CONFERENCE AGENDA

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Toronto and Region Conservation
for The Living City

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William McDonough + Partners

INTERNATIONAL LIVING FUTURE INSTITUTE™

GREEN INFRASTRUCTURE FOUNDATION

CarrotGreenRoof

Canadian Association of Physicians for the Environment

Ontario Association of Landscape Architects

Conseil canadien du COMPOST Council of Canada

TORONTO
Delegate Pass (Government & For-Profit)

Early Bird Rate #1 ending on March 31st $ 199
Early Bird Rate #2 ending on April 30th $ 249
After April 30th $ 299

Delegate Pass (Non-Profit and Charitable)

Early Bird Rate #1 ending on April 30th $ 175
After April 30th $ 199

Delegate Pass (Student Rate) $ 99

Live Webcast of Keynote Presentations and Selected Sessions (June 1st) $ 49
Beer Tasting & Reception - includes light dinner & beer tasting (June 1st) $ 49

Green Roof & Wall and Urban Agriculture Tours SPACE IS LIMITED!

Waterfront Green Infrastructure Tour (June 2) $ 39
Toronto's Rooftop Urban Farms tour (June 2) $ 39

Training Program SPACE IS LIMITED!

Introduction to Rooftop Urban Agriculture - Ben Flanner, Head Farmer and President, Brooklyn Grange (8:30am – 12:30pm) @ Carrot Common $175 ($199 for non-delegates)

Introduction to Living Walls – Brad Bass, Urban Issues Lead, Environment Canada (1:00pm – 5:00pm) @ Carrot Common $175 ($199 for non-delegates)

Soil Workshop - Susan Antler, Executive Director, Compost Canada (1:00pm – 5:00pm) @ TBD $175 ($199 for non-delegates)

Introduction to Green Infrastructure - Michael Krause, Principal, Kandiyo Consulting, LLC (8:30am-12:30pm) @ TBD $175 ($199 for non-delegates)

Integrated Water Management (Morning) - Jeffrey Bruce, Jeffrey L. Bruce & Co Landscape Architecture (8:30am-12:30pm) @ TBD ($199.00/ $175.00) $175 ($199 for non-delegates)
Integrated Water Management (Afternoon) - Jeffrey Bruce, Jeffrey L. Bruce & Co Landscape Architecture (1:00pm-5:00pm) @ TBD

$175 ($199 for non-delegates)

* All prices are in Canadian dollars. 13% HST is not included and applies in addition to the prices above.

Cancellation Policy
Cancellations must be submitted via web site prior to May 1, 2015. A 25% administrative charge applies. After May 1st, only substitutions will be allowed.

Agenda subject to change without notice.
Food is at the center of so much in our lives. It sustains us and brings us together to build community. It is also key to our resilience in the face of climate change. Supporting local and regional food systems not only creates jobs, it also cuts our greenhouse gas emissions. Whether you are integrating food production into the design of your development project, or growing your own food in a community garden, greenhouse or rooftop, bringing food back home is good for all of us and the planet!

Steven W. Peck, GRP Founder and President, Green Roofs for Healthy Cities; Co-founder, World Green Infrastructure Network; Founder, Green Infrastructure Ontario Coalition

Steven W. Peck is the founder and president of Green Roofs for Healthy Cities (GRHC) www.greenroofs.org, a non-profit industry association that is working to rapidly build the green roof and wall industry across North America. Green Roofs for Healthy Cities has over 1500 members ranging from individuals to multinational corporations. The association has developed a Green Roof Professional (GRP) Accreditation program with over 700 accredited GRPs. GRHC advocates for public policy support of the industry, facilitates research, organizes two annual conferences – CitiesAlive and Grey to Green. GRHC also publishes a quarterly magazine called the Living Architecture Monitor and within it, the scientific peer-reviewed Journal of Living Architecture. (www.livingarchitecturemonitor.com)

In 2007, he co-founded the Green Infrastructure Foundation, a charitable organization that is dedicated to education on best practices associated with living green infrastructure. (www.greeninfrastructurefoundation.org) In this capacity he co-authored a resource manual on green infrastructure design and benefits and has taught related courses all over North America.

Steven is also founding member and secretary/treasurer of the World Green Infrastructure Network (WGIN), an international non-profit organization that encourages and supports the formation of green roof and wall industry associations around the world. WGIN’s next conference is in Nagoya, Japan in October 2015. www.worldgreenroof.org

In 2010, Steven founded the Green Infrastructure Ontario Coalition, a growing network of organizations that are working to develop supportive green infrastructure policy for adoption by the Province of Ontario. www.greeninfrastructureontario.org. His latest work, The Rise of Living Architecture (2013) contains essays on the development of the green roof and wall industry in North America and profiles of over 50 industry leaders from designers to policy makers that made it happen. (www.greeninfrastructurestore.com)

The green roof industry completed an estimated 100 million square feet of green roofs over the last 10 years in North America, and is working towards the implementation of an additional 1 billion square feet of green roofing and thousands of green walls by the year 2022.
This presentation will cover multiple projects that integrate greenhouses and buildings. People want to eat local produce because it is more nutritious, uses less energy to transport (a benefit for addressing climate change), and supports economies at a community scale. Greenhouse food production has additional advantages as food can be grown year-round in a climate controlled setting protected from pollution. In urban areas there is a growing number of open air rooftop farms. The next step in the evolution of this commercial approach is in putting greenhouses on top of buildings.

Roger Schickedantz, AIA, LEED AP BD+C, GRP, Principal, William + McDonough Associates

Roger Schickedantz is a Director, project manager, and architect at William McDonough + Partners where he has worked for over 20 years. His experience with green roofs dates back to the 10-acre Ford Rouge Truck Plant project which was completed in 2003. Projects under construction include two motorcycle factories and a R&D center in India for Hero MotoCorp, and a factory in Chicago for Method Home. All of these buildings include rooftop food production at some scale, ranging from experimental hydroponic greenhouses to a commercially viable 80,000 sq. ft. production facility. William McDonough + Partners has championed food production as a component in a sustainable vision for the planet. Work of the firm includes a study on urban agriculture for the City of Houston, Texas.

Jeff Warschauert, Vice President of Sales, Nexus Corp. GreenHouses

Jeff has been employed by Nexus for over 28 years and the Vice-President of Sales for Nexus for over 19 years. He has been with Nexus since 1988, beginning as a sales person in the Midwestern Area. Most of those years, he was recognized as the Top Producer. Jeff and Sharon live in Henryville, PA. After graduation from Fryeburg Academy in Fryeburg, Maine, he attended Norwalk Community College, Florida State University and Culinary Institute of America. He interned at several four star restaurants in New York City. From there he pursued his life-long love of cooking by owning his own restaurants in Danbury, CT and Winter Haven FL. He then worked for John Deere Equipment Company prior to his 32 years in the greenhouse manufacturing industry. Jeff is without a doubt the most well-known and knowledgeable retail and commercial structure person in the industry. He is a frequent lecturer and writer.
Understanding the Living Building Challenge

“It’s time to imagine a Living Future and a World of Living Buildings”. The International Living Future Institute will provide an overview of the Living Building Challenge, with an emphasis on green infrastructure components including urban agriculture and water management.

