



2015
International
Year of Soils



wageningen soil conference

SOIL SCIENCE IN A CHANGING WORLD



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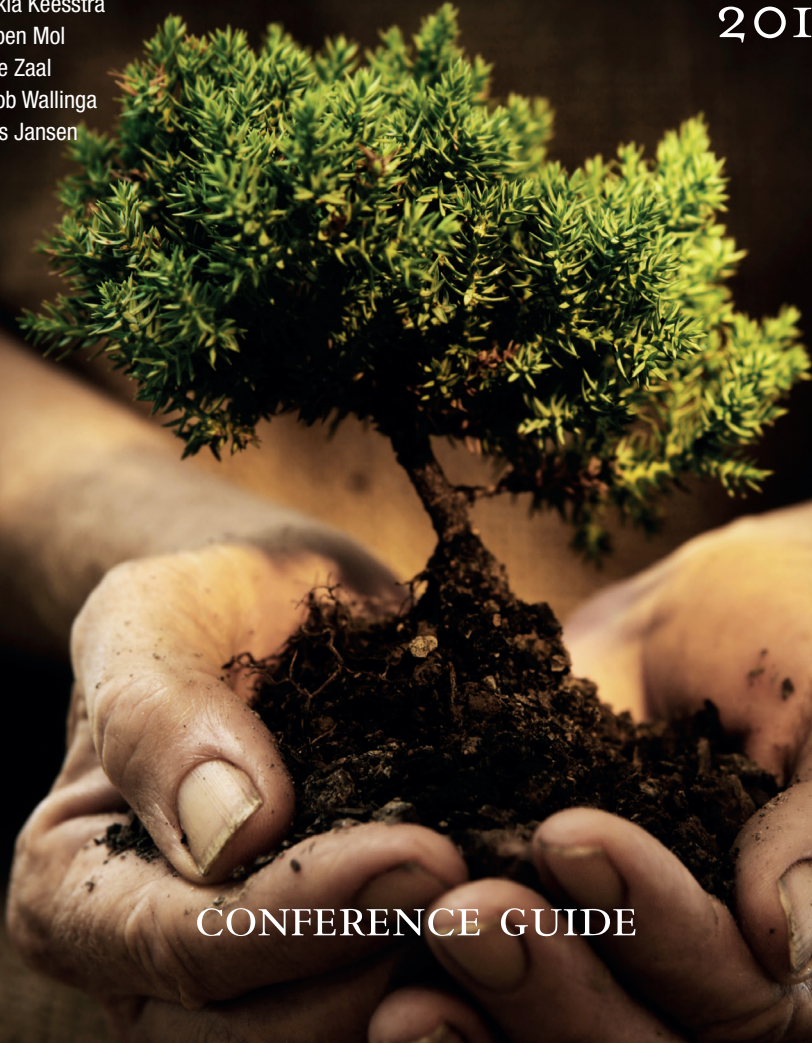
Soil Science in a Changing World

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23–27 AUGUST

2015



CONFERENCE GUIDE

Wageningen Soil Conference 2015
'Soil Science in a Changing World'
23 - 27 August 2015
Wageningen
The Netherlands

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Quotation from or reference to any part of this conference guide should be made with full
reference to the above data

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Welcome

We are proud and honoured to welcome you to the second edition of the Wageningen Soil Conference. Recently, I stumbled on a quote by Mehmet Murat Ilday, who stated that *"Sand is for fun; soil is for life!"*. Indeed, soils sustain life on earth, through ecosystem services such as food production, water storage, and climate change mitigation.

The relevance of soils and soil science seems to be increasingly reflected by public and policy attention. 2015 has been declared the International Year of Soils by the United Nations, and next month countries will meet to decide on newly formulated Sustainable Development Goals (SDGs). SDG #15 (... combat desertification, halt and reverse land degradation, ...) specifically addresses soil issues. Many others (e.g. #2: End hunger, achieve food security ...; #13; ...combat climate change and its impacts) can only be reached with thoughtful use of soil ecosystem services.

At the Wageningen Soil Conference we strive to connect soil science to major societal challenges. How does profound understanding of soil processes and dynamics contribute to combating and mitigating the challenges of our time: food security, water resources, climate change, land functions, and ensuring biodiversity? How can we ensure that soil knowledge is utilized to take effective measures, and how do we make sure soil scientists address the questions that are relevant to society?

The four conference days will provide a mix of key-note lectures, parallel sessions, poster sessions, discussions and excursions. With the 200 participants, we hope and expect to foster knowledge exchange and encourage lively discussions on the contributions of soil science to society as well as the societal soil demands.

I hope the Wageningen Soil Conference will provide you inspiration and enjoyment, as soils are not only for life, but also for fun!

