2nd & 3rd Level Foyer & Outside Ballroom D |
| 10:10 am | Concurrent sessions and workshops                                    | 2nd & 3rd Level Breakout Rooms  |
| 11:30 am | Lunch – *Last chance to visit exhibitors in Ballrooms A-B.*          | 1st Level Share Bistro          |
| 12:30 pm | Plenary Session: **No Impact Man on Climate Communication**  
**Colin Beavan, No Impact Man** | 2nd Level Ballrooms C-D         |
| 1:30 pm  | Concurrent sessions and workshops                                    | 2nd & 3rd Level Breakout Rooms  |
| 3:00 pm  | Coffee Break                                                         | 2nd & 3rd Level Foyer & Outside Ballroom D |

**WEDNESDAY, April 17**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am</td>
<td>Continental Breakfast</td>
<td>Outside Ballroom D</td>
</tr>
</tbody>
</table>
| 9:00 am-4:30 pm | Post-conference Workshop: *(Pre-registration required)*  
**Building a Sustainable Brand: How to Identify, Attract and Engage Stakeholders in Your Mission**  
**Samantha Villegas and Eric Eckl** | 2nd Level Ballroom D          |
| 12:00 pm | Lunch                                                                | 1st Level Share Bistro          |
| 3:00 pm  | Coffee Break                                                         | Outside Ballroom D              |
CONFERENCE TRACK: The Built Environment
Monitoring WaterShed’s Living Technologies
Scott Tjaden and Dave Tilley, University of Maryland - Environmental Science and Technology

CONFERENCE TRACK: The Built Environment
Stormwater Best Management Practices at an Urban Public University
Hannah Slodounik, University of Tennessee, Office of Sustainability

CONFERENCE TRACK: Behavior Change
Outlawing Paper Towels: Successes and Lessons Learned from PCC
Erin Stanforth, Portland Community College
Jonathan Marchetta, Portland Community College

CONFERENCE TRACK: Strategic Implementation
Sustainable Strategies for Stormwater Management at Purdue University
Camille Mahan, Michael Gulich and Lana Merrill, Purdue University

CONFERENCE TRACK: Innovation
Sustainability Best Practices at the University of Rochester
Pat Beaumont and Amy Kadrie, University of Rochester

CONFERENCE TRACK: Behavior Change
Sensible Transportation in a Growing Urban University
Esmeralda Valdez, University of Houston

Conference Track: The Campus as a Learning Laboratory
Jennifer Kleindienst, Wesleyan University
Beyond Bottled Water: Student Water Station Design Competition

CONFERENCE TRACK: Strategic Implementation
Faith-Based Mission as a Foundation for Sustainability Work
Caroline Nielsen and Eric Malm, Cabrini College

CONFERENCE TRACK: Strategic Implementation
Taking Action on Dickinson’s Climate Action Plan
Darren Cassel, The Stone House Group
Kenneth Shultes, Dickinson College

CONFERENCE TRACK: Behavior Change
Facilitating Sustainable Dining Habits Through Strategic Partnerships
Esmeralda Valdez, University of Houston
Geoffrey Herbert, ARAMARK

CONFERENCE TRACK: Behavior Change
Engaging Employees in Sustainability Makes Cents
Lydia Vandenbergh, Penn State University’s Sustainability Institute
## Concurrent Sessions

### MONDAY April 15, 2013

<table>
<thead>
<tr>
<th>Time</th>
<th>Wisdom</th>
<th>Harmony</th>
<th>Insight</th>
<th>Jasmine</th>
<th>Juniper</th>
<th>Lavender</th>
<th>Lilac</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### KEY TO CONFERENCE TRACKS

- **Wisdom**
- **Harmony**
- **Insight**
- **Jasmine**
- **Juniper**
- **Lavender**
- **Lilac**

<table>
<thead>
<tr>
<th>Time</th>
<th>Wisdom</th>
<th>Harmony</th>
<th>Insight</th>
<th>Jasmine</th>
<th>Juniper</th>
<th>Lavender</th>
<th>Lilac</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Behavior Change**
- **Strategic Implementation**
- **Innovation**
- **Community Connections**
- **The Campus as a Learning Laboratory**
- **The Built Environment**

### Session Titles

- **Wisdom**
  - Honing Student Involvement: Structuring Programs For Success
  - Certified National Student Conservation Leaders for Sustainable Communities: How You and Your Students can Benefit

- **Harmony**
  - Fostering Change through Sustainability Champions
  - Co-curricular Water Sustainability Program: Real-World Project Experience for Students

- **Insight**
  - Co-curricular Water Sustainability Program: Real-World Project Experience for Students
  - Institutionalizing Sustainability Metrics

- **Jasmine**
  - Resilience & Sustainability: Recalibrating for a Volatile Future
  - On-site Water Reuse: Greening our Footprint, Maximizing our Cost-Savings

- **Juniper**
  - Using LEED for Neighborhood Development to Create a Sustainable Campus
  - On-campus Solar: Critical Knowledge to Accomplish More at Less Cost

- **Lavender**
  - Inspiring Behavior Change with Competition at Duke University
  - Pedaling Sustainability: How to Start a Bike Share Program on your Campus

- **Lilac**
  - Optimizing Campus Environmental Monitoring: Students, Strategy, and City
  - OCCC's Strategic Planning Approach Cuts Costs, Improves the Learning Environment

## Session Titles

- **Wisdom**
  - Honing Student Involvement: Structuring Programs For Success
  - Certified National Student Conservation Leaders for Sustainable Communities: How You and Your Students can Benefit

- **Harmony**
  - Fostering Change through Sustainability Champions
  - Co-curricular Water Sustainability Program: Real-World Project Experience for Students

- **Insight**
  - Co-curricular Water Sustainability Program: Real-World Project Experience for Students
  - Institutionalizing Sustainability Metrics

- **Jasmine**
  - Resilience & Sustainability: Recalibrating for a Volatile Future
  - On-site Water Reuse: Greening our Footprint, Maximizing our Cost-Savings

- **Juniper**
  - Using LEED for Neighborhood Development to Create a Sustainable Campus
  - On-campus Solar: Critical Knowledge to Accomplish More at Less Cost

- **Lavender**
  - Inspiring Behavior Change with Competition at Duke University
  - Pedaling Sustainability: How to Start a Bike Share Program on your Campus

- **Lilac**
  - Optimizing Campus Environmental Monitoring: Students, Strategy, and City
  - OCCC's Strategic Planning Approach Cuts Costs, Improves the Learning Environment
TUESDAY, April 16, 2013

10:10
ACUPCC Implementation Liaison Networking Meeting

10:20
Creating a Bicycle Friendly University Action Plan

10:30
Advancing Sustainability Beyond the Campus

10:40
Green Campus Challenge — A Multidisciplinary Approach Towards Energy Efficiency

10:50
APPA Standards Council Report on Infrastructure Innovation

11:00
Building Energy Metering & Benchmarking: It’s Worth the Energy

11:10
Campus as a Living Learning Lab at Grand Valley State University.