The Challenge is a philosophy, certification and advocacy tool for projects to move beyond merely being ‘less bad’ and to become truly regenerative. The Challenge defines the most advanced measures of sustainability in the built environment, and acts to rapidly diminish the gap between current limits and the positive solutions our society seeks.

**Learning objectives**

- General understanding of the Living Building Challenge.
- General understanding of how the Challenge can be used to plan, design and support green infrastructure and urban agriculture.
- General understanding of how the Challenge has been implemented in the US and Canada for institutional and commercial buildings.

**Audience level - Beginner**

**Ethan Griesbach** Project Manager, Toronto & Region Conservation Authority

At TRCA Ethan is responsible for the supervision of environmental impact assessments, and is leading the redevelopment of a TRCA-owned brownfield. He also manages the Living Building Challenge’s Toronto Collaborative and is a presenter on the Challenge.

Designing Integrated Water Management - Towards Net Zero!

This session will provide information on the design and performance of fully integrated site and building water management systems based on the ‘net zero water’ concept. This approach promises to significantly reduce the consumption of drinking water in buildings, reduce discharge to municipal waste water systems, and save on municipal energy by reducing the amount of water treated at municipal facilities.
Recognizing the connection between water management and energy conservation is revealing new opportunities for more efficient use of resources in the built environment.

**Learning objectives**

- Understanding the seven stages in the integrated water cycle: harvest, entry, treatment, conveyance, storage, use treatment, distribution, and usage
- Exploring costs and benefits of integrated water management systems
- Establishing best practices for design, installation and maintenance of system components
- Understanding how system monitoring can be used to evaluate the efficiency and performance of a fully functioning system

**Audience level – intermediate**

**Jeffrey L. Bruce, Principal, Jeffrey L. Bruce & Co. Landscape Architecture**

Jeffrey L. Bruce, is owner of Jeffrey L. Bruce & Company (JBC). Founded in 1986, Mr. Bruce’s accomplishments, commitment, and vision are well documented. He has received over 80 separate design and leadership awards. He has been licensed to practice in 26 states and has served as an invited lecturer, visiting critic, and speaker at over 200 conferences and trade shows. In 1996, Mr. Bruce was elected Fellow of the American Society of Landscape Architects. He is President of the American Society of Irrigation Consultants (ASIC) and Chairman of Green Roofs for Healthy Cities (GRHC). Mr. Bruce is a LEED accredited professional, a certified irrigation designer and an EPA WaterSense Certified Professional. He was one of the first accredited Green Roof Professionals in North America and is a founding member of the Sports Turf Committee for the National Interscholastic Association of Athletic Administrators. Mr. Bruce is author of the “Integrated Water Management for Buildings and Sites” seminar series for GRHC.

**Integrated Food Systems and Industrial Ecology**

This session will focus on integrated resource management projects from around the world that incorporate food production. It will cover nutrient cycling, waste heat recovery, CO₂ use and more.

**Learning objectives**

- Understanding the resources that exist in urban areas and that can be used to support food production.
- Understanding barriers to developing such projects and how they can be overcome.
- Learning about emerging best practices in integrated food systems from around the world.

**Audience level – beginner**

**Peter Lowitt, Director, Devens Enterprise Commission; Chair, Eco-Industrial Development Council**

Peter Lowitt is Director/Land Use Administrator for the Devens Enterprise Commission, the agency charged with permitting the redevelopment of the former Fort Devens army base in Massachusetts. He is developing the EcoStar environmental branding and achievement program to promote eco-industrial networking and green building. He is the chair of the Eco-Industrial Development Council of North America. He has a B.A. in History from Brown University and a M.A. in Community Economic Development from Tufts University.
With the Greenbelt protecting nearly one million acres of farmland in the highly urbanized region around Toronto, we have tremendous access to a permanent local food supply that can support healthier lifestyles, create jobs and strengthen farm viability. A new report, “Dollars and Sense: Opportunities to Strengthen Southern Ontario’s Food System,” calculates the economic and environmental benefits of increasing supply and consuming more local food. Local leaders reveal successful strategies implemented within farmers’ markets and public institutions such as micro-lending, market access, policy support and knowledge transfer. Audience members are then invited to share their innovations and identify greater opportunities for the region.

Learning objectives

- Understanding the extent of agricultural system in the near-urban Ontario Greenbelt and its contribution to enhancing/sustaining a regional food system
- Understanding the economic and job benefits of increasing supply and consumption of local food
- Exploring strategies to help farmers’ access the local food market
- Understanding how big results can be achieved through micro-lending
- Exploring how public institutions are sourcing local ingredients

Audience level - Intermediate/Advanced

PANELISTS

Kathy MacPherson

VP, Research and Policy, Friends of the Greenbelt Foundation

Kathy joined the Foundation in May 2008, bringing more than 25 years of management, policy and program development, and evaluation experience in Canada and abroad. Kathy worked for 11 years in Southeast Asia, including with the World Bank on poverty reduction and directing a CIDA project to help build evidence-based policy development capacity within the Indonesian government. Prior to that Kathy worked in different Ontario ministries and Ministers’ Offices on a range of policy and program reforms. She was delighted to return to Ontario to find that the province had permanently protected prime farmland and areas of environmental significance in the Golden Horseshoe where she grew up.
Food Security & Neighbourhood Development: Developing an Urban Farm in Hamilton

The three acre McQuesten Urban Farm in east end Hamilton is surrounded by social housing, single-family homes and a community centre. The project was born out of the McQuesten Neighbourhood Action Plan and addresses food insecurity, job skills training, education and social connectivity in the neighbourhood.

The City of Hamilton’s Neighbourhood Action Strategy aims to build on local social capital to address health and well-being inequities in 11 Hamilton neighbourhoods. This innovative strategy blends the foundations of asset-based community development with land use planning to develop resident-led, asset-based Neighbourhood Action Plans.

This presentation will focus on the collaborative process followed by the City of Hamilton, neighbourhood residents and stakeholders to design and implement the city’s first urban farm and highlight the lessons learned in using food growing as a tool for social change.

Learning objectives

- Describing the community-based design process that led to the development of the McQuesten Urban Farm.
• Explaining how resident engagement in farm planning contributes to ownership and commitment to the project.
• Identifying the potential for using urban agriculture and food as a tool for social change.
• Identifying barriers and opportunities related to developing an urban farm in an at-need neighbourhood.
• Discussing the implications for your own communities.