Prof dr Jakob Wallinga, chair scientific committee



Organising committee



Boris Jansen



Saskia Keesstra



Gerben Mol



Anne Zaal

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Sponsors

The Organising Committee gratefully acknowledges the support of:

**Wageningen University
Department of Environmental Sciences**

- Soil Biology and Biological Soil Quality
- Soil Chemistry and Chemical Soil Quality
- Soil Physics and Land Management
- Soil Geography and Landscape



Alterra Wageningen UR

- Team Animal Ecology
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Organising Committee

- Prof dr Jakob Wallinga
Wageningen University, The Netherlands
- Dr Boris Jansen
Universiteit van Amsterdam, The Netherlands
- Dr Saskia Keesstra
Wageningen University, The Netherlands
- Dr Gerben Mol
Alterra Wageningen UR, The Netherlands
- Anne Zaal Msc
Alterra Wageningen UR, The Netherlands

Conference Secretariat

- Ann-Marie Ryan
Alterra Wageningen UR, The Netherlands
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Alterra Wageningen UR, The Netherlands

Scientific Committee

- Prof dr J. Wallinga (chairman)
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- Prof dr L. Brussaard
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University of Amsterdam, The Netherlands
- Prof dr A. Lang
University of Liverpool, United Kingdom
- Ir R. van den Bosch
ISRIC World Soil Information, The Netherlands
- Dr L. Montanarella
European Commission, Joint Research Centre, Italy
- Prof dr J. Bouma
Wageningen University
- Prof dr M. Kibblewhite
Cranfield University, United Kingdom

Programme

Programme

Sunday, August 23th 2015

18.00 – 19.00 *Icebreaker, drinks & bites and Pre-registration - Café Loburg (Molenstraat 6, 6701 DM Wageningen)*

Monday, August 24th 2015

08.30 *Arrival / Registration – Lobby, Orion Building (Bronland 1, Building 103, 6708 WH Wageningen)*
Poster Placement, Coffee

09.30 – 09.45 **OPENING SESSION** – *Plenary meeting room (Orion 1040)*
Welcome – *Jakob Wallinga, chair Scientific Committee*
Opening address – *Louise Fresco, President Executive Board Wageningen UR*

THEME 1: FOOD SECURITY

Chair: Martin van Ittersum

09.45 – 10.10 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
Bernard Vanlauwe, International Institute of Tropical Agriculture (IITA), Kenya
Pathways towards the sustainable intensification of smallholder farming systems in Sub-Saharan Africa

10.10– 10.35 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
Deborah Bossio, Soils Research Area Director, CIAT International Center for Tropical Agriculture, Kenya
Soil organic matter for climate change mitigation: boon or bane for food security?

10.35 – 11.15 *Plenary discussion - (Orion 1040)*

11.15 – 11.45 *One minute poster pitches – Plenary meeting room (Orion 1040)*

Presented posters:

Azita Behbahaninia: Cadmium and lead transport in the soil and plants under sewage sludge application

Naser Boroomand: Kinetics of zinc desorption from calcareous soils: influenced by concentration and time of poultry manure

Lambert Bräu: Enhancement of phosphate Acquisition and delivery to plants using the cyanobacterium *Nostoc Punctiforme*

Jelle Dijkema: Beneficial soil microbes reduce plant disease, with implicated improvements in fruit flavour profiles, nutritional value and human health

Leyla Hassani Rezaei: Quantitative assessment of linear sorghum response functions to combined salinity urea

Chantal Hendriks: Soil qualities or soil properties? A novel approach for soil data to address food security

Hala Kandil: Effect of agrosol treatment and phosphorus levels on pea plants (*pisum sativum* L.)

Lammert Kooistra: Use of RGB aerial photographs for assessment of soil organic carbon distribution in agricultural fields

Richard Kraaijvanger: Evaluating resource use efficiency and stock balances of fertilizer inputs: the effect of soil supply capacity in Tigray (Ethiopia);

Richard Kraaijvanger: Four years of farmer experimentation on soil fertility in Tigray, northern Ethiopia: trends in research strategies

Johan Leenaars: Soil information to feed the African soil, crop and people

Florence Leprince: Impact of a legume living mulch on winter wheat yield and its nitrogen nutrition

Juan Carlos Mendez: Interpolation and validation of soil fertility data in three agricultural cooperatives in Costa Rica

Mikael Motelica-Heino: A new agro-ecologic paradigm for food security in the Sudano-Sahelian zone

Yang Peipei: Yield responses to nutrient management and soil quality in long-term field trials in China

Maria Ruiperez Gonzalez: Digital Mapping of Soil Nutrients for the Republics of Burundi and Rwanda

Maricke van Leeuwen: A quantitative approach on visual soil assessment: validation and reproducibility

Winnie van Vark: Comparable and reliable data from Laboratories within Global Soil Research

Vaclav Voltr: Validation of soil fertility and productivity in the Czech Republic

Jiri Zbiral: Characterization of soil organic matter by near infrared spectroscopy – determination of Glomalin in different soils