11:20
Integrated Water Management at a Rapidly Growing, Drought-prone Campus

11:30
(Horti)Culture of Learning: How Landscapes Engage, Teach and Conserve

11:40

1:30
Harnessing Seawater: An Innovative Thermal Exchange HVAC System

1:40
Water Use Sustainability: Improving Landscape and Outdated Irrigation

1:50
The Climate Adaptation Alliance: Advancing Higher Education Leadership for a Changing Climate

2:00
Designing and Implementing a Multi-Part Campaign to Promote Sustainable Behavior

2:10
Experiential Learning Lab: LEED for Existing Buildings: Operations & Maintenance

2:20
Campus Planning: Sustainability Supplement to the "Yale Framework for Campus Planning"

2:30
Designing an Effective Workplace Sustainability Program: NYU as Case Study

2:40

2:50

3:00


SAVE SOME GREEN.

Sprint is committed to environmental leadership. Join us in our efforts for a sustainable future, while saving with service discounts in the present.

- Sprint has helped keep over 40 million devices out of landfills through its wireless reuse and recycling programs
- Sprint Buyback offers customers up to $300 in credit for eligible devices
- Sprint is committed to reducing its operational waste to landfill to 30% by 2017
- Sprint offers a selection of platinum-certified phones with eco-friendly features, the strongest certification tier awarded by UL Environment

LEARN MORE AT SPRINT.COM/GREEN.

Sprint can help you with your sustainability initiatives. Please contact us for recycling programs for your entire campus ecosystem including your student population.

Alesha Flint
Business Development Manager
alesha.flint@sprint.com

From Newsweek October 22, 2013 © 2017 The Newsweek Daily Beast Company LLC. All rights reserved. Goodwill promotion and protection by the Copyright laws of the United States.


Other Terms: Sprint reserves the right to modify, extend or cancel offers at any time. Offer and coverage not available everywhere at all Sprint networks. Restrictions apply. National Sprint Network reaches over 260 million people. See store or sprint.com for details. ©2014 Sprint. All rights reserved. Sprint and the Sprint logo are trademarks of Sprint. Android, Google, the Google logo and Google Play are trademarks of Google Inc. Other marks are the property of their respective owners.
40-Minute Concurrent Presentations

CONFEREE TRACK: The Campus as a Learning Laboratory
Optimizing Campus Environmental Monitoring: Students, Strategy, and City
Shaun O’Rourke and Jim Newman, Boston Architectural College

The Boston Architectural College (BAC) is undertaking monitoring of several facility and infrastructure upgrades aimed at reaching institutional goals of carbon neutrality and regeneration of natural systems. Monitoring of these projects will both set benchmarks for tracking effects and evaluating success over time. This information will not only be made available to the BAC and wider communities, but also be the basis of student research in several programs at the BAC. This presentation describes the development of institutional support, monitoring and the programs for student use of the data.

CONFEREE TRACK: Behavior Change
Inspiring Behavior Change with Competition at Duke University
Casey Roe, Duke University

When compared with larger and more centralized changes to infrastructure, individual behavior change of campus constituents presents a uniquely challenging, but essential, aspect of university sustainability. Duke University’s online sustainability competition—the Green Devil Smackdown, which has a fun and fierce wrestling theme—has resulted in meaningful and measurable progress towards sustainable behaviors among students, faculty and staff on campus. With over 1,000 participants in the current competition, the Smackdown has directly produced positive sustainability outcomes including increased attendance at campus sustainability events, emergence of motivated campus leaders, and demonstrated improvements in knowledge about Duke’s sustainability efforts and resources.

CONFEREE TRACK: The Built Environment
Using LEED for Neighborhood Development to Create a Sustainable Campus
Jason Hercules, U.S. Green Building Council
Joseph Schilling, Virginia Tech

LEED for Neighborhood Development integrates the principles of smart growth, new urbanism and green building into the first national rating system for neighborhood planning and design. This session serves as a primer for how to use LEED-ND as a tool for sustainable campus development, including requirements and focus areas of the program, and an in-depth look at successful projects. Join U.S. Green Building Council staff and higher education partners for a discussion about how the LEED-ND framework integrates smart locations, connected and equitable communities, and green buildings to create places where we want to live, work, play, and learn.

CONFEREE TRACK: Innovation
Resilience & Sustainability: Recalibrating for a Volatile Future
Joshua Lasky, University of the District of Columbia

Traditional views of sustainability envision a utopian end state in perfect ecological, social, and economic balance. Not only is this type of Zen-like harmony impossible, but planning for such a future is counterproductive and arguably dangerous. One of the warmest and driest years on record, 2012 brought “Superstorm Sandy,” and its cascading implications for human health and our natural and built environment. As we approach 400 parts per million concentration of atmospheric carbon dioxide and a new epoch known as the Anthropocene, we must redefine our notions of sustainability to address (and embrace) conditions of ecological, social, and economic volatility.
**80-Minute Concurrent Workshops**

**MONDAY**

**8:40AM**

**CONFERENCE TRACK: Strategic Implementation**

**Honing Student Involvement: Structuring Programs For Success**

Harmony Room

**Ashley Pennington, Johns Hopkins University**

**Stephanie Sims, University of Florida**

University of Florida (UF) and Johns Hopkins University (JHU) staff will present an overview of student programs with innovative incentive structures and systems to get and keep students involved in campus sustainability efforts. Programs at UF include office internships, the Adopt-a-“Swamp” program, the Sustainability Hut outreach tool, the TailGator Game Day Recycling effort. Programs at JHU include ECO-RepS, Climate Showcase and the Sustainable Hopkins Infrastructure Program (SHIP). This workshop will include time for small break-out groups for participants to consider their program needs and goals, share best practices, and review lessons learned. Participants will take away information that will help develop new programs or refine existing ones on their respective campuses.