Audience level - Beginner

Adam Watson  Project Manager, City of Hamilton

Adam Watson is a Project Manager for the Neighbourhood Action Strategy at the City of Hamilton, Ontario. He has 10 years’ experience planning and implementing waste diversion, food security and environmental programs for the municipality. He has a B.Sc from the University of Guelph and a M.A. in Geography from the University of Toronto.

Community Development Through a Jane/Finch Local Urban Agriculture Network

The TRCA’s Black Creek Sustainable Neighbourhood Retrofit Action Plan (SNAP) team is piloting local urban agriculture initiatives in the Jane/Finch area. Embodied in this neighbourhood is a plethora of innovative opportunities to connect people, kick start social enterprise, promote food security, and create social cohesion.

The initiatives being piloted or planned include: a surplus harvest donation program connecting local single-family homeowners with seniors in apartment towers; a public/private partnership to establish a community vegetable garden and develop social enterprise opportunities at a local market; a community orchard co-op and the establishment of a learning orchard for tenants to develop skills in fruit tree care services; apartment tower balcony gardening programs to increase food security and healthy eating; an intergenerational skills, knowledge and land sharing program that connects people with skills and land with those that want to learn and farm.

Learning objectives

• How to connect those who have surplus with those that could use it.
• How to connect those with skills, knowledge and land with those who do not.
• How to increase food security.
• How to provide skills and job opportunities through small scale hands-on urban agriculture initiatives.
• How to increase social cohesion and resiliency through community cooperation.

Audience level - Beginner

Dr. Cathrin Winklemann  Project Manager, Toronto & Region Conservation Authority

Dr. Winklemann is a Project Manager for TRCA’s Black Creek Sustainable Neighbourhood Retrofit Action Plan. She has worked as a sustainability consultant and in environmental planning and policy in the private and public sectors. She is currently developing and implementing urban agriculture initiatives in Toronto’s Jane and Finch neighbourhood.
Public Farming: Urban Agriculture Projects in New York City (NYC)

Community gardens have existed in NYC since the 1970s, when residents created community gardens on derelict land that had been abandoned by government and private owners. The GreenThumb program was created in 1978 and funded by local governments to support and regulate the growing community garden movement and urban agriculture projects.

Today there is an increased interest in the construction of new gardens and farms in response to social, economic and ecological issues and as an effort to improve food security. The session will present this development as well as examples from New York City’s 2013-2014 Gardens for Healthy Communities’ initiative designed to create new urban agriculture projects and a hydroponic-aquaponic container farm currently being built in Far Rockaway, Queens.

Learning objectives

- Understanding the development of food growing in NYC.
- Understanding NYC’s 2013-14 Gardens for Healthy Communities initiative designed to create new urban agriculture projects.
- Learning about installing a hydroponic-aquaponic container farm.

Audience level - Beginner

Carolin Mees mees architecture

Carolin Mees is an architect living in New York City. Her PhD thesis at the Berlin University of Arts focused on Community Gardens in the South Bronx. She coordinated the participatory design of public urban agriculture projects and is currently organising the construction of a container farm in Queens.
Urban Rooftop Beekeeping for Culinary Honey

In the summer of 2014, an applied research project took place between the Calgary and District Beekeepers Association, SAIT Applied Research and Innovation Services and SAIT School of Hospitality and Tourism. This project implemented a methodology to determine and validate a sustainable location for a bee apiary on a campus building rooftop. Four hives were introduced and maintained for applied research, culinary honey production and curriculum integration. The results of this project has practical application for urban, commercial beekeeping businesses and for those interested in overcoming barriers and implementing rooftop beekeeping programs in their communities or schools.

Learning objectives

- Understanding approvals and rooftop structural considerations for rooftop beekeeping.
- Understanding benefits and drawbacks of urban rooftop beekeeping.
- Determining strategies and best practices for urban rooftop beekeeping.
- Learning how to integrate beekeeping and urban agriculture into classroom curriculum and campus activities.

Audience level - Intermediate

Aja Horsley  Researcher, SAIT Polytechnic

Aja Horsley is pioneering the Culinary and Urban Agriculture research area within SAIT Polytechnic’s Applied Research and Innovation Services department. She is working to engage new culinary and urban agriculture partners to help advance industry technology development and commercialization. She has an Environmental Science degree and is an accredited Green Roof Professional.

Bees as Tools for Interdisciplinary Curriculum Development in Landscape Architecture

Landscape architects synthesize ecological knowledge to integrate with design and program. This is often successfully translated in planning, but rarely are concepts realized in final development. As cities expand, objective study of ecological design
for urban wildlife is essential to ensure intentions do not have negative impacts. Many species benefit from ecological design; one group especially are bees, which visit a variety of flowers and use nesting materials common in cities. More than 300 bee species reside in Toronto and acknowledging this richness in design is imperative for conservation and ecological functions provided.

This talk will discuss interdisciplinary curriculum development for a course at the University of Toronto. In it, students build bee-nesting habitat that could be integrated into architectural applications. Bee nest needs vary tremendously, and each student was assigned parameters to follow. This collaboration illustrates the inter-disciplinary opportunities in teaching and the importance of broader training of future landscape architects.

Learning objectives

- Why ecological design is a multidisciplinary process, and how this framework leads to curriculum development.
- Why ecology should be an essential component in landscape architecture curriculums, as cities require novel approaches to deal with climate change and resilience.
- Understand the diversity of bees, and how they are essential pollinators in all environments including urban ones.
- How bees respond to urban landscape change.
- How bees are good indicators for investigating how design can harm or enhance populations.

Audience level - intermediate

Scott MacIvor PhD Candidate, York University

Scott is an ecologist in Toronto, Canada. He is interested in biodiversity and wildlife conservation in urban planning and design. He is completing a PhD in Biology at York University and lectures in the Faculty of Architecture, Landscape, and Design at the University of Toronto.

Title TBD

TBD

Learning objectives

TBD

Audience level - TBD

Paul Kelly Honeybee Research Centre, University of Guelph (invited)

TBD
This talk will investigate how the threat of climate change is already affecting your business. You'll uncover how to take a leadership position in your industry by leveraging the challenges of environmental responsibility, you'll motivate your operations team to uncover new opportunities, inspire your sales group to upsell new services, or tap into your lifecycle to uncover new product lines. Instead of being a depressing talk on the environment, this hilarious talk will inspire you and transform how you look at your business.

This brand new talk is "bullet-point free" (no boring, text heavy slides used). Using rich graphics and video, this presentation will expand your imagination and provide you a list of actions to take into your own projects. Presented by the acclaimed speaker, architect and author of "Green Building for Dummies".