11.45 – 12.15

Poster sessions with coffee break with cake – *Restaurant 'The Spot', Orion building*

12.15 – 13.45 **PARALLEL SESSIONS****2 sessions with 6 oral presentations****Session Food Security 1
(Orion 1040)***Chair: Martin van Ittersum***Water Resources 1
(Orion 2051)***Chair: Saskia Keesstra*

12.15 – 12.30

Takoutsing Bertin

Land health surveillance for identifying land constraints and enhancing soil productivity in smallholders' agriculture in Cameroon

Hendrik Bruins

The effect of water harvesting, ash and dung on soil development in terraced wadis in the Central Negev Desert (Israel): the longue Duree

12.30 – 12.45

Lieven Claessens

The Global Yield Gap Atlas for targeting sustainable intensification options for smallholders in Sub-Saharan Africa

Antonietta La Terza

The BioPrint Pilot Project: ciliated protozoa communities as a tool to assess soil quality in agroecosystems and natural sites of Marche Region (Italy)

12.45 – 13.00

Renske Hijbeek

Effects of organic matter on attainable yields across Europe

Miriam Muñoz-Rojas

Understanding the effects of climate and soil characteristics on seedling emergence to improve restoration of semi arid environments

13.00 – 13.15

Veronika Hansen

Gasification biochar has the potential to improve soil quality and crop production

Jianhui Zhang

Soil hydrological properties as a response to tillage erosion in a Regosol of hilly landscapes

13.15 – 13.30

Christy van Beek

Fertile grounds initiative: it's not the soil that needs to change, it's the people who manage the soil

Wei Shangguan

On aggregation methods for estimated soil hydraulic parameters by pedotransfer functions

13.30 – 13.45

Rafael Segura-Mena

Soil management as an effective strategy for crop disease management: the case of Panama disease in banana

Fons Jaspers

Hydrological corridors for landscape and climate restoration : proof of concept and impact assessment

13.45 – 14.45

Lunch and poster sessions – *Restaurant 'The Spot', Orion building*

THEME 2: WATER RESOURCES*Chair: Artemi Cerdà*

- 14.45 – 15.10 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
John Quinton, Lancaster Environment Centre, Lancaster University, United Kingdom
 Soil water: the nexus for food production and environmental quality
- 15.10 – 15.35 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
Günther Blöschl, Institute of Hydraulic Engineering and Water Resources Management, Vienna University of Technology, Austria
 Floods across scales in a changing world
- 15.35 – 16.15 Plenary discussion - *(Orion 1040)*
- 16.15 – 16.45 One minute poster pitches – *Plenary meeting room (Orion 1040)*
- Presented posters:
- Dwi Priyo Ariyanto: Short Drought Irrigation by Small-Farm Reservoir at Rainfed Lands*
- Vasiliki Bota: Determination of hydraulic conductivity in unsaturated soil samples*
- Artemi Cerdà: Changes in soil infiltration rates after wildfires in the Serra de Grossa and the Massís del Caroig, Eastern Spain*
- Artemi Cerdà: Rice straw as a cover mulch to reduce overland flow in olive plantations in the Enguera municipality. Eastern Iberia Peninsula*
- Saeid Hamzeh: Modelling shallow groundwater in sugarcane fields using hyperspectral satellite imagery*
- Saskia Keesstra: Assessing catchment connectivity using hysteretic loops*
- Florence Leprince: Evaluation of pesticide's leaching under drainage conditions in a laboratory tracing experiment with controlled conditions*
- Florence Leprince: Long term impact of no tillage on water and solute flux in drainage*
- Jestinos Mzezewa: Water infiltration patterns under in-field water harvesting tillage in the semi-arid Limpopo Province of South Africa*
- Estela Nadalromero: Hydrological connectivity dynamic and temporal stability in an afforestation area in the Central Spanish Pyrenees*
- Muhammad Sanaullah: Water balance assessment of a river bounded aquifer using visual MODFLOW® applications, Eastern Punjab, Pakistan*
- Ieyasu Tokumoto: Simulation of leaching and rootzone salinity control at tsunami affected rice fields in Miyagi, Japan*

Jos van Dam: When do soil hydraulic properties matter for root water extraction?

Erik van den Elsen: Errors in volumetric water content measurements due to field variability

16.45 – 17.15 Poster sessions with coffee break – Restaurant 'The Spot', Orion building

17.15 – 18.45 **PARALLEL SESSIONS**

2 sessions with 6 oral presentations

**Session Food Security 2
(Orion 1040)**

Chair: Jannes Stolte

**Session Water Resources 2
(Orion 2051)**

Chair: Artemi Cerdà

17.15 – 17.30

Zhiping Cao

Gaia theory: the valve mechanism of phosphorus cycling

Martine van der Ploeg

The landscape of biophysical interactions

17.30 – 17.45

Jessica Mackay

Evaluation of organic amendments, soil microbes and plant P uptake

Mirjam Hack-ten Broeke

Quantification of the impact of hydrology on agricultural production

17.45 – 18.00

Hanan Siam

Improving Calcareous soli productivity by integrating effect of compost or Sulfur in the presence of different sources of phosphorus

Paul Murphy

Effects of mitigation measures on phosphorus loss across the transfer continuum from soil to water in a monitored dairy grassland catchment

18.00 – 18.15

Ahmed Afifi

Identification and quantification of P mineralogical forms in sandy calcareous soils by infrared spectroscopy and chemometric methods: an approach by increasing complexity

Jael Raij

Optimization of in-situ drainage lysimeters for fertigation efficiency

18.15 – 18.30

Jordon Wade

Can Soil Respiration Predict N Mineralization?