**CONFERENCE TRACK: Community Connections**

**Certified National Student Conservation Leaders for Sustainable Communities**

Insight Room

**Julian Keniry and Sara Gassman, National Wildlife Federation**

Learn how you and your students can benefit from a national student sustainability leadership initiative sponsored by the National Wildlife Federation (NWF). This initiative is focused on recognizing and supporting students’ efforts to transform the curriculum, campus and wider community for sustainability. The workshop will include a mix of presentations and examples, personal reflection, small group and full group discussion. There will be an opportunity for you to learn how you can help your students phase test, critique, and refine the national student conservation leadership initiative as founding student members.

**40-Minute Concurrent Presentations**

**MONDAY**

**9:30AM**

**CONFERENCE TRACK: Behavior Change**

**Don’t Pave Paradise; Don’t Put Up a Parking Lot**

Lavender Room

**David Browning, El Centro College**

**Edward DesPlas, Dallas County Community College District**

Will students leave their cars at home? Can public transit and public higher education partner to change commuter behavior? In 1997 El Centro College partnered with Dallas Area Rapid Transit to affect student commuting behavior through “DART Free”, a service to bring students to campus using Dallas’ existing bus lines in combination with a new and growing light rail system. “DART Free” overcomes the parking conundrum, increases enrollment, provides reliable transportation, leverages public resources, reduces traffic, improves air quality, gains points on grant applications, and meets all principles of the “triple bottom line” associated with sustainability.

**CONFERENCE TRACK: The Built Environment**

**On-site Water Reuse: Greening our Footprint, Maximizing our Cost-Savings**

Juniper Room

**Brent Zern, Emory University**

**Jason Gregory, Georgia Institute of Technology**

**William Hare, University of District of Columbia**

Across the country, water scarcity, pollution and aging infrastructure are causing water and sewer rates to rise. Improved on-site water management is thus needed to meet the triple bottom line. Technological advances now allow integration of wastewater recycling systems into a single building or as part of the dense campus fabric. After an in-depth assessment of their water footprint, institutions like Emory University, Georgia Tech, and the University of D.C., are finding water reuse an environmentally and economically impactful water management tool. Apart from providing LEED credits, these systems offer extensive cost savings, de-risk operations, and deliver a greener campus.
40-Minute Concurrent Presentations continued

**MONDAY**

**9:30AM**

**CONFERENCE TRACK: Innovation**

**Culture Clash: Research, Teaching, Art and Electrons at the Strand**

Ryan McPherson and Robert Shibley, State University of New York at Buffalo

Jasmine Room

The UB Solar Strand is part of a commitment to dynamic sustainability. The 750 kWh solar array, designed by artist Walter Hood, is based on a “DNA strand”. The design forms a linear landscape that connects the PV panels with naturally regenerated meadows, tree plantings and wetland areas. We will outline our model of integrative change and focus upon our plans to make the Strand an accessible renewable energy park and a dynamic education outreach center. We will also demonstrate how art, sustainable energy, teaching, research and public access can be integrated to create an inclusive approach to sustainability.

**CONFERENCE TRACK: Strategic Implementation**

**OCCC’s Strategic Planning Approach Cuts Costs, Improves the Learning Environment**

J.B. Messer, Oklahoma City Community College

Mike Presson, Trane

Lilac Room

Oklahoma City Community College (OCCC) leaders’ strategic planning approach has been critical in combining a significant campus expansion with improved energy efficiency infrastructure. New systems have enabled OCCC to significantly decrease electrical consumption and transform the campus into a high performance learning environment. Since 1999, the campus footprint at OCCC has increased 43 percent. While national electrical utility costs have grown 40 percent, OCCC’s campus electricity consumption has increased only 6.2 percent. Attendees will learn how OCCC uses a strategic planning approach to complete significant campus expansions while implementing more-efficient infrastructure solutions.

80-Minute Concurrent Workshops

**MONDAY**

**10:20AM**

**CONFERENCE TRACK: Community Connections**

**Creating Strategic Partnerships Between the Campus and Community**

Laura Worthington and Mimi Cedrone, The Institute for Sustainable Energy

Wisdom Room

Campuses are in unique positions to create strategic partnerships that assist in taking sustainable practices beyond the institutional setting. Through structured dialogue among peers, participants will identify partnerships that provide students, faculty and staff with opportunities to engage outside organizations and professionals, enriching a culture of sustainability with community resources. State agencies, legislators, community groups and trade professionals that can open up access to funding, internships and other resources beneficial to a campus will be identified. Additionally, participants will share ways campuses can give back by making use of their resources to provide partners with valuable services and knowledge.

**CONFERENCE TRACK: Behavior Change**

**Fostering Change through Sustainability Champions**

Emily Dietrich and Trina Innes, University of Alberta

Harmony Room

Creating a web of people connected by a common purpose and passion for sustainability is a powerful strategy for building a sustainable campus. Learn about the University of Alberta’s ecoREPs program, which provides faculty and staff the resources, support and access to a community of practice needed to serve as campus sustainability leaders in their workplace. In this session participants will cover lessons learned, obtain hands-on experience in facilitating activities and conversations that help move participants up the ladder to making sustainable change, and gain access to the program’s resources.
The complex challenges of the 21st century require university graduates with real-world problem-solving experience – typically found outside the textbook. Innovative universities like Emory, Howard, and the University of D.C. are facilitating hands-on learning by involving students in co-curricular opportunities on campus. The public-private co-op between these institutions and Sustainable Water exemplifies an effective co-curricular program. This program engages students to work alongside their facilities management team to help perform campus water footprint assessments. Aimed at facilitating knowledge transfer related to sustainable water management, this program provides practical project experience, while helping reinvent the campus as a learning laboratory.