**Eric Corey Freed, AIA, LEED AP, Hon. FIGP, Vice President, International Living Future Institute**

Eric Corey Freed is Vice President of the International Living Future Institute, a global hub for visionary programs, including the Living Building Challenge and Living Product Challenge. As a licensed architect, Eric brings over 20 years of experience in helping architects, builders and homeowners use sustainability to improve the design and operational savings for thousands of buildings around the country. Eric has helped thousands of companies monetize sustainability by showing them how to cut their real estate operations costs in half. Eric co-developed the Sustainable Design programs at the Academy of Art University and University of California Berkeley Extension, and currently teaches at Boston Architectural College. He has served on the boards of the Inland Empire Chapter of the USGBC, Architects/Designers & Planners for Social Responsibility (ADPSR), as well as the advisory boards of over a dozen other organizations.

Eric is the author of 11 books including “Green Building & Remodeling for Dummies”, a bestseller with over 200,000 copies in print and "Sustainable School Architecture". His how-to book “GreenSense for your Home” won the 2011 Outstanding Book Award from the American Society of Journalists and Authors. He is also co-founder of Architect Exam Prep, providing innovative study guides for young architects.

Eric is considered a leader in the field; named by San Francisco Magazine "Best Green Architect" in 2005; "Best Visionary" in 2007; and “Green Visionary” by 7x7 Magazine in 2008. In 2012, he was named one of the 25 "Best Green Architecture Firms" in the US, and one of the "Top 10 Most Influential Green Architects.”
Urban Agriculture: An Overview of TRCA’s Approach

The Toronto and Region Conservation Authority (TRCA) recognizes that agricultural land is a vital resource to be conserved and that progressive environmental stewardship in the farming/agricultural sector is necessary to collectively realize The Living City vision. The Living City vision is one of a healthy, attractive, sustainable urban region extending into the 22nd century, based on a foundation of healthy rivers and shorelines, regional biodiversity, sustainable communities and business excellence. TRCA’s vision for sustainable near-urban agriculture on its lands includes the use of diverse crops, innovative and sustainable agricultural production methods, including a combination of appropriate technology, Environmental Goods and Services, Beneficial Management Practices and new partners. In addition, learn how TRCA is supporting the agricultural community, broadly, and working with municipal partners to support and influence urban agriculture on public lands.

Learning objectives

- Learn how the TRCA: promotes social equity and food security in communities by increasing access to fresh, healthy and local food.
- Supports and provides opportunities for promoting agricultural investment and community economic development.
- Reduces food miles and the regional ecological footprint by encouraging locally grown, raised and sold food.
- Provides a space for celebrating the cultural diversity of communities by growing a diverse range of crops.
- Promotes Environmental Goods and Services and Beneficial Management Practices.

Audience level - Beginner

Victoria McGrath  Watershed Specialist, Toronto and Region Conservation Authority (TRCA)

Vicky McGrath is the Humber Watershed Specialist with the TRCA. In addition to promoting the Humber watershed, Vicky’s portfolio includes peri-urban and urban agriculture and health and well-being. With a Masters in Sustainability Leadership from the University of Cambridge, Vicky has a strong background in sustainable community planning and policy.
Urban Agriculture and Stormwater Policy in the District of Columbia

Washington DC is a leader in the use of green infrastructure to manage stormwater and prevent it from contaminating nearby Chesapeake Bay. This presentation will provide an overview of the policy framework with an emphasis on how DC is incorporating food production.

Learning objectives

- Understand which policies are supportive of green infrastructure implementation.
- Learn best practices in stormwater policy and urban food production.

Audience level – All

**Dr. Hamid Karimi**  Deputy Director, Natural Resources Administration, DC Department of the Environment

Dr. Karimi has more than 25 years of experience in environmental management. In his current role at the Department of Environment he oversees a number of programs including Stormwater Management, Fisheries and Wildlife, Watershed Protection and Water Quality. He has experience in the development of regulatory processes on stormwater utility and pollution control, in particular the Chesapeake Bay restoration and the Anacostia River Partnership. Dr. Karimi has published and presented extensively in scientific and environmental forums in North America.

Farmers Market Development: Opportunities, Constraints and Successes

This case study will share the challenges, opportunities and successes of developing a farmers market in Toronto. The Leslieville Farmers Market is now in its fifth season with more than 30 vendors selling a range of fruit, vegetables, meat, baked goods and specialty foods. It hosts musical acts, a kids food education program and other family-friendly activities every Sunday during the warmer months, transforming an unused park into a vibrant community space and local economy. It focuses on increasing access to healthy, organic food that supports local farmers. Leslieville was selected as a Farmers Market with Best Practice by the Ontario Culinary Tourism Alliance.

Learning objectives

- Understanding the process of establishing a farmers market.
- Learn about common challenges and how to overcome them.

Audience level – All

**Janaki Hadida**  Founder and Director of Experience, Leslieville Farmers Market

Janaki is the founder of Leslieville Farmers Market. She balances her involvement here working as the Manager of Engagement Strategy and Programming for Green Living Enterprises which focuses on food sector development in the Greater Toronto Area.
**Indoor Plant Production: Science and Technology Update**

Urban agriculture, including vertical farming, has been gaining in popularity. This presentation will introduce the current trends and state-of-the-art technologies used in indoor plant production. It will cover nutrient recipes, irrigation water consideration, growing substrates, CO$_2$ and environmental control. There will be a particular focus on indoor lighting, light types and their advantages and disadvantages.

**Learning objectives**

- Understand the current trends in indoor plant production.
- Know the latest technologies being developed to improve indoor plant production.
- Understand the basic science of light in indoor plant production, and the advantages and disadvantages of different light types.

**Audience level - Beginner**

**Dr. Youbin Zheng**  
*Environmental Horticulture Chair, University of Guelph*

*Dr. Zheng is an Associate Professor at the University of Guelph. His research focuses on developing technologies for producing plant materials in a sustainable and environmentally friendly manner. His expertise includes plant nutrition and fertilisation, irrigation and water treatment, soils and growing substrates, and other greenhouse and nursery production-related technologies.*

**Green Roof Innovation Testing Laboratory (GRIT Lab)**

The GRIT Lab at the University of Toronto is an interdisciplinary research initiative that analyzes the environmental performance of three green building systems: green roofs, green facades and green roof integrated solar photovoltaics. Each of the three experimental installations is continuously monitored through a series of thermal and hydrological sensors, as well as field observations. The data is analyzed according to several performance criteria ranging from stormwater retention, to reduction and delay in peak flow, sub-zero performance, evaporative cooling, plant biomass and biodiversity, pollinator species diversity, and energy production efficiency. This talk will provide an overview of the GRIT Lab's experimental design and discuss
preliminary findings.

Learning objectives

- The relevance in monitoring green building technologies performance in research and practice.
- The role of interdisciplinary research and academic-industry collaborations.
- A comparison of common industry practices and construction standards to set geo-specific benchmarks for performance.
- Experimental design, instrumentation and calibration.
- Preliminary findings on plant cover, biodiversity and thermal cooling of green roofs and green facades.