Yasser Refaey

Adsorption of copper, nickel, and zinc as related to soil constituents and timing of addition of dissolved organic carbon

18.30 – 18.45

Supriatin

Selenium Speciation and Extractability in Dutch Agricultural Soils

Aneta Trajanov

Assessing the risk of tile-drained water pollution with pesticides

18.45– 19.45

Snacks with refreshments sponsored by WEPAL and poster sessions – Restaurant 'The Spot', Orion building

Tuesday, August 25th 2015

Excursions, with various options.

At 19.00 hours the Conference dinner starts at Restaurant H41.

We offer an Italian buffet style dinner with drinks, dessert and coffee. You can find Restaurant H41 in Wageningen City Centre, Heerenstraat 41, 6701 DH Wageningen.

Excursions and dinner are not included in the standard Conference fee; participating in these events requires prior registration and payment or payment on site at the conference desk.

The excursions will be guided by scientists and most of the excursions have a scientific character; some are combined with a cultural treat. Most of the excursions will leave around 08.30 at the Hof van Wageningen and return around 17.30 hrs; transport, coffee/tea, packed lunch and refreshments are included.

All our excursions include shorter or longer walking trips in the open air, so we advise you to bring watertight easy walking or hiking shoes and rain clothes with you. The average temperature in August is 19-21 degrees Celsius, with a fair possibility of rainfall.

1. A combined excursion in Wageningen: Wageningen Campus: ISRIC-World Soil Museum, Wepal and NIOO

Excursion leader Thomas Caspari, ISRIC

The excursion starts with a visit to the ISRIC-World Soil Museum. We will then visit the new NIOO premises including laboratories. We will take a short bus tour to WEPAL where we will have lunch and a guided tour.

The first excursion point will be ISRIC-World Soil Information. Since 1966 this institute is serving the international community as custodian of world soil data and information. During a guided tour through the ISRIC World Soil Museum you will be able to explore the largest soil monolith collection in the world, and learn how soils are connected to global challenges. Please visit isric.org for more information.

This trip will leave at the Hof van Wageningen on 08.30 hrs and return at the Hof van Wageningen around 14.30-15.00 hours. In the afternoon you will have some time to explore Wageningen yourself.

2. Excursion to the National Park Hoge Veluwe

(<http://www.hogeveluwe.nl/en>)

Excursion leader: Roel Dijkema, Wageningen UR, Section Hydrology and Quantative Water Management

National Park Hoge Veluwe is a relic from glaciers that covered the Netherlands during Saalien (2 104 – 1.2 104 years ago). It is a large complex of ice-pushed ridges with an elevation up to 110 m+NAP. Excess rainwater can infiltrate in the sandy soil and feeds the underlying aquifer. This groundwater rises to the surface in springs and brooks in the surrounding area. In this excursion the geology and related water management of the region will be shown. The excursion will start on top of an ice-pushed ridge with an overview to the adjacent river landscape. Then we will visit an old mill-brook, which is fed by Veluwe water, and some of the upper branches of this brook (manmade springs). This field trip is followed by a visit in the afternoon to the National Park Hoge Veluwe and the Kröller Muller Museum which hosts many famous paintings of Dutch masters such as Van Gogh. De Hoge Veluwe National Park is the

largest actively managed conservation area in private hands in the Netherlands. The Park covers 5,400 hectares of woodland, heathland, peat bogs and drift sand. It enjoys a wide variety of plants and animals and provides habitats to extremely rare Red List species. You have the possibility to have a guided nature walk in the park or enjoy a visit to the Kröller-Müller museum on your own. This trip will leave by bus at the Hof van Wageningen on 08.30 hrs and return around 17.30 hours.

3. An excursion about 200,000 years of landscape formation in the surroundings of Wageningen: consequences for current day use

Excursion leader: Arnoud Temme, Wageningen UR, Section Soil Physics and Land Management

The Saalien ice age has set the scene for today's landscape around Wageningen: the cover ice reached the area and deep depressions and pushed moraines were formed. Since then, the landscape was further shaped by a combination of climate change, geomorphological processes, soil formation, vegetation dynamics, and human influence. This excursion tells the fascinating story of this dynamic landscape and discusses the consequences for current day use.