Launched at the beginning of the 2012-2013 academic year, Wellesley College’s Bike Share Program has provided community members with an alternative mode of transportation for on and off-campus. Through this process, we have interacted with contractors, created legal documents, invested in a system for check outs and returns, set up a database to monitor users, dealt with theft and criticism, and tried to improve glitches in the program. This initiative can be implemented on any campus, regardless of location or size, so if you would like to start a bike share, come to our session!

U.S. higher education and the U.S. solar industry are ideal strategic partners that can create benefits and remove critical barriers by working together. However, confusion in the market is slowing schools’ ability to move forward with solar projects. This session will provide participants with both national and case-study expertise on solar best practices and lessons-learned. As a result of attending the session, participants will be able to assess their schools’ solar opportunities; make financing determinations and recommendations; capture scale; reduce costs; structure procurements; and address internal barriers.

This presentation will focus on how to capture, disclose and manage sustainability performance metrics. Using Yale University as a case study, participants will learn how to develop and institutionalize sustainability performance metrics that lead to short and long term strategic planning. As Sustainability Offices within higher education become more mainstream, it is essential that a system for measuring the organization’s sustainability success is established. This includes developing appropriate indicators, protocols for accurate collection of data, and communication strategies for progress over time.
CONfERENCE TRACK: The Campus as a Learning Laboratory

Peer-to-Peer Approaches to Bring Sustainability into the Curriculum
Juniper Room
Merrilee Harrigan, Alliance to Save Energy

Peer-to-peer teaching methods provide innovative learning opportunities for students. This presentation profiles three such approaches at California State Universities and University of California campuses. These projects are mere snapshots of academic solutions developed by students, for students. Presenters hope audience members can adapt these ideas to their own campus needs.

CONfERENCE TRACK: Innovation

Sight Unseen to Spotlight: Campus Gardens Grow Sustainability
Lavender Room
Kate Nelson, University of Wisconsin-Milwaukee

The implementation of food gardens on a dense, urban campus faces many barriers to recognition, acceptance, and authentic engagement by students and leadership alike. These challenges are not unlike the hurdles of any campus sustainability program. UW-Milwaukee, as a large, sometimes disjointed campus, had to address interest, aesthetics, placement, permission, financing, and maintenance in order to begin campus gardening. Several small plots eventually led to coursework and research development, followed by full campus integration. By intentionally addressing limitations to such gardens, interdisciplinary research, community partnerships, and stakeholder engagement were greatly expanded.

CONfERENCE TRACK: The Built Environment

Energy Efficiency Solutions: Reduce Costs, Improve Infrastructure, Meet Sustainability Goals
Lilac Room
Terry Daly, Maryland Clean Energy Center
Roger Hayden, Towson University
Cherise Seals, Constellation

Through this hands-on workshop, specific sustainable solutions to the challenges college campuses are currently facing will be discussed. Attendees will hear from Towson University and learn how they were able to retrofit campus lighting through an EPC with Constellation, a project that allowed the University to acquire $1.75 million in energy savings. Attendees will also hear about how the continuing relationship with Constellation has lead to an off-balance sheet approach to funding additional energy efficiency projects. Towson was able to redirect funds from utility expenses to academic programs, faculty and staff. The session will show how similar energy efficiency projects can be implemented on campuses across the country, improving campus sustainability while also decreasing the utility costs.

40-Minute Concurrent Presentations
MONDAY 10:40 AM

CONfERENCE TRACK: The Campus as a Learning Laboratory
Campus Sustainability is Hands-on Learning— the UW Model for Integrating Research, Teaching and Operations
Lilac Room
Aubrey Batchelor, University of Washington

University of Washington (UW) educates a diverse student body to become responsible global citizens. UW’s three campuses serve as learning laboratories and are leading the way for integrated sustainable education. Through this workshop, attendees will learn how to leverage an institution’s resources to combine environmental conservation and stakeholder engagement in a way that facilitates reduction of the University’s carbon footprint. We’ll share examples from UW’s student-led Campus Sustainability Fund, curriculum and internships, and other projects. This workshop will provide attendees with the opportunity to share best practices and challenges, and thus engage the knowledge and experience of the UW and other participants.

CONfERENCE TRACK: The Built Environment
Energy Efficiency Solutions: Reduce Costs, Improve Infrastructure, Meet Sustainability Goals
Lilac Room
Terry Daly, Maryland Clean Energy Center
Roger Hayden, Towson University
Cherise Seals, Constellation

Through this hands-on workshop, specific sustainable solutions to the challenges college campuses are currently facing will be discussed. Attendees will hear from Towson University and learn how they were able to retrofit campus lighting through an EPC with Constellation, a project that allowed the University to acquire $1.75 million in energy savings. Attendees will also hear about how the continuing relationship with Constellation has lead to an off-balance sheet approach to funding additional energy efficiency projects. Towson was able to redirect funds from utility expenses to academic programs, faculty and staff. The session will show how similar energy efficiency projects can be implemented on campuses across the country, improving campus sustainability while also decreasing the utility costs.

CONfERENCE TRACK: Innovation
Sight Unseen to Spotlight: Campus Gardens Grow Sustainability
Lavender Room
Kate Nelson, University of Wisconsin-Milwaukee

The implementation of food gardens on a dense, urban campus faces many barriers to recognition, acceptance, and authentic engagement by students and leadership alike. These challenges are not unlike the hurdles of any campus sustainability program. UW-Milwaukee, as a large, sometimes disjointed campus, had to address interest, aesthetics, placement, permission, financing, and maintenance in order to begin campus gardening. Several small plots eventually led to coursework and research development, followed by full campus integration. By intentionally addressing limitations to such gardens, interdisciplinary research, community partnerships, and stakeholder engagement were greatly expanded.

CONfERENCE TRACK: The Campus as a Learning Laboratory
Campus Sustainability is Hands-on Learning— the UW Model for Integrating Research, Teaching and Operations
Lilac Room
Aubrey Batchelor, University of Washington

University of Washington (UW) educates a diverse student body to become responsible global citizens. UW’s three campuses serve as learning laboratories and are leading the way for integrated sustainable education. Through this workshop, attendees will learn how to leverage an institution’s resources to combine environmental conservation and stakeholder engagement in a way that facilitates reduction of the University’s carbon footprint. We’ll share examples from UW’s student-led Campus Sustainability Fund, curriculum and internships, and other projects. This workshop will provide attendees with the opportunity to share best practices and challenges, and thus engage the knowledge and experience of the UW and other participants.

