Living Soils Symposium Montreal

Restore the climate,
feed the world
Concordia University
Oct. 13—15, 2017

livingsoilssymposium.ca

WHY LIVING SOILS MATTER

- Most agricultural soils have lost **50 to 70%** of their original **soil organic carbon** pool (Lal, 2003).
- Depletion of soil organic carbon pools has contributed **78 gigatons of carbon** to the atmosphere (Lal 2004) and is therefore a major contributor to man-made **climate change**.
- **Deforestation, intensive agricultural methods** and warmer temperatures are all factors that cause soil carbon loss and accelerate desertification.
- **12 million hectares** of productive land become barren every year due to **desertification** and drought (UNCCD, 2014), an area roughly the size of England.
- More than **40%** of the global population is affected by **water scarcity** (UN Water, 2014).
- Leachates from excessive fertilizer applications are **polluting** surrounding **water** bodies and causing their eutrophication.
- Degenerative agriculture depletes soil nutrients, which contributes to the **793 million people** worldwide suffering from **malnutrition**, by drastically reducing yields and producing nutrient-deficient foods (FAO, 2015 & 2013).
- Land degradation is largely contributing to **mass migration**, as **135 million people** are predicted to be displaced by 2045 as a result of desertification (Global Humanitarian Forum, 2009).

These global issues have one thing in common:

LIVING SOILS

are a crucial part of their solution.

Land management practices that regenerate soil health have the potential to store billions of tons of carbon annually, to restore biodiversity, to combat desertification and water scarcity, to produce higher yields of healthier foods, and to alleviate political instability and mass migration.

However, soil's central role in these issues is often underrepresented in our society, if not completely disregarded.

THE EVENT

The Living Soils Symposium Montreal is a **civil society initiative** that responds to the need to focus our efforts on regenerating soil health as a way to alleviate some of our century's most pressing environmental, health, human rights and safety issues.

This recent wave of interest in regenerative land use methods as climate change mitigation and adaptation strategies is mirrored by:

- The central place occupied by agriculture and soils at the UNFCCC **COP22 in Marrakesh** in November 2016;
- The UNFAO **Global Symposium on Soil Organic Carbon** in Rome in March 2017;
- The UNCCD **Land Degradation Neutrality fund**;
- The "**Colloque international sur la sécurité alimentaire** et nutritionnelle dans le contexte des changements climatiques" that will occur in September 2017 in Quebec city, organized by the government of Quebec in association with the UNFAO.

WHAT: The Living Soils Symposium Montreal, a bilingual event

WHO: The event will bring together 400 attendees, including scientists, academics, students, food producers, horticulturists, grocery store representatives, government delegates, activists, NGOs and nonprofits, entrepreneurs, investors and media;
With an interest in the environment, food systems and/or soils;
From Quebec, the rest of Canada or abroad.

WHY: To demystify the scientific, practical and political aspects of practices that regenerate soil health. To facilitate cross-pollination among attendees of diverse sectors that relate to soils in order to foster innovation.

WHEN: October 13-15, 2017

WHERE: Concordia University's Henry F Hall Building, at 1455 Maisonneuve West, Montreal (QC) H3G 1M8

PRODUCTION PARTNERS

Soil4Climate is an advocacy group that promotes soils as a climate solution, as well as the associated benefits of soil carbon sequestration. It has chapters in Canada, the United States, and in several countries in Africa.

Regeneration International, a project of the Organic Consumers Association, is a 501(c)(3) nonprofit dedicated to building a global network of farmers, scientists, businesses, activists, educators, journalists, governments and consumers who promote and put into practice regenerative agriculture and land use.

DocTerre is a Soil Life Laboratory and Soil Ecology Expertise service whose mission is to assist people and planet healing through the regeneration of soil ecosystem functions and services in Canada. DocTerre works with farmers of various scales, landscapers, market gardeners, homesteaders, horticulturists and other such soil workers.

The **4per1000** initiative was launched by the French Ministry of Agriculture, Agri-food and Forest to encourage nations worldwide to sequester 0.4% of carbon in agricultural soils yearly as a way to address climate change and food security.

The Concordia University **Department of Geography, Planning and Environment** is at the forefront of interdisciplinary research and teaching that addresses some of the most pressing social and ecological problems of our time.

ADVISORY SCIENTIFIC COMMITTEE

Our Advisory Scientific Committee advises us on the themes and speakers.