Audience level - All

Liat Margolis  Director, GRIT Lab, University of Toronto

Liat Margolis is Assistant Professor of Landscape Architecture in the Faculty of Architecture, Landscape and Design. Liat is also the Director of the Green Roof Innovation Testing Laboratory (GRIT Lab), an interdisciplinary research facility that investigates the environmental performance of green roofs, green walls and green roof integrated solar photovoltaics.
Discussing Urban Livestock: Opportunities and Constraints

TBD

Learning objectives
- TBD

Audience level

Lorraine Johnson  Author “City Farmer”

Through writing and advocacy, Lorraine is known for her unconventional outlook on the world of gardening. She has published more than 10 books on a broad range of topics, from composting and native plant gardening to censorship and travel. She further promotes urban food production through her involvement with numerous organizations such as the Toronto Community Garden Network, Toronto Botanic Garden and the American Community Gardening Association.

Urban Foraging: Opportunities, Challenges and Best Practices

Foraging for wild foods is an activity often associated with rural or wilderness areas. However, the public and private green spaces found in cities also host foraging opportunities. In an urban environment, foraging is undertaken for a variety of reasons: as a way to spend time in nature and ‘escape’ the city; providing a more meaningful connection with food and where it comes from; as a cultural practice for groups that have a history of foraging; or as an opportunity to acquire nutrient-rich food. However, while many urban residents forage, municipal legal and policy frameworks are not always conducive to this activity.

This session will examine the practice and culture of foraging in urban environments. Presentations will examine the motivations behind foraging, how foraging has integrated with the local food movement as well as movements towards greater self-sufficiency, best practices, and governance challenges.

Learning objectives
- To become familiar with the practice of foraging in urban areas.
- To discuss existing and emerging foraging opportunities in urban environments.
- To discuss ecological issues surrounding foraging and identify best practice.
- To discuss how municipal legal and policy frameworks may encourage or present barriers to foraging, and how these frameworks can achieve their end goals (e.g. ecological protection) while co-existing with foragers.
- To explore the various social, cultural, recreational, cultural and commercial
motivations behind foraging in urban areas and cast light on this little known practice.

Audience level - Beginner

**Dr. Victoria Kramkowski**

Dr. Kramkowski has a PhD from York University and has taught, published and consulted on various topics including scenario planning, climate change adaptation, environmental assessment, urban planning and natural resources management. Her other interests include how urban residents use a city’s green spaces in unconventional ways, including foraging for nutritional, cultural, social and commercial purposes.

**Re-valuing the Urban Wood Economy and its Integration into Greater Toronto Area Horticulture**

By examining the underlying ecologics (environmental economics), we can re-value the entire urban forest value chain. Due to regular tree maintenance and an ongoing Emerald Ash borer infestation, Toronto’s urban forest produces large volumes of wood chips, tree limb and stem wood. Currently the City of Toronto processes wood chips, leaf and yard waste into compost and mulch mixes, and larger wood pieces are ground into wood chips to be used throughout the City’s parks and other green spaces. However, private landowners may not appropriately dispose of waste wood, and it may end up in landfill and convert into methane.

Instead, the City of Toronto has begun the Urban Wood Utilisation initiative, using integrated resource management to fuel the economy. By involving the design and artistic communities, the aim is to re-assess the entire value chain from trunk to twig. In this design economy some products will be familiar, such as wood tables and flooring. Rather than mixing dry wood chips with wet leaves for compost, for example, re-valuing processes and re-purposing products can save agriculture and urban forestry.

**Learning objectives**

- Resource Conservation and the Triple Bottom Line
- Design Thinking leads to the Design Economy
- Integrated Resource Management intersects Integrated Design
- Regional Agriculture can be ecologically transformed by the Forest
- Renewable Energy include Bio-energy

Audience level - Beginner

**Sean Cosgrove, Urban Planner, Toronto Renewable Energy Office**

Sean Cosgrove has a Masters in Community Planning from the University of Calgary, is a full member of the Canadian Institute of Planners, a Registered Professional Planner and an accredited professional in LEED. He has extensive background in sustainable systems analysis, green economic development, environmental and resource conservation and renewable energy.
CASE STUDIES: A LOOK AT TORONTO URBAN ROOFTOP FOOD PRODUCTION

2:30 – 4:00pm
Room: TBD

Moderator: James Kuhns Co-coordinator, Toronto Urban Growers

Ryerson Urban Farm

In 2013, Ryerson’s student-initiated garden group was invited to convert the 10,000 sq ft ornamental green roof on the Engineering building (originally built in 2004) into an edible garden. The project began as a 1,000 sq ft pilot project to investigate feasibility of the site, and the full conversion was completed in 2014 with the help of 28 dedicated volunteers and two part-time staff.

The results of the first growing season were promising: over two tonnes of food were produced and distributed between volunteers, the weekly campus farmers’ market and Ryerson’s Food Service kitchens. Over 300 people visited the farm through tours, workshops and volunteering. In this rapidly densifying neighbourhood in Downtown Toronto, students and the community have demonstrated that food can be grown and consumed within a few metres of each other.

In 2015, Ryerson Urban Farm plans to continue to build capacity for both food production and education by creating year-round programming and offering CSA shares to the local community.

Learning objectives
- The integration of education and production in urban agriculture.
- Community engagement / co-designing urban agriculture projects with multiple stakeholders.
- Soil building strategies and techniques to support a healthy community of micro-organisms and insects in urban gardens.
- Water saving techniques for high production rooftop farming.
- Year-round ground coverage for high production rooftop farming.

Audience level - All

Arlene Throness  Program Coordinator, Ryerson University

Arlene is passionate about growing, sharing and enjoying food. Prior to Ryerson, she was the coordinator of Concordia University’s Rooftop Greenhouse, and has worked in farms, kitchens and greenhouses across Canada. She is an avid enthusiast of urban permaculture, and is always looking to share and trade ideas within the community for innovative ways to bring local resources into the food cycle.
FoodShare's School Grown Rooftop at Eastdale Collegiate Institute

This presentation will provide an overview of FoodShare’s work with the Toronto District School Board to establish rooftop gardens at three schools since 2012. There will be a special focus on the School Grown Rooftop at Eastdale Collegiate Institute, a 13,500 square foot market garden, education centre, and event space. The garden is made up 240 raised bed planters, 180 sub-irrigated bucket planters, and 50 half-barrel planters.

The School Grown Rooftop is used as a hands-on learning laboratory for students from Eastdale and other schools, but also serves as a production farm where fruits and vegetables are grown for sale at farmers’ markets and to local restaurants. The other two projects to be discussed are smaller teaching gardens at elementary schools. Topics covered will include design, construction, materials, crop selection, challenges and successes.

Learning objectives

- Become familiar with FoodShare’s school rooftop garden projects.
- Understand the design and construction of raised bed planters and sub-irrigated bucket planters.
- Understand rooftop garden crop selection for market and restaurant sales.
- Be exposed to school rooftop garden projects of various scales.
- Be inspired for alternative uses of under-utilised rooftop terrace spaces.