CONfERENCE TRACK: Innovation
Sight Unseen to Spotlight: Campus Gardens Grow Sustainability
Lavender Room
Kate Nelson, University of Wisconsin-Milwaukee

The implementation of food gardens on a dense, urban campus faces many barriers to recognition, acceptance, and authentic engagement by students and leadership alike. These challenges are not unlike the hurdles of any campus sustainability program. UW-Milwaukee, as a large, sometimes disjointed campus, had to address interest, aesthetics, placement, permission, financing, and maintenance in order to begin campus gardening. Several small plots eventually led to coursework and research development, followed by full campus integration. By intentionally addressing limitations to such gardens, interdisciplinary research, community partnerships, and stakeholder engagement were greatly expanded.

CONfERENCE TRACK: The Built Environment
Energy Efficiency Solutions: Reduce Costs, Improve Infrastructure, Meet Sustainability Goals
Lilac Room
Terry Daly, Maryland Clean Energy Center
Roger Hayden, Towson University
Cherise Seals, Constellation

Through this hands-on workshop, specific sustainable solutions to the challenges college campuses are currently facing will be discussed. Attendees will hear from Towson University and learn how they were able to retrofit campus lighting through an EPC with Constellation, a project that allowed the University to acquire $1.75 million in energy savings. Attendees will also hear about how the continuing relationship with Constellation has lead to an off-balance sheet approach to funding additional energy efficiency projects. Towson was able to redirect funds from utility expenses to academic programs, faculty and staff. The session will show how similar energy efficiency projects can be implemented on campuses across the country, improving campus sustainability while also decreasing the utility costs.

CONfERENCE TRACK: Innovation
Sight Unseen to Spotlight: Campus Gardens Grow Sustainability
Lavender Room
Kate Nelson, University of Wisconsin-Milwaukee

The implementation of food gardens on a dense, urban campus faces many barriers to recognition, acceptance, and authentic engagement by students and leadership alike. These challenges are not unlike the hurdles of any campus sustainability program. UW-Milwaukee, as a large, sometimes disjointed campus, had to address interest, aesthetics, placement, permission, financing, and maintenance in order to begin campus gardening. Several small plots eventually led to coursework and research development, followed by full campus integration. By intentionally addressing limitations to such gardens, interdisciplinary research, community partnerships, and stakeholder engagement were greatly expanded.

CONfERENCE TRACK: The Built Environment
Energy Efficiency Solutions: Reduce Costs, Improve Infrastructure, Meet Sustainability Goals
Lilac Room
Terry Daly, Maryland Clean Energy Center
Roger Hayden, Towson University
Cherise Seals, Constellation

Through this hands-on workshop, specific sustainable solutions to the challenges college campuses are currently facing will be discussed. Attendees will hear from Towson University and learn how they were able to retrofit campus lighting through an EPC with Constellation, a project that allowed the University to acquire $1.75 million in energy savings. Attendees will also hear about how the continuing relationship with Constellation has lead to an off-balance sheet approach to funding additional energy efficiency projects. Towson was able to redirect funds from utility expenses to academic programs, faculty and staff. The session will show how similar energy efficiency projects can be implemented on campuses across the country, improving campus sustainability while also decreasing the utility costs.
80-Minute Concurrent Workshops

**CONFERENCE TRACK: Innovation**

**Creating a Model Sustainability Literacy Assessment**

Nicole Horvath and Mark Stewart, University of Maryland
Adam Zwickle, Ohio State University

Campus sustainability professionals have called for the development of a model Sustainability Literacy Assessment (SLA) to help institutions participate in STARS and advance their Education for Sustainability initiatives. Researchers from the Ohio State University and the University of Maryland are collaborating to develop such a SLA. Participants are invited to provide feedback and help craft the SLA during this workshop.

**CONFERENCE TRACK: Strategic Implementation**

**Strategic Renewable Energy Planning on Campus**

Richard Miller, University of Connecticut
Mieko A Ozeki, University of Vermont

This workshop will share lessons learned from two public institutions, University of Connecticut and the University of Vermont, that carried out comprehensive renewable energy feasibility studies and renewable energy plans on their respective campuses. Participants will break up into small groups to brainstorm ideas to implement a renewable energy and microgrid plan, and mindmap how these ideas can be tied to research, co-curricular education activities, green job opportunities, operations, and climate action planning on their respective campuses.
CONFERENCE TRACK: Community Connections

Leverage Industry Experience to Boost Clean Energy Courses
Jasmine Room
Joel Thomas, Community Energy, Inc.
Sarah Dawson, Franklin & Marshall College
Businesses and universities can work together to create pathways to clean energy careers for students. The clean energy sector seeks graduates with relevant expertise and real world experience complements the knowledge that students acquire in school. Lessons from implemented renewable energy projects can advance students’ clean energy career goals. Franklin & Marshall and Community Energy, Inc. found a way to supply a robust set of online course materials from the solar industry to F&M’s students and faculty by bundling the course materials with F&M’s REC purchase. The same opportunity exists for other universities.

CONFERENCE TRACK: Behavior Change

Bringing Students and Sustainability Together
Juniper Room
Clive Pursehouse, University of Washington
As universities and colleges across the country look to augment their sustainability programs and operations, it is paramount that they find ways to engage students at a variety of levels. A student engagement strategy aims to create educational gains within your student population, both in terms of sustainability literacy and illustrating ways students can participate. Further, it is often possible to improve processes and operations so these existing processes further the campus’ sustainability goals. This presentation will look at some of the multiple ways to build student interest and enthusiasm for campus sustainability.

CONFERENCE TRACK: The Campus as Learning Laboratory

LEED Laboratory: Training Students in the Sustainable Transformation of Existing Buildings
Lavender Room
Patricia Andrasik, The Catholic University of America
Jaime Van Mourik, Center for Green Schools at USGBC
Are you constantly scratching your head to figure out how you are going to create a more energy and resource efficient campus with little time and money? Are your students eager to see change on campus, but unsure how they can help in creating a more sustainable environment? Imagine students working alongside you as sustainability consultants where they are leading the efforts as part of their academic experience. Come learn how the LEED Laboratory is transforming the existing built environment by harnessing student enthusiasm and passion, and training these young professionals to facilitate the greening of the daily campus operations.