Denis Angers
Scientist in Soil Management and Conservation, Agriculture and Agri-Food Canada

Odette Ménard
Engineer and Agronomist, Advisor in Soil and Water Conservation, Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ)

Joann Whalen
Professor and William Dawson Scholar, McGill University
Director, Canadian Society of Soil Science

Marc Lucotte
Professor, Department of Earth and Atmospheric Sciences, Université du Québec à Montréal (UQÀM)

Derek Lynch
Associate Professor, Agronomy, Agroecology, Dalhousie University
Canada Research Chair, Organic Agriculture, 2005-2015

Timothy LaSalle
Regenerative Agriculture Consultant
CEO, Rodale Institute, 2007-2010

Benoit Lambert
Founder, Biochar Génération

SOME CONFIRMED SPEAKERS

Elaine Ingham
Founder, Soil Foodweb Inc

Jean-Martin Fortier
Owner, Les jardins de la grelinette
Production Director, Ferme des Quatre-Temps
Author, The Market Gardener

Cameron Stiff
Director of Finance and Development, Compost Montreal

Odette Ménard
Engineer and Agronomist, Advisor in Soil and Water Conservation, Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ)

Vivian Kaloxilos
Owner and Principal Consultant, Docterre

Timothy LaSalle
Regenerative Agriculture Consultant
CEO, Rodale Institute, 2007-2010

Jimmy Sinton
CEO, The Fair Carbon Exchange

Ronnie Cummins
Co-founder and International Director, Organic Consumers Association

Andre Leu
President, IFOAM - Organics International

Michelle Garneau
Professor, Department of Geography, Université du Québec à Montréal (UQÀM)

Blain Hjertaas
Regenerative Farmer, Holistic Management Canada

Thomas Crowther
Marie Curie Postdoctoral Fellow, Netherlands Institute of Ecology and Yale University

PROGRAM OVERVIEW

The heart of the Living Soils Symposium Montreal will be structured around four pillars, which represent four major ecosystem services and functions that living soils fulfill:

a. **Nutrient cycling**;
b. **Water filtration** and water retention capacity;
c. **Inhibiting pests and pathogens** for plants, animals and humans;
d. **Greenhouse gas sequestration** and the production of healthy atmospheric gases.

The overall structure of the event will therefore be as follows:

Module 1 – Global Context (Friday end of afternoon / evening)
Module 2 – Introduction to Living Soils (Saturday AM)
Module 3A – **Food** (Saturday AM)
Module 3B – **Water** (Saturday PM)
Module 3C – **Health** (Saturday PM)
Module 3D – **Climate** (Sunday AM)
Module 4 – Breakout sessions (Sunday PM)
Module 5 – Conclusion (Sunday PM)

Modules 3A-3B-3C-3D represent the four pillars, and will integrate **science, practice** (initiatives from food producers or other concrete applications), as well as **political** implications.

The symposium will consist almost entirely of plenaries, except for Module 4 on Sunday afternoon, when the audience will separate into different rooms for participant-led breakout sessions. The plenaries will be a mix of presentations and panels.

THEMES OVERVIEW

Module	Suggested themes
1: Global context	Background on the issues for which soils are central: • Climate change • Rising food insecurity and desertification • Water scarcity • Chronic diet-related diseases, nutrient deficiency in food • Political instability and mass migration Overview of the potential for soils to have positive impacts on these issues Soils and cities
2: Intro to Living Soils	4 pillar ecosystem services and functions Introduction to the soil food web
3A: Food	Science and practice: • How living soils techniques allow to grow food without the need for chemical fertilizers, with increases in yields • Compost and compost tea • Mycorrhizal symbiosis with plants • Mycorestoration techniques • Specific farmer initiatives that reflect this • How this applies to field crop farmers Policy • What is being done in government bodies in Quebec and Canada to encourage soil health
3B: Water	Science and practice: • How living soils techniques decrease the need for irrigation, increase resilience to droughts and floods and reduce water pollution from leachates • Current state of water pollution from industrial agriculture in Quebec and Canada • Specific farmer initiatives that reflect this, such as holistic management or permaculture Policy • Policy recommendations to avoid water pollution from agriculture in Quebec

Module	Suggested themes
3C: Health	Science and practice: • How living soils act as natural pest and pathogen inhibitors and eliminate the need for chemical pesticides • Human health impacts from chemical pesticides, portrait of chemical pesticides used in Quebec and Canada • Relationship between human microbiome and soil microbiome, how this relates to holistic medicine and modern medicine • Specific farmer initiatives that reflect this Policy • Policy behind chemical pesticides • Example of banning pesticides at a city scale
3D: Climate	Science and practice: • How carbon is sequestered in soils, how regenerative agriculture practices and microbial activity encourage soil carbon sequestration • Emissions from agriculture, opportunities to reduce emissions • Holistic management and soil carbon sequestration • Soil carbon in peatlands of Quebec • Other practices and concrete farmer initiatives • Soil carbon measurement protocols, carbon credits and carbon markets (also applies to policy/economics) Policy • Presentation of the 4per1000 initiative, and example of a nation-wide implementation of 4per1000 • The Regenerative Agriculture bill in Vermont • Regenerative Agriculture Certification project
4: Breakout sessions	Participants will have the possibility to suggest themes for smaller discussion groups and to lead and/or participate to discussions.
5: Concl.	Closing keynote

PLANNING COMMITTEE

Gabrielle Bastien
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Director, Living Soils Symposium Montreal

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Monika Firl
Special Projects Manager, Coop Coffees; Carbon, Coffee and Climate Initiative
Outreach Advisor, Living Soils Symposium Montreal

CONTACT

Do not hesitate to get in touch with us for more information or to get involved. We hope you will join us for this exciting event!

Kind regards,

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