This trip will leave by bus at 8:30 from the 'Hof van Wageningen' and returns at ca. 17.30 (there will be relatively little 'bus time' but we will be most of the time in the field). Amongst the places we visit are: the Wageningse Berg, Rhenen/Veenendaal (Grift waterway), Doorwerth, Bennekom, the Floodplains of Wageningen.

4. Geological and landscape evolution of the Rhine-Meuse delta

Excursion leader: Kees Kasse, VU university Amsterdam, Section Climate Change and Landscape Dynamics

The excursion will demonstrate the geological and landscape development of the Rhine-Meuse delta in the western and central Netherlands during the Late Pleistocene and Holocene. The impact of climate, sea-level rise and man on delta evolution will be demonstrated in several excursion stops. We will make a west to east transect through the delta starting at the present-day coast where the (sub)recent coastal development and dune formation will be shown. East of the present-day dunes older Holocene coastal barriers systems are present and their relation to Holocene sea-level rise will be explained. The western part of the Netherlands consists of Holocene back-barriers deposits like tidal flat sediments and peats that will be shown by coring. Human reclamation of the peat lands since the late Middle Ages, peat digging and destruction of the landscape followed by lake drainage in historic times will be shown in the field and museum. Further to the east the impact of the river Rhine on the Holocene delta formation is more prominent and a fossil fluvial Rhine course will be visited. Finally, the impact of continental (Scandinavian) glaciation (~150,000 years ago) on the Rhine-Meuse delta and its influence on landscape evolution until the present day will be elucidated in the central Netherlands.

This trip will leave around 08.15 hours at the Hof van Wageningen and return around 17.30 hours.

Disclaimer: The Wageningen Soil Conference-excursions are subject to availability and will be offered to participants of the Conference who have registered and paid the separate fee for an excursion. All best endeavours will be made to present the tour programme as published. However, the Wageningen Soil Conference reserves the right to alter or cancel without prior notice, any of the arrangements, timetables, plans or other items relating directly or indirectly to the tour programme for any reason beyond its reasonable control. Wageningen UR is not liable for any loss or inconvenience caused as a result of such alteration. **Please be aware that participants take part at their own risk. Wageningen UR will not be responsible for personal injury or loss or damage of property.**



2015
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Programme Wageningen Soil Wageningen Campus, Orion Building

Sunday 23rd August	Time	Monday 24th August	Tuesday 25th August	
	08.30	Arrival/registration, poster placement, coffee	Excursions (4), side events, meeting rooms and Conference Dinner	
	09.30-09.45	Welcome: Jakob Wallinga Plenary meeting room - Orion 1040	Excursions 08.15-09.00 departure at the Hof van Wageningen, ca. 17.00-17.30 return	
		Opening session: Louise Fresco Plenary meeting room - Orion 1040		
	09.45-11.45	FOOD SECURITY Plenary meeting room - Orion 1040	<p>1) A tour of the Wageningen campus, starting with the ISRIC World Soil Museum, lunch at Wepal and a tour of the NIOO premises</p> <p>2) Excursion to the National Park Hoge Veluwe, followed by a visit to the Kröller Müller museum</p> <p>3) Soilscape Wageningen: soils and landscapes around Wageningen</p> <p>4) Geological Features of the Netherlands - through the west and middle part of the Netherlands</p> <p>Apart from the excursions, meeting rooms can be reserved for groups to work together on Wageningen Campus, Orion Building (all day). Please contact the Organizing committee if you would like to make a meeting room reservation (see mail address below): mailto:wageningensoilconference@wur.nl</p>	
	09.45-10.35	Keynotes: Bernard Vanlauwe, Deborah Bossio Chair: Martin van Ittersum		
	10.35-11.15	Plenary discussion		
	11.15-11.45	One minute poster pitches Food Security		
	11.45 - 12.15	Poster sessions with coffee break & cakes (Restaurant The Spot, Orion)		
	12.15-13.45	Parallel Sessions:		
		Food Security 1 Orion 1040		Water Resources 1 Orion 2051
	13.45-14.45	LUNCH & Poster Sessions (Orion building, Restaurant The Spot)		
	14.45-16.45	WATER RESOURCES Plenary meeting room - Orion 1040		
	14.45-16.15	Keynotes: John Quinton, Günter Blöschl Chair: Artemi Cerdà		
	16.15-16.45	One minute poster pitches Water Resources		
	16.45-17.15	Poster sessions with coffee break and snack (Restaurant The Spot, Orion)		
18.00-19.00 Ice-breaker / Registration Drinks & Bites Café Loburg Molenstraat 6 6701 DM Wageningen	17.15-18.45	Parallel Sessions:	19:00 - 21.00 Conference Dinner Restaurant H41 Herenstraat 41 6701 DH Wageningen	
		Food Security 2 Orion 1040		Water Resources 2 Orion 2051
	18.45-19.45	Drinks & Snacks & poster sessions (Restaurant The Spot, Orion)		