CONFERENCE TRACK: Strategic Implementation

Greening Public Health at George Washington University: A Case Study
Lilac Room
Scott Spangenberg and Song Zhang, Affiliated Engineers, Inc.
Nancy Giammateo, George Washington University
An owner and design team discuss the process of creating a sustainable benchmark to inform long term campus planning. The George Washington University (GWU) School of Public Health and Health Services is constructing a new 144,000 GSF building in downtown Washington, DC to house teaching spaces and offices for the school’s students and faculty. The building is targeting a Platinum rating under the LEED 2009 system and to this end the team has studied and implemented a wide range of state-of-the-art and innovative strategies for energy and water conservation. Those strategies that prove most successful will be included in future construction standards.
80-Minute Concurrent Workshops

**CONFERENCE TRACK: The Built Environment**

**Climate Change Adaptation Planning for Campus**
Rochelle Owen, Dalhousie University

The consequences of the changing climate have two areas of response: mitigation and adaptation. Adaptation strategies seek to reduce the severity of adverse impacts of climate change on vulnerable communities or infrastructure (Fussel, 2005). Learn about the process created to identify and prioritize adaptation strategies at Dalhousie University. Hear how the plan has been put into action.

**CONFERENCE TRACK: Strategic Implementation**

**CSI Carbon Footprint**
Ryan Corrigan and Michael Mosbacher, 8760 Engineering
Beth Asbury, University of Missouri System

When talking about driving campuses towards lower carbon footprints, the main energy guzzlers are often overlooked. Mechanical systems make up over 80% of the electricity and natural gas utilization on a campus, with campus central plants at the heart of this consumption. Through hands-on, interactive activities, participants will learn how to analyze and identify core avenues of energy usage on their campus. Each participant will be equipped with knowledge and tools that can empower their campus community to take action against core energy consumers and reduce their campus carbon footprint.

**CONFERENCE TRACK: Behavior Change**

**Exploring the Links between Access, Universal Design and Sustainability**
Frederic Fovet, McGill University

Sustainability on post-secondary campuses is still very often construed in operational or environmental terms. Links between sustainability and institutional culture, equity and diversity are conceptually accepted but rarely tangibly experienced. This workshop will encourage participants to explore access and universal design principles to discover to what extent they echo themes of sustainability in teaching practices or service provision. The workshop is fully interactive, progressing through thought provoking group activities (including short video segments). These scenarios and role-plays will use Access issues and Universal Design solutions, in the post-secondary setting, as triggers to lead the participants towards reflections and formulations about policies and strategy, on their own campus, using explicit references to sustainability.
Monday, April 15

**40-Minute Concurrent Presentations**

**CONFEREE TRACK: Innovation**

**Creative Financing for Energy Initiatives**
Edward Kirk, Johns Hopkins University

With tightening campus budgets and growing competition for these limited funds, what alternative financing instruments are gaining acceptance? We’ll review several different ways to fund energy reduction projects that may not have been considered or even been available until recently. We’ll review traditional cash and capital funding, and then introduce Performance Contracting, Purchase of Power Agreements, On Bill Financing, Leases, Revolving Funds and Shared Savings Agreements. When they may make sense and what to look out for.

**CONFEREE TRACK: Strategic Implementation**

**Moving from Waste Measurement to Waste Management**
Michael Gulich and Tamm Hoggatt, Purdue University

“If you can’t measure it, you can’t manage it” goes the old Peter Drucker management adage. But if you want to manage your solid waste and recycling program, what should you measure? And what tool(s) should you invest your resources in to track, analyze, and report your data? This presentation will evaluate these questions, and will share lessons learned from various measurement exercises: from ad hoc waste audits, to the data gathered through participation in national competitions (Recyclemania, Game Day Challenge, etc.), to integrated campus-wide data collection and reporting programs.

**CONFEREE TRACK: Strategic Implementation**

**Unlocking Renewable Energy: Economic and Environmental Value for Higher Education**
Blaine Collison, US EPA

Renewable energy offers dramatic and compelling economic and environmental value for colleges and universities. However, many institutions are encountering barriers in their efforts to capture these benefits. This interactive session will help schools access that value by identifying best practices, discuss innovative procurement mechanisms, and share lessons-learned from across the national markets. Attendees will exit the session with an expanded sense of possibilities and strategic opportunities to help them address barriers and achieve their organizations’ goals.

**CONFEREE TRACK: The Built Environment**

**Towson University Case Study: A Campus-wide Lighting Upgrade**
Stephen Kolb, Towson University

Towson University has just completed an $8 Million campus wide lighting upgrade that will reduce campus carbon emissions by over 10,000 tons annually. In addition, the university will save over $1 Million per year and reduce total campus electrical energy usage by over 15%. The project entails upgrading or replacing over 34,000 light fixtures and adding close to 9,600 occupancy sensors across 36 occupied buildings of varying types and ages. The presentation will include information about the range of products that were debated and how the final decisions were driven using sustainable practices.
40-Minute Concurrent Presentations

CONFERENCE TRACK: The Campus as Learning Laboratory

Green Campus Challenge – A Multidisciplinary Approach Towards Energy Efficiency  
Ana Cravo, João Fumega and Miguel Carvalho, Instituto Superior Técnico  
Juniper Room

Knowing that universities are an ideal living laboratory to develop important energy efficiency solutions, the Green Campus Challenge was created to improve energy efficiency on Portuguese university campuses. Thirty teams—composed of students, faculty and technical staff—created energy efficiency plans for their campus buildings. The implementation of the twelve finalists’ projects could result in energy savings of 1.9 GWh and 1.09 tonnes of avoided CO₂ per year. The initiative’s success proved that universities are a perfect arena of research, creativity and innovation to develop measures and policies that contribute towards the promotion of energy efficiency.

