



## **Building Living Landscapes - Colorado Pollinator Summit**

Denver Botanic Gardens

November 9, 2018

8:00am - 4:30pm

### **Agenda:**

- 8:00-9:00am Registration and Check in
- 9:00-9:15am Welcome with Amy Lewis
- 9:15-12:30pm Plenary Session
- 9:15-10:00am **Louise Chawla , Ph.D. - Living Landscapes for Human Health and Wellbeing**
- 10:00-10:45am **Adrian Carper, Ph.D. - The Natural History of Colorado's Native Bees: Informing conservation through ecological research**
- 10:45-11:00am Break
- 11:00-11:45am **Danielle Bilot - Designing for Diversity with Urban Pollinators**
- 11:45-12:30pm **Colorado State Agency Panel – Building Pollinator Habitat on State Lands**
- 12:30-1:30pm Lunch and Networking
- 1:30-3:00pm Breakout Sessions
- Planting the Seeds of Change: Educating stewards of tomorrow**
- Louise Chawla, Ph.D, University of Colorado - Moderator
  - Rebecca Coon, University of Colorado Museum of Natural History
  - Jessica Goldstrohm, The Bees Waggle
  - Chrissy Maedke, Gold Hill School
  - Lisa Mason, Ph.D., CSU Extension – Arapahoe County
- Crafting Pollinator Habitats: Building living landscapes**
- Amy Yarger, Butterfly Pavilion - Moderator
  - Susan Hansen, United States Department of Agriculture
  - Jim Tolstrup, High Plains Environmental Center
  - John Vickery, Colorado Native Plant Society
  - Kate Hogan, Denver Audubon
- Creating Change at the Local Level: Policy from the ground up**
- Rella Abernathy, Ph.D., City of Boulder – Moderator
  - BeeChicas, Education and Outreach, Boulder, CO
  - Justin Scharton, Nature in the City Program Manager, Fort Collins
  - Kelly Uhing, Denver Parks - Natural Resources Operations
  - Julie Morris, Ph.D., University of Denver
- 3:00-3:15pm Break
- 3:15-3:45pm Report from Breakout Sessions
- 3:45-4:00pm Inspirational wrap up with Amy Lewis
- 4:00-4:30pm Networking and tables/booths



## Plenary Session Speakers

9:15am - 12:30pm

### 9:15-10:00am **Louise Chawla , Ph.D. - Living Landscapes for Human Health and Wellbeing**

Louise Chawla is Professor Emerita in the Program in Environmental Design at the University of Colorado Boulder, where she is actively involved with the Community Engagement, Design and Research Center that she helped establish. As a developmental and environmental psychologist, her work focuses on the creation of optimal environments for healthy development in childhood and youth. The wellbeing of children depends on adults, and therefore she has been tracking research on nature experiences and wellbeing for both children and adults since the first studies of this subject emerged in the 1980s. With Jill Litt, a colleague from the field of public health, she co-authored the American Public Health Association Policy Statement on “Improving Health and Wellness through Access to Nature.” She has written studies and reviews of this subject and speaks nationally and internationally.

#### **Living Landscapes for Human Health and Wellbeing**

Since ancient times, people believed that they found a restorative power in nature, and this belief helped drive the development of our great urban park systems in the 19th century. At the same time, the industrial revolution relied on a functional view that the value of nature consists of the material resources we extract. This talk shares a burgeoning new field of research that has come into its own with the beginning of the 21st century, with accumulating evidence that our health relies on the natural world for more than material goods: we require elements of nature like trees and gardens around us for multiple dimensions of our happiness and the performance of daily tasks. A number of studies show that people benefit from biodiversity, specifically, in their surroundings. This evidence challenges us to rethink how we communicate the value of pollinators and the living landscapes on which we, as well as other species, depend for our wellbeing.

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### 10:00-10:45am **Adrian Carper, Ph.D. - The Natural History of Colorado’s Native Bees: Informing conservation through ecological research**

Adrian Carper is a Postdoctoral Researcher and Lecturer in the Department of Ecology and Evolutionary Biology at the University of Colorado, Boulder. He has studied pollinators, their ecology, and conservation for over a decade, and has organized ongoing research on bee community dynamics here in Colorado since 2013. He collaborates with multiple research institutions within and beyond Colorado, both local and federal agencies, and through public involvement in science, to explore how entire bee communities respond to human land-use.

In addition to his academic pursuits, Adrian has spent much of his time in Colorado focusing on ways to involve students and the public in research on pollinators. He has advised dozens of undergraduate students at CU-Boulder, several of which have gone on to pursue graduate research on bee ecology and diversity across the country. He also fosters public engagement in the University of Colorado Museum of Natural History through citizen science on bee research, and through outreach talks and events with local and regional conservation groups.