Conference 2015

ding, August, 23 - 27



wageningen soil conference

SOIL SCIENCE IN A CHANGING WORLD

		Wednesday 26th August		Thursday 27th August		
Side Events	Time			Time		
	08.00	Arrival/registration, poster placement, coffee		08.00	Arrival/registration, poster placement, coffee	
Side Event: FACCE-IP1 Thematic Annual Programming Network on Agricultural Soil Quality preparation workshop Side Event: Frugal Innovations in soil Fertility (i.c.m. African Studies Centre)	08.30-10.30	GOVERNANCE AND POLICY Plenary meeting room - Orion 1040		08.30-10.30	LAND FUNCTIONS Plenary meeting room - Orion 1040	
	08.30-09.20	Keynotes: Ronald Vargas, Gerda Verburg Chair: Luca Montanarella		08.30-10.00	Keynotes: Gerard Govers, Jetse Stoorvogel Chair: Violette Geissen	
	09.20-10.00	Plenary discussion		09.20-10.00	Plenary discussion	
	10.00-10.10	Poster pitches Governance & Policy		10.00-10.30	One minute poster pitches Land Functions	
	10.10-10.30	Poster pitches ISRIC-session				
	10.30 - 11.00	Poster sessions with coffee break (Restaurant The Spot, Orion)		10.30 - 11.00	Poster sessions with coffee break (Restaurant The Spot, Orion)	
	11.00-12.30	Parrallel Sessions:		11.00-12.30	Parrallel Sessions:	
		Governance & Policy Orion 1040	Optimizing Soil Information Services for Solving Global Issues (ISRIC session) Orion 2051		Biodiversity 1 Orion 2005	Climate Change 1 Orion 1040
	12.30-14.00	LUNCH & Poster Sessions (Restaurant The Spot, Orion)		12.30-14.00	LUNCH & Poster Sessions (Restaurant The Spot, Orion)	
	14.00-16.00	BIODIVERSITY Plenary meeting room - Orion 1040		14.00-16.00	CLIMATE CHANGE Plenary meeting room - Orion 1040	
	14.00-14.50	Keynotes: George Kowalchuk, Laurent Philippot Chair: Lijbert Brussaard		14.00-14.50	Keynotes: Ingrid Kögel-Knabner, Pete Smith Chair: Karsten Kalbitz	
	14.50-15.30	Plenary discussion		14.50-15.30	Plenary discussion	
	15.30-15.45	One minute poster pitches Biodiversity		15.30-16.00	One minute poster pitches Climate Change	
	16.00-16.30	Poster sessions with coffee break (Restaurant The Spot, Orion)		16.00-16.30	Poster sessions with coffee break (Restaurant The Spot, Orion)	
	16.30-18.00	Parrallel Sessions:		16.30-18.00	Parrallel Sessions:	
		Biodiversity 2 Orion 1040	Land Functions 1 Orion 2051		Land Functions 3 Orion 1040	Climate Change 2 Orion 2051
	18.00-19.00	Drinks & Bites & poster sessions (Restaurant The Spot, Orion)		18.00-19.00	Conference closure - Jakob Wallinga, chair Drinks & Bites & poster sessions (Restaurant The Spot, Orion)	

Wednesday, August 26st 2015

08.00 Arrival / Registration – Lobby, Orion Building
Poster Placement, Coffee

THEME 3: GOVERNANCE AND POLICY

Chair: Luca Montanarella

08.30 – 08.55 **KEYNOTE** – Plenary meeting room (Orion 1040)
Ronald Vargas Rojas, Soils and Land Management Officer, FAO
Soil governance: a precondition for sustainable development

08.55 – 09.20 **KEYNOTE** – Plenary meeting room (Orion 1040)
Gerda Verburg,
We need collaboration and concrete results

09.20 – 10.00 Plenary discussion - (Orion 1040)

10.00 – 10.10 One minute poster pitches – Plenary meeting room (Orion 1040)

Presented posters:

Mark Kibblewhite: Valuing and managing urban soil resources for food production

Sandra Boekhold: Get inspired – help share the European Strategic Research Agenda on soil, land use and land management

Jacynthe Masse: Microbial communities and nitrogen cycle in reclaimed oil-sand soils

10.10 – 10.30 Poster pitches ISCRIC-session – Plenary meeting room (Orion 1040)

Presented posters:

Oene Oenema: Relating variations in crop yields to soil quality; a case study

Yengoh Genesis: Perennial polycultures replacing annual monocultures? Implications for soil management and sustainable agriculture

Jannes Stolte: Soil threats in Europe

Wang Shangguan: Soil information for Earth system modelling

10.30 – 11.00 Poster sessions with coffee break – Restaurant 'The Spot', Orion building