CONFERENCE TRACK: Community Connections

Advancing Sustainability Beyond the Campus  
William Leahy, Institute for Sustainable Energy at Eastern Connecticut State University  
Jasmine Room

Campuses have been engaged in a national movement to emulate a more sustainable society by adopting policies and actions. Traditionally, Higher Education has provided the living laboratories for societal change. After 10 years of Green Campus Initiatives, it’s time campus sustainability leaders moved beyond the safe harbor of their institutions and into the chambers of government to help transform communities into a more sustainable society. Learn how to mobilize your academic experts, enlightened administrators and student activists to support advancements in regional sustainable policies through civic engagement, service learning, pre-professional experiences, and strategic alliances.

CONFERENCE TRACK: Behavior Change

Lights Out!—Changing Energy-Consuming Behaviors in Academic Buildings  
Jeffrey Severin, University of Kansas  
Tim O’Kane, Energy Solutions Professionals, LLC  
Lilac Room

Lights Out was a 3-month, friendly competition between academic buildings at the University of Kansas. The competition pitted faculty and staff in three buildings against one another in an effort to see who could save the most energy by adopting conservation behaviors. Training was provided prior to and throughout the competition. Resources provided to occupants included an extensive list of energy saving tips, free compact fluorescent lamps, and access to in-person consultations. Weekly results were reported online and via email, which at the end of the competition showed that the buildings combined to save 13.3% of their previous energy use.

CONFERENCE TRACK: Innovation

APPA Standards Council Report on Infrastructure Innovation  
Alan Sactor, University of Maryland  
John Bernhards, APPA  
Lavender Room

APPA has been advocating for innovation in the development of American National Standards (ANS) to increase safety and supports for sustainability efforts. By engaging with suppliers who participate in standards development, and seeking accreditation as an ANS developer, APPA aims to bring the education facilities industry to the table to help determine leading practices. The education facilities industry and university-affiliated medical research and health care delivery systems have a combined annual spend of approximately $250 billion. APPA’s success will not only benefit campus academic, safety, and sustainability missions, but also have important consequences for infrastructure development in cities of the future.
**80-Minute Concurrent Workshops**

**CONFERENCE TRACK: Strategic Implementation**

**ACUPCC Implementation Liaison Networking Meeting**

Harmony Room

TUESDAY
10:10AM

Jairo Garcia and Toni Nelson, Second Nature

The ACUPCC Implementation Liaison Networking Meeting is an interactive workshop designed to allow personnel at signatory institutions of the American College & University Presidents’ Climate Commitment (ACUPCC) to make connections, share stories, and create a comprehensive learning network across the ACUPCC. The meeting is an opportunity to participate in intensive group discussions with representatives of other ACUPCC signatory schools. Participants will identify opportunities and explore solutions to implementation of the ACUPCC, including reporting challenges, leadership transitions, Climate Action Planning, greenhouse gas inventory completion, and tracking ongoing progress of mitigation and education programs. This meeting is open to Implementation Liaisons and other staff involved in implementation at ACUPCC campuses.

**CONFERENCE TRACK: Innovation**

**Creating a Bicycle Friendly University Action Plan**

Insight Room

TUESDAY
11:00AM

Alison Dewey, League of American Bicyclists
Teresa Davis, Pennsylvania State University

Transportation sustainability begins with changing lifestyles and attitudes. Learn how your institution can begin making these changes by working with stakeholders on campus and throughout the community. Various sizes of institutions are represented on the panel of leaders to help guide participants through the creation of a Bicycle Friendly University action plan. Discussion will center around engineering, education, encouragement, enforcement, and evaluation efforts to improve conditions for bicycling on campus. This is an opportunity for your institution to create the most sustainable, healthy, active and vibrant campus for the next generation of American professionals.

**40-Minute Concurrent Presentations**

**CONFERENCE TRACK: The Built Environment**

**Building Energy Metering & Benchmarking: It’s Worth the Energy**

Jasmine Room

TUESDAY
11:00AM

Chris O’Brien and Emily Curley, American University

American University has an aggressive energy metering and benchmarking program designed to log all sources of building energy use, compare this performance to similar buildings using Energy Star Portfolio Manager, and implement projects to hit building energy use intensity targets. Learn from AU’s Sustainability and Energy administrators how they gathered the resources to make this investment, how it is paying off in utility and carbon savings, and how it contributes to their efforts to LEED certify 25 existing buildings.

**CONFERENCE TRACK: The Campus as a Learning Laboratory**

**Campus as a Living Learning Lab at Grand Valley State University**

Juniper Room

Elena Lioubimtseva, Norman Christopher and Bart Bartels, Grand Valley State University

Grand Valley State University (GVSU) has been recognized as one of the nation’s most environmentally-responsible colleges by the Princeton Review and ranked 16th in the nation for sustainable practices based on the Green Metric World University Ranking. GVSU faculty, staff and students have embarked upon a journey to transform our university into a dynamic and fully integrated learning community. We are building a truly sustainable university culture that integrates curriculum, research, community, and infrastructure. This session will examine specific examples, such as a sustainable food systems project, LEED-certified buildings management (currently 15), a storm-water management system, and the GLISTEN (Great Lakes Innovative Stewardship Through Education Network) project.
TUESDAY 11:00AM

**CONFEERENCE TRACK: Innovation**

**Integrated Water Management at a Rapidly Growing, Drought-prone Campus**
Cindy Shea and Sally Hoyt, UNC Chapel Hill

Following a severe drought in 2002, the University of North Carolina at Chapel Hill implemented an integrated and comprehensive water management strategy. “Free” resources, such as stormwater, were combined with new sources, such as reclaimed water, and more efficient equipment and business practices. Potable water use has subsequently declined by over 50% per gross square foot, avoiding $15 million in potable water costs. Both the research-intensive University and UNC Hospitals are more resilient to future water shortages which are sure to occur as the Research Triangle region continues to grow rapidly, and a changing climate increases summer temperatures.