Audience level - All

James Davis  School Garden Coordinator, FoodShare

James has worked with FoodShare’s Field to Table Schools team for five years and has been involved in designing and building rooftop gardens at three Toronto schools. A graduate of the Environmental Studies Program at York University, James uses his permaculture and carpentry skills to create exciting ways for students to grow food at school.

The Green Roof at AccessPoint on Danforth

Access Alliance in Toronto is the first Community Health Centre in Ontario to build an intensive Green Roof. Since 2011, this 6,000 sq ft green roof functions as a teaching garden through a program called Green Access. Green Access weaves together benefits between social, community and environmental health. This experience is showing the way forward for the health sector: integrating urban food-growing into a range of initiatives that improve community health and well-being.

Learning objectives

- Innovation in the health services sector using green infrastructure.
- Community-based environmental stewardship.
- Volunteer engagement to plan, plant, maintain and harvest the Green Roof garden.
- Selection of suitable and multicultural annual and perennial plants in limited soil depth for food, culinary and medicinal herbs, native plants and pollinator habitat.

Audience level - All

Lara Mrosovsky  Community Animator, Danforth Community Access Centre
Capturing Urban Nutrient Cycles

This session will provide an overview of urban nutrient cycles and best practices associated with the production of quality compost.

Learning objectives
- TBD

Audience level - All

Susan Antler Executive Director, Compost Canada

Susan Antler serves as the Executive Director of The Compost Council of Canada, the industry and advocacy organization for organics recycling advancement and compost use. For further information, visit www.compost.org.

Growing Media Design as a Key Factor in Successful Rooftop Farming

Rooftop farms are a recent innovation for farmers and green roof professionals alike. Designing rooftop farms requires a comprehensive approach, which goes far beyond ground level farming and typical roof greening. Rooftop farmers need to focus on crops, yields and customers for their produce, while balancing this with the appropriate soil and other technical necessities of farming atop a building.

The basic technical key factors for the success and longevity of rooftop farms are the same as for any other green roof project. Preserving the structural soundness of the building and protecting the integrity of the waterproofing membrane has to be a top priority. Conventional green roof systems have to be modified in order to meet the special needs of agricultural use, especially the growth media.

Based on the evaluation of two recent pilot projects in NYC the main focus of this presentation is on designing the proper ‘soil’ which simultaneously meets the specific requirements of agriculture and green roof technology.

Learning objectives
- Identify the technical requirements of rooftop farming.
- Understand how farming on a roof differs from farming on a field.
- Identify farm specific factors which may require green roof system adjustments.
• Understand the difference between natural soil and engineered growth media.
• Consider green roof maintenance requirements as part of rooftop farming.

Audience level—Advanced

**Peter Phillippi** Technical Director, Rooflite (Skyland USA LLC)

*Peter has been dedicated to green roofs for more than 30 years, and his trend-setting innovations and outstanding projects have been recognized nationally and internationally. As Technical Director of Rooflite, he is responsible for the development and quality assurance of SKYLAND’s line of rooflite® certified green roof media products.*

“**Soiled”**: Optimizing Soil Properties for Urban Food Production

High quality soil is a key factor in successful agriculture, whether urban or rural. Participants will gain an understanding of soil components, nutrient exchange and moisture transfer in soil systems. They will be introduced to the basic concepts of applied soil physics, hear about soil management challenges and learn how to manipulate soils to enhance the physical properties that favour plant development. Next, they will learn techniques for evaluating soil nutrient levels and availability.

**Learning objectives**

- To become familiar with soil as a key factor in successful agriculture.
- Able to evaluate soil nutrient levels and availability.

Audience level - TBD

**Carole Lulham** Co-Owner, Soiled Sericulture

*Carole is a professional aerologist and horticulturist long involved in crop production in western Canada. She is currently the western Canada Green Roof Advisor for Supreme Canada, specializing in the design and installation of green roofs in extreme climates. She is a Green Roof Professional, as accredited by Green Roofs for Healthy Cities, and an Organic Master Gardener. Despite this, it took her a long time to figure out how to grow tomatoes reliably in Calgary’s fickle Zone 3 Chinook zone.*
**Andres Bernal**  Managing Director, EllisDon

Andres is responsible for EllisDon’s Sustainability and CSR initiatives, including the Sustainable Building Services team. This business unit is comprised of Sustainability experts with Architectural, Engineering, Environmental, Technical Services and Development backgrounds. It provides internal and external consulting services including LEED, energy initiatives and existing buildings renewal.

**Paul Bremner**  Project Manager, EllisDon

TBD

**Jennifer Mallard**  Associate, Diamond Schmitt Architects

Jennifer Mallard joined Diamond Schmitt Architects in 2000, becoming an Associate in 2005. She has been involved in many aspects of practice in both the public and private sectors.

At Diamond Schmitt, Jennifer has provided design and project management leadership on many projects including the Sidney Harman Hall, Shakespeare Theatre Company in Washington, DC, the Pierre Berton Resource Library in Vaughan, the Faculty of Law at the University of British Columbia and Daniels Spectrum and the Paintbox condominium in Regent Park. She is currently project architect for Architectural Rejuvenation of the National Arts Centre in Ottawa.

**Heela Omarkhail**  Manager of Community Partnerships, Daniels Corporation

Heela joined the Daniels sales team at the first market condominium in Regent Park. What started as a summer job has become her career and passion. Heela has the unique ability to create and facilitate innovative collaborations and partnerships that often go well beyond the industry standard. Telling the story of the Regent Park revitalization is one of Heela’s passions as she connects to her audience and engages them in this incredible city building project.

Daniels Corporation is one of the first residential builder-developers in Toronto to embrace food production on and around its multi-unit developments. The results have been positive for the occupants, for the community and for Daniels.
Case Study: Green Wall Solutions For Food Production

Food security is a huge issue, especially in urban areas. Green wall systems offer a design solution for areas with limited space, contaminated soil conditions, and other limited resources.

This presentation will cover real-life applications of green wall food and herb production that not only produces food closer to the end user (reducing fossil fuel use for transportation) but also offers ancillary benefits to the communities they serve.

Learning objectives

- To become familiar with food production opportunities using green wall systems.
- To become knowledgeable about design and maintenance practices for green wall systems.

Audience level – Advanced

Melissa Daniels Vice President, PlantConnection

Melissa Daniels, CNLP, has been in the nursery and landscape business for over twenty years. Melissa, along with Anthony Caggiano, is the owner of Plant Connection, developers of the patented G-O2 living wall system. Plant Connection specializes in green roof and green wall products and services including design, roof and wall systems, soil and plants, consulting and maintenance training. Melissa is the Advocacy Committee Chairperson for the NYSNLA and the Past President for LINLA. She serves on the green industry review committee for the New York State Farm Viability Institute. She also is the Co-Chair of the Green Walls Committee for Green Roofs for Healthy Cities and is a trainer for the Green Walls 101 Course.