11.00 – 12.30 **PARALLEL SESSIONS****3 parallel sessions (90 minutes each)****Session Governance and Policy 1
(Orion 1040)***Chair: Mark Kibblewhite***Session Biodiversity 1
(Orion 2005)***Chair: Wim van der Putten*

11.00 – 11.15

Sandra Boekhold

Soil organic matter for food, water, climate, energy and health

Gera Hol

Impact of microbial species on rhizosphere microbiome assembly

11.15 – 11.30

Lucie Greiner

Assessment and mapping of soil services for spatial planning procedures

Anne Winding

Assessment of soil microbial diversity with functional multi-endpoint methods

11.30 – 11.45

Rogier Schulte

Making the most of our land: meeting supply and demand of soil functions from farm to European scale

Mart Ros

Underlying mechanisms driving earthworm-induced increases in phosphorus availability

11.45 – 12.00

Siva Muthuprakash

Significance of soil parameters in evaluating the farming practices: a systems approach

Jack Faber

Land use intensity impact on functional diversity in earthworms regarding regulation of soil structure and water infiltration

12.00 – 12.15

Willie Towers

The Scottish Soil Framework: implementing Soil Protection Policy at regional scale

Michiel Rutgers

Mapping earthworm communities in Europe

12.15 – 12.30

Johan Bouma

Business-as-usual will not suffice when contributing to the Sustainable Development Goals

Rachel Creamer

Eco-Finders: defining biological indicators of three soil functions across Europe

**Optimizing Soil Information Services for Solving Global Issues
(ISRIC session)****(Orion 2051)***Chair: Rik van den Bosch*

11.00 – 11.22

KEYNOTE Speaker:*Pete Smith*

Soil data needs for a global framework for soil carbon modelling

11.22 – 11.39

Niels Batjes

New gridded data sets for global sustainability studies - WISE30sec and SoilGrids

- 11.39 – 11.56 *Lenny van Bussel*
Comparative analysis of options for the spatial framework of yield gap analyses: a focus on soil data
- 11.56 – 12.13 *Thomas Terhoeven*
Archetypal analysis of soil fertility indices (soil testing results) as basis for soil improvement strategies: example for three Kenyan counties
- 12.13 – 12.30 *Bas van Wesemael*
Estimating topsoil organic carbon stocks in Europe using geo- referenced harmonised topsoil and land cover data
- 12.30 – 14.00 Lunch and poster sessions – *Restaurant 'The Spot', Orion building*

THEME 4: BIODIVERSITY

Chair: Lijbert Brussaard

- 14.00 – 14.25 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
George Kowalchuk, Institute of Environmental Biology, Utrecht University, The Netherlands
Exploring and explaining the magnitude of soil-borne microbial diversity
- 14.25 – 14.50 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
Laurent Philippot, Agroecology Department, INRA Dijon, France
Linking soil microbial diversity, nitrogen cycling and greenhouse gas emissions
- 14.50 – 15.30 Plenary discussion - (*Orion 1040*)
- 15.30 – 15.45 One minute poster pitches – *Plenary meeting room (Orion 1040)*
- Presented posters:
- George Ametsitsi*: The role of soils in the distribution of forest and savannah vegetation in an ecotone
- Denisse Archundia*: Sulfamethoxazole sorption in soils of the Bolivian Altiplano and impacts on bacterial populations.
- Pella Brinkman*: Centre for Soil Ecology (CSE)
- Federica D. Conti*: Biochar in soils: effects on soil microarthropods
- Joana Frazão*: Earthworm communities in relation to arable management in a landscape context
- Amber Heijboer*: Linking microbial diversity to the functioning of soil food webs using stable isotope probing
- Gera Hol*: Waking up the microbial seedbank: which rare bacteria are opportunists?

Célia Patrícia Martins Bento: Glyphosate decay in loess soil: is glyphosate a major risk for soil contamination?

Dominika Piwcewicz: Multielemental stoichiometry: what is the impact of fungi and bacteria on decomposing litter

Saeideh Rajaei: DNA Extraction from Pistachio roots with the aim of endophytic studies

Naomi Rintoul: Effects of soil contamination from historical industrial sources on plant biodiversity

Xiaomei Yang: Glyphosate decay and transport related with soil erosion in Loess soil, China

Marleen Zanen: Effect of no-till versus ploughing on soil quality and wheat yield on heavy clay soils

16.00 – 16.30 Poster session with coffee break – *Restaurant 'The Spot', Orion building*