**CONFEERENCE TRACK: The Built Environment**

**(Horti)Culture of Learning: How Landscapes Engage, Teach and Conserve**
Joe Burkhardt, Mahan Rykiel Associates
Karen Petroff, University of Maryland
Shane Carmadella, Ruppert Nurseries

Campus landscapes must embody the intersection of academics, social engagement, and value – incorporating effective design and implementation that is flexible as well as beautiful. With sustainability in mind and budgets stretched further every year, today’s higher education environments must still maximize each of these key roles. This session will explore specific strategies to create campus environments using materials and techniques that minimize budget impacts, conserve natural resources and showcase sustainability by creating outdoor spaces that can also play an active role in student education. Session presenters will share institution, designer and contractor perspectives.

--

TUESDAY 1:30PM

**CONFEERENCE TRACK: Strategic Implementation**

**Water Use Sustainability: Improving Landscape and Outdated Irrigation**
Markus Hogue and Brett Gustafson, The University of Texas at Austin

With droughts affecting higher education campuses across the United States, sustainable water management is becoming a key aspect of conservation. The University of Texas at Austin has implemented a central irrigation system that monitors water usage for the landscape and alerts managers when problems occur. Water usage data from the system allows the university to pinpoint high water use areas and redesign the landscape and irrigation appropriately. The water sustainability effort successfully uses the latest in technologies in order to keep a healthy landscape and conserve water.

**CONFEERENCE TRACK: Innovation**

**The Climate Adaptation Alliance: Advancing Higher Education Leadership for a Changing Climate**
David Hales, Anne Walpe and Sarah Brylinsky, Second Nature

Addressing climate-related risks and adaptation strategies is both a necessary and strategic priority for institutions of higher education in the 21st century. Our institutions must be equipped to face increasing change and uncertainty, actively engage in preparing students to solve real-world problems, and organize the education and research needed to create and maintain a sustainable society. Resiliency initiatives are also an opportunity to forge strong, mutually beneficial relationships with the communities upon which campuses depend. This session will discuss the creation of a strategic Alliance for mobilizing institutional resources to prepare for living, teaching, and building in a changing climate.
40-Minute Concurrent Presentations continued

**Tuesday, April 16**

**80-Minute Concurrent Workshop**

**CONFERENCE TRACK: Innovation**

**Harnessing Seawater: An Innovative Thermal Exchange HVAC System**

Jasmine Room

Robert Klinedinst, Harriman
Scott Beatty, Southern Maine Community College

The installation of a uniquely designed seawater heat exchange system in Casco Bay is an example of innovative technology recently implemented during the renovation of the Lighthouse Building at Southern Maine Community College. Adapted from maritime engineering technologies, the ocean-based technology utilizes a Variable Refrigerant Volume (VRV) system with geothermal heat pumps that heat and cool the building. Compared to a conventional oil-fired heating/DX cooling system, this environmentally-friendly technology reduces costs by 33% during the heating season and 27% during the cooling season.

**Implementing and Measuring Sustainable Practices in Penn’s Campus Offices**

Lilac Room

Andrea Kreiner and Dan Garofalo, University of Pennsylvania

The University of Pennsylvania implemented its Green Office certification program in March 2012. The success of the program is being tracked and measured in several ways, ranging from traditional “bean counting” approaches to a pilot program aimed at measuring the carbon dioxide reductions resulting from the actions taken by the certified offices. This session will present Penn’s Green Office Program, an analysis of how the program is being implemented by offices, the standard measurement techniques being used, and successes and challenges in trying to measure the carbon dioxide emission reduction resulting from behavior changes in certified offices.

**CONFERENCE TRACK: Behavior Change**

**The Power of Narrative: Telling the Story of Sustainability in Higher Education**

Harmony Room

Joshua Lasky, University of the District of Columbia
Paul Morgan, West Chester University
Blaine Collison, US Environmental Protection Agency

Inspiring others is an essential skill for sustainability professionals. Compelling colleagues and students to action is only possible by placing our actions, whether at the local or global scale, within the context of a broader narrative. This session is designed to engage participants in a dialogue on how we might change our approach to our work, emphasizing story to make our efforts more effective and add value to our roles as change agents. The presenters take a holistic approach to sustainability which emphasizes individual and organizational learning, as they serve in dual staff and teaching roles at their respective institutions.
Achieving a cultural shift at an institution requires a collective shift at each level of an organization and can often seem overwhelming. In an effort to shift norms on specific behaviors, the sustainability and communications offices at the University of Richmond created the Be ONE campaign to integrate sustainability into the Richmond experience throughout the year. Each month a specific behavior was targeted through events, promotions, marketing, and outreach. Selected focus areas included transportation, water use, food, energy demand, and recycling. The campaign will culminate in April 2013 with a celebration of accomplishment.

In order to achieve the short-term goal of piloting a LEED for Existing Buildings: Operations & Maintenance (LEED-EB:O+M) project on campus, the Office of University Sustainability (OUS) at Purdue University initiated such a project with a novel twist. Rather than simply hiring a consultant to complete the certification documentation, OUS assembled a small group of graduate students to complete the certification; the students would self-organize and self-manage the process with only strategic input from ‘professionals’. LEED-EB:O+M is an ideal tool for experiential learning on a college campus – allowing the students to gain real world experience in full-spectrum sustainability.

A sustainable campus calls for an integrated planning framework which embraces the balance between the built environment and conservation of natural resources, protects the natural ecosystem and local watershed while planning for transportation options and human interface. The 2010 Yale Sustainability Strategic Plan called for the creation of a supplement to Yale’s 2000 campus planning document to integrate sustainability into the planning and development of Yale’s built environment. This presentation will describe the process and outcomes of the development of the 2013 Sustainability Supplement and its impact on Yale’s 2013 Sustainability Strategic Plan.

Engaging staff in measures targeted at cutting resource consumption can produce positive changes to any institution’s triple bottom line: people, planet, profit. The University workplace is no exception. This session will provide an analysis of how a university can leverage environmental education to improve staff development, operational performance, and its environmental footprint by implementing a successful sustainable workplace program. New York University will serve as the case study to measure the effectiveness of the University’s bottom up approach to creating more environmentally friendly workspaces for staff and faculty through its Sustainability Advocate Program.
9TH ANNUAL SMART AND SUSTAINABLE CAMPUS CONFERENCES

Mark Your Calendar
March 3 & 4, 2014
Hyatt Regency Baltimore on the Inner Harbor

Call for Proposals opens July 1, 2013

www.smartandsustainable.umd.edu