TBD

TBD

Learning objectives

- TBD

Audience level - TBD

Amber Ponce LiveRoof/ LiveWall (Invited)
Using Vertical Agriculture to Improve Water Quality and Produce Food

Urban agriculture is often difficult due to a lack of space or a lack of inputs. Solutions to growing food on walls or on rooftops are often beyond the capacity of most people. Vertical agriculture technology combines a green wall and a biofilter that can be constructed for under $200. The design is very flexible, allowing for modification of shape and materials. A manual has been developed and tested with secondary school students.

The system can grow food on grey water, stormwater runoff and raw sewage. A biofilter is used to ‘liberate’ the nutrients, which are then made available to the plants. The process is repeated over 24 hours to ensure almost 100% removal of pollutants. The system has been tested for removal of BOD, ammonia, surfactants and phosphorus. Results will be shown for existing models and new innovations to improve phosphorus removal.

Learning objectives

- Growing food in confined spaces on a small budget.
- Integrated solutions for growing food and addressing other environmental issues.
- Sufficient knowledge and confidence to construct a system.
- How to overcome the barriers unique to specific locations.
- Urban agriculture and exacerbate other problems and some solutions to prevent this from happening.

Audience level – Intermediate

**Dr. Robert Cameron** Principal, Environmental Technologies

Dr. Cameron has nearly three decades of experience with technical environmental issues on all continents except Antarctica. *He obtained his doctorate from Penn State’s Center for Green Roof Research in August, 2012. He is also a principal at Eco Applied Technologies, a company that focuses on phytoengineering applications in living architecture for industry, commercial, and residential buildings domestically and abroad.*
Financing the Farm: Making Dollars and Cents of Rooftop Agriculture

Commercial rooftop farms offer urbanites the taste of fresh produce grown close to home, but are these farms subject to the same financial woes as their rural counterparts? This talk digs into the dollars and cents of rooftop agriculture to help aspiring skyline farmers and entrepreneurs keep ahead of the game. Case studies will reveal unique financing models, varied approaches to payback and the power of branding and technology.

Learning objectives

- Designing with intent: juggling construction costs and material integrity.
- Financing the farm: the role of investors, crowd-funding, personal capitol, and loans.
- Profits and payback: different strokes for different folks.
- Personnel dance card: staffing to meet your farm’s needs.
- Innovative sales models: branding and the effective use of technology.
- Replicating success: gaining rooftop acreage through networked farms.

Audience level – Intermediate

**Lauren Mandel** Project Manager, Roofmeadow LLC & Owner, EAT UP LLC.

Lauren Mandel is a Project Manager and Rooftop Agriculture Specialist at the Philadelphia-based green roof firm Roofmeadow, where she designs green roofs, oversees construction around the country, and is integral to the firm’s rooftop agriculture projects. She authored "EAT UP: The Inside Scoop on Rooftop Agriculture", the first full-length book about rooftop food production, and is a contributing writer for Landscape Architecture Magazine and Urban Farm. Lauren owns EAT UP, LLC through which she offers roof-to-table speaking engagements and journalism services. She holds a Master of Landscape Architecture from the University of Pennsylvania and a BA in Environmental Science.

**Ben Flanner** Head Farmer & CEO, Brooklyn Grange

Ben Flanner is a trained Industrial Engineer with a background in business and marketing. In 2009 Ben co-founded Eagle Street Rooftop Farms, the first rooftop farm in New York, and is widely recognized as a leader in rooftop urban agriculture. His expertise in systems optimization and unwavering drive to increase efficiencies across the farm are balanced by his passion for sharing his knowledge, and the keen desire to help raise urban agriculture as an industry to a higher level. He is currently developing sustainable energy technology fuelled by friendly, mid-western charm and the elongated ‘A’ in the Wisconsin accent.
Why Whole Foods Built a 17,000 square foot Rooftop Farm

In 2014 Whole Foods launched its first rooftop farm in Lynnfield, Massachusetts, designed to produce fresh vegetables for sale in the store downstairs. Learn how this extraordinary project took shape and the new business model it represents.

Learning objectives
- TBD

Audience level – Intermediate

Mark Winterer Owner, Director of Operations, Recover Green Roofs

Mark has an MBA from the Owen Graduate School of Management at Vanderbilt University where he became involved with Net Impact, an international organization committed to responsible business leadership. His experience with Net Impact inspired him to develop a business that would contribute to a more sustainable economy while accommodating our growing population, two strengths of green roofs. Since starting Recover with Brendan, Mark has helped design and build over 35 green roofs including two award-winning rooftop farms: The Ledge Kitchen & Drinks and the Whole Foods Market in Lynnfield, MA. With a background in landscaping, operational logistics, supply-chain management, and customer service, Mark is an accredited Green Roof Professional, a licensed General Contractor, and Recover’s Director of Operations.
Lauren Baker Food Policy Coordinator, City of Toronto

Lauren Baker is the Food Policy Coordinator at the City of Toronto’s Food Policy Council, and works with Toronto Public Health’s Food Strategy Team. Previously, she was the founding director of Sustain Ontario and continues to be involved as a Steering Committee member. Her past work includes developing the Evergreen Brick Works food strategy, and founding FoodShare’s Urban Agriculture program. Lauren is the Vice-Chair of Food Secure Canada, and is on the Board of Directors of Everdale Environmental Learning Centre.

Lauren has a PhD in Environmental Studies from York University. She is the author of a number of articles, reports and publications including a newly published book “Corn meets Maize: Food Movements and Markets in Mexico”. Lauren teaches a course called Theory and Praxis in Food Security at the University of Toronto, and is a research associate at the Centre for Studies in Food Security at Ryerson.

Debbie Field Executive Director, FoodShare Toronto

Debbie Field became Executive Director of FoodShare in 1992, and has helped build FoodShare into Canada’s largest food security organization. She believes passionately in the healing power of food, and the ability of food to strengthen communities and bring people together.

Throughout her career, Debbie has been credited with numerous awards recognizing her commitment to social justice and food security. Debbie’s leadership, energy, passion and support have helped the staff team at FoodShare take risks and grow innovative new programs that make the food system better for individuals, communities and society at large.

A long standing activist in a variety of social movements, Debbie was Canada’s first Equal Opportunities Coordinator. In 1979, along with four other women, Debbie was successful in her Human Rights’ complaint against Stelco in Hamilton for their no-women hiring policy. Her role as a founding member of the Coalition for Student Nutrition, and as a parent organizing a hot lunch program at her children’s school eventually led her to work at FoodShare. Debbie has an Honours B.A. in Sociology from Trent University and a Masters in Adult Education from the Ontario Institute for Studies in Education.