#### **The natural history of Colorado’s native bees: informing conservation through ecological research**

Native bees are arguably some of Colorado’s most important pollinators and while they have captured the attention of both scientists and citizens alike, remain somewhat poorly understood. Because native bees are extremely diverse, their conservation poses a multifaceted problem, requiring a great deal of knowledge about not only their diversity, but also their biologies, natural histories, and distributions. Fortunately, with one of the most diverse bee faunas in the US, Colorado has a



long history of research on native bee ecology, evolution, and diversity. However, comprehensive studies on bee communities across space and time in Colorado are rare and make determining the status of local bee community dynamics difficult.

Dr. Adrian Carper, studying Colorado's native bees through the University of Colorado Museum of Natural History, has had a unique view into the role of research in pollinator conservation here in Colorado. He will review some of the history of Colorado bee research, identify areas in need of future research, and summarize his contemporary research aimed at understanding how human land-use practices impact wild bee communities. In addition, he will use examples from his and other research to explore how building ecological knowledge, both within the scientific community and the general public, can help inform wild bee conservation here in Colorado and beyond.

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### 11:00-11:45am **Danielle Bilot - Designing for Diversity with Urban Pollinators**

Danielle Bilot is an Instructor at the University of Colorado, Boulder in Environmental Design. She has given talks across the country, including a TEDx and TED talk on innovation in urban pollinator habitat. She has worked on the White House Pollinator Action Plan, and now has engaged students in her design-research on best practices in urban pollinator habitat in the City of Boulder. Her work has been published online and in international design magazines. Danielle currently resides in Denver, CO and enjoys exploring the natural environments Colorado has to offer.

#### **Designing for Diversity with Urban Pollinators**

Much of the current momentum behind 'saving the bees' goes towards honey bees; they are the poster child for the bee movement, but only represent a small portion of our bees. With 950+ species in Colorado alone, we need to diversify our efforts, especially in urban areas where the diversity of pollinator habitat brings additional benefits to many ecosystems. Cities are a mosaic, and our integrative efforts must account for existing land uses of all types, including underutilized parts of the city. This summer, CU Boulder ENVD students installed the first of many parking lot habitats for native bees on city lots, and are testing theories to derive best management and planting practices. This talk will cover why parking lots can actually be a turning point for pollinator habitat, transferable practices any city can engage in, the necessity of partnerships and media, and how innovative curriculum adaptations are helping to change the landscape of academia and practice.

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### 11:45-12:30pm **Colorado State Agency Panel – Building Pollinator Habitat on State Lands**

As the second largest landowner next to the federal government, there is great potential to manage Colorado state owned lands in a way that protects and enhances habitat for pollinators. The Colorado Department of Transportation (CDOT), Department of Natural Resources (DNR) and Parks & Wildlife (CPW) are innovating approaches to pollinator habitat management by revising policies, maintenance practices and by building public private partnerships. Learn about this important work including a special report on the pilot I-76 Pollinator Highway planting project in Julesburg from state department leaders Michael Banovich, CDOT Landscape Architecture Section Manager, Madeleine West, DNR Deputy Director and a representative of CPW.



## **Breakout Session Panels**

**1:30-3:00pm**

### **Planting the Seeds of Change: Educating stewards of tomorrow**

To increase awareness of pollinators and their importance in our lives, it is necessary to reach audiences of all ages through diverse forms of outreach. These speakers share effective ways to excite people about pollinators in schools, museums and their own yards.

- Louise Chawla, Ph.D, University of Colorado - Moderator
- Rebecca Coon, Exhibit and Program Developer, University of Colorado Museum of Natural History
- Jessica Goldstrohm, Owner and Head Educator, The Bees Waggle
- Chrissy Maedke, Teacher, Gold Hill School
- Lisa Mason, Ph.D., Extension Agent - Horticulture, CSU Extension, Arapahoe County

### **Crafting Pollinator Habitats: Building living landscapes**

Landscapes big or small, urban or rural, can support pollinators. The key is to design, plant and maintain pollinator habitats so that they sustainably thrive over time. These speakers all have experience incorporating habitat for pollinators and other wildlife in a variety of environments and can give you insight about ensuring your pollinator habitat project is a success.

- Amy Yarger, Horticulture Director, Butterfly Pavilion - Moderator
- Susan Hansen, NRCS, Lamar, CO, United States Department of Agriculture
- Jim Tolstrup, Executive Director, High Plains Environmental Center
- John Vickery, Colorado Native Plant Society
- Kate Hogan, Community Outreach, Denver Audubon

### **Creating Change at the Local Level: Policy from the ground up**

Local governments and universities manage large amounts of land and each organization has their own approach. Learn how Denver, Fort Collins, Boulder and the University of Denver promote biodiversity, protect natural lands, create urban habitat and encourage the public to interact with nature. Panelists will share pollinator-protection practices and programs and discuss how local residents and grassroots organizations can support and join local efforts. Come away with ideas about how you can make a difference in your own community.

- Rella Abernathy, Ph.D., City of Boulder - Moderator
- BeeChicas, Education and Outreach, Boulder, CO
- Justin Scharton, Senior Environmental Planner, Nature in the City Program Manager, City of Fort Collins Natural Areas
- Kelly Uhing, Program Manager, Denver Parks, Natural Resources Operations
- Julie Morris, Ph.D., Teaching Associate Professor, University of Denver