Lisa Prime Director, Environment and Innovation at Waterfront Toronto

Lisa A. Prime is a Registered Professional Planner and LEED AP with a Masters of Environmental Studies from York University and a Bachelor Degree in Environmental Studies from the University of Waterloo. Waterfront Toronto oversees the revitalization of approximately 2000 acres of land. She leads policy, programs and performance activities for Waterfront Toronto’s sustainability agenda, as well as all environmental approvals.
TUESDAY, JUNE 2nd, 2015 - TRAINING COURSES

Introduction to Rooftop Urban Agriculture
Rooftop urban agriculture has the potential to significantly increase food production in cities by taking advantage of underutilized spaces. This half-day course discusses practical applications of green roof and wall technologies that can be used to implement productive rooftop farming initiatives. Case studies drawn from North America’s most successful projects describe innovative approaches for overcoming common challenges associated with rooftop farming initiatives.

Learning Objectives
- Describe the social, environmental and economic benefits of urban agriculture and rooftop farming
- Understand the governance and personnel options for implementing urban agriculture and rooftop farming operations
- Learn basic installation and maintenance principles
- Understand the most important steps in the critical path from project concept through to completion

This course is approved for 3.5 Continuing Education Units (CEUs) for GRPs.

Ben Flanner is a trained Industrial Engineer with a background in business and marketing. In 2009 Ben co-founded Eagle Street Rooftop Farms, the first rooftop farm in New York, and is widely recognized as a leader in rooftop urban agriculture. His expertise in systems optimization and unwavering drive to increase efficiencies across the farm are balanced by his passion for sharing his knowledge, and the keen desire to help raise urban agriculture as an industry to a higher level. He is currently developing sustainable energy technology fueled by friendly, mid-western charm and the elongated “A” in the Wisconsin accent.

Green Walls 101: Systems Overview and Design
This course discusses design and construction best practices for green facades and living walls, including maintenance and irrigation requirements. Discover the latest research findings on the environmental benefits of these technologies.

Learning Objectives
- Determine major functions and components of green walls
- Describe characteristics and assess advantages of different green wall systems
- Understand market drivers encouraging green wall implementation in North America
- Understand how to design green walls for maximum benefits and LEED points

This course is approved for 3.5 Continuing Education Units (CEUs) for GRPs.

Melissa Daniels, CNLP, has been in the nursery and landscape business for over twenty years. Daniels, along with Anthony Caggiano, is the owner of Plant Connection, developers of the patented G-O2 living wall system. Plant Connection specializes in green roof and green wall products and services including design, roof and wall systems, soil and plants, consulting and maintenance training. Daniels is the Advocacy Committee Chairperson for the NYSNLA and the Past President for LINLA. Daniels serves on the green industry review committee for the New York State Farm Viability Institute. Daniels also is the Co-Chair of the Green Walls Committee for Green Roofs for Healthy Cities and is a trainer for the Green Walls 101 Course.
Integrated Water Management for Buildings and Sites
This half-day course provides technical and economic information on the design and performance of a fully integrated site and building water management system based on the Net Zero Water concept. This approach promises to significantly reduce the consumption of potable water in buildings, reduce discharge to municipal waste water systems, and save on municipal energy by reducing the amount of potable water treated at municipal facilities. The recognition of the connection between water management and energy conservation is emerging as a new opportunity in integrated management systems.

Learning Objectives
- Understand the stages in the integrated water cycle and how this approach can be used to design more efficient systems
- Explore costs and benefits of integrated water management systems
- Establish best practices for design, installation and maintenance of system components
- Learn how system monitoring can be used to evaluate the efficiency and performance of a fully functioning system

This course is approved for 3.5 Continuing Education Units (CEUs) for GRPs.

Jeffrey L. Bruce, is Owner of Jeffrey L. Bruce & Company (JBC). Founded in 1986, Mr. Bruce’s accomplishments, commitment, and vision are well documented. He has received over 80 separate design and leadership awards. Award winning projects of his firm, Jeffrey L. Bruce & Company, have been published 150 times. He has been licensed to practice in 26 states and has served as an invited lecturer, visiting critic, and speaker at over 200 conferences and trade shows. In 1996, Mr. Bruce was elected Fellow of the American Society of Landscape Architects. He is President of the American Society of Irrigation Consultants (ASIC) and Chairman of Green Roofs for Healthy Cities (GRHC). Mr. Bruce is a LEED accredited professional, a certified irrigation designer and an EPA WaterSense Certified Professional. He was one of the first accredited Green Roof Professional s (GRP) in North America and is a founding member of the Sports Turf Committee for the National Interscholastic Association of Athletic Administrators. Mr. Bruce is author of the “Integrated Water Management for Buildings and Sites” seminar series for GRHC and ASIC

Integrated Water Management for Buildings and Sites III: Water Storage and Cisterns
This is the third course in the Integrated Water Management training series. Achieving net-zero water utilizes the concepts of the using and reusing of water multiple times on site and to provide to the greatest degree possible a closed-loop of water. This manual is designed to enable readers to view a wide variety of rain water harvesting systems with the aim of providing an array of possible technical solutions to their water problems. Included are guidelines for sizing water harvesting systems, an overview of water harvesting system components, a review of possible application issues, and a look at material costs guidelines. This manual also explores ways in which water quality can be improved and maintained before and during storage.

Learning Objectives
- Understand a wide variety of water harvesting systems and different types of storage tanks
- Establish how to determine water demand, and which harvesting system to use
- Explore the legal issues and policies for designing a system
- Learn about water quality and treatment methods and how to maintain a healthy and functioning cistern

This course is approved for 3.5 Continuing Education Units (CEUs) for GRPs.
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Green Infrastructure: Policies, Performance and Projects
Developed by the Green Infrastructure Foundation (www.greeninfrastructurefoundation.org), this course is ideal for policy makers and other advocates of urban greenery. It provides attendees with a review of various vegetative technologies in urban areas (i.e. green walls, roofs, urban forests, rain gardens), presents the latest research on their many performance benefits, and showcases a variety of leading edge policy and program developments in cities such as Chicago, Seattle, New York and Toronto.

Learning Objectives
- Review design considerations, performance benefits, and implementation challenges for various forms of green infrastructure
- Identify solutions for overcoming common barriers to green infrastructure implementation
- Explore the elements of a six-step planning process that can be used to implement green infrastructure in your community
- Review existing policies and programs from across North America, including land use planning, building codes and ordinances that are designed to encourage green infrastructure implementation

This course is approved for 3.5 Continuing Education Units (CEUs) for GRPs.

Michael Krause is Kandiyo Consulting and Kandiyohi Development Partners, LLC Founder and principal, 2005-present. Multi-disciplinary development and consulting firm in Minneapolis focused on green buildings, renewable energy, green infrastructure and public policies related to sustainability. Projects include community-scale renewable energy development, grant-writing, LEED certification, green infrastructure planning, energy and development analysis and feasibility studies.

For more information on our GRP Training Program, please contact Jordan Richie at jrichie@greenroofs.org or 416-971-4494 ext. 221.