16.30 – 18.00 **PARALLEL SESSIONS**

2 sessions with 6 oral presentations

**Session Biodiversity 2
(Orion 1040)**

Chair: Lijbert Brussaard

**Session Land Functions 1
(Orion 2051)**

Chair: Johan Bouma

16.30 – 16.45	<i>Antonietta La Terza</i> Soil biodiversity and sustainable vineyards: hints from the analysis of microarthropods and ciliated protozoa communities	<i>Lizeth Manuela Avellaneda-Torres</i> Evaluation of changes in soil quality in coffee agroecosystems (ecological and conventional) with different scores of resilience to climate variability in Anolaima, Colombia
16.45 – 17.00	<i>Elly Morriën</i> Soil biodiversity and nutrient cycling in an agricultural land abandonment chronosequence	<i>Ute Hamer</i> Afforestation or intense pasturing improve the ecological and economic value of abandoned tropical farmlands – the soil perspective
17.00 – 17.15	<i>Guénola Pérès</i> Is reduced tillage systems a sustainable arable farming? An integrated assessment of soil properties, soil ecosystem services, and socio-economic aspects	<i>Jan Peter Lesschen</i> Areas at risk of crop yield losses in Europe due to low or decreasing soil organic carbon levels

17.15 – 17.30	<i>Hsiao-Hang Tao</i> Effects of long-term crop residue application on soil biota, soil aggregation and organic matter allocation in oil palm agroecosystems	<i>Oleg Makarov</i> Cost estimate of agricultural land degradation in Russia applying different methodological approaches
17.30 – 17.45	<i>Ludovic Henneron</i> Forest management adaptation to climate change: soil biodiversity and ecosystem functioning response to stand density reduction	<i>Jan van den Akker</i> How serious is subsoil compaction?
17.45 – 18.00	<i>Marcel van der Heijden</i> Soil biodiversity as a driver of ecosystem sustainability	<i>Wim de Vries</i> Impacts of revision of fertilizer policies on soil balances of copper, zinc, cadmium and lead in EU-27
18.00 – 19.00	Snacks with refreshments and poster sessions – <i>Restaurant 'The Spot', Orion building</i>	

Thursday, August 27nd 2015

08.00 Arrival / Registration – Lobby, Orion Building
Poster Placement, Coffee

THEME 5: LAND FUNCTIONS

Chair: Violette Geissen

08.30 – 08.55 **KEYNOTE** – Plenary meeting room (Orion 1040)
Gerard Govers, KU Leuven, Belgium
Developing new visions for soil conservation

08.55 - 09.20 **KEYNOTE** – Plenary meeting room (Orion 1040)
Jetse Stoorvogel, Wageningen University, The Netherlands
What is the window of opportunity for our soil functions? A global and historical perspective

09.20 – 10.00 Plenary discussion - (Orion 1040)

10.00 – 10.30 One minute poster pitches – Plenary meeting room (Orion 1040)

Presented posters:

Romain Armand: Using plant functional traits to improve the mitigation of runoff-erosion efficiency of herbaceous hedges

Ayse Basbozkurt: Spatial analysis of soil 's some physical and chemical properties in Southern Anatolia

Elena Bondarenko: Assessment of damage caused by land degradation at the farm level in Moscow Region, Russia

Matthijs Bouwknecht: New developments in contaminated land management in Vietnam

Khalil Ur Rahman Butt: Soil characteristics mapping is a pre-requisite to conduct applied agricultural research and transfer of technologies to farmers

Mark Caulfield: Exploring Dominant Land Uses and their Associated Soil-Based Agroecosystems in a Heterogeneous Agricultural Landscape in the Ecuadorian Andes

Mark Caulfield: Exploring the Inter-Relationship between Landscape Heterogeneity and Within Farm Variability in Resource Allocation in the Andes

Vanessa Cristina de Carvalho Oliveira: Soil functionality indicators and multifunction assessment of Cerrado – Brazil

Majid Dowlati: Remote Sensing of Burned Residue in Fields using Landsat -8 Sensor Imagery

Mohammadreza Hosseini: Effect of fire frequency on nutrient losses in burned Pine forest of North-Central Portugal

Sergiy Kolomiets: Dynamic model of soul functioning and development

Adam Lajczak: Anthropogenic changes in relief of raised bogs in the Polish Carpathians

Stanislav Maly: Validation of models describing relationships between microbial soil properties and characteristics of stands in Coniferous and Deciduous forests

Elly Morriën: Natural and induced suppressiveness of *Globodera Rostochiensis* by Pochonia Chlamyosporia on a chronosequence of abandoned agricultural soils

Joao Pedro Nunes: Comparing erosion rates in terraced agriculture fields and fire-disturbed forests in a humid Mediterranean mountain catchment

Taco Regensburg: The role of vegetation patches and soil moisture conditions in runoff and erosion connectivity in a 4 times burnt pine stand

Pim Rijkee: Low-Land Gully Formation in the Amhara Region, Ethiopia

Andrea Román Sánchez: Single-grain OSL and IRSL dating for reconstruction of soil forming processes in a hillslope catena in Sierra Morena, S Spain

Jeroen Schoorl: Soil redistribution and landscape evolution modelling: LAPSUS

Hanan Siam: Evaluation of methods application for urea fertilizer by compost addition and its effect on peanut productivity, mineral content and quality under the newly reclaimed saline soil

Vera Silva: Pesticide distribution in European soils resulting from decades of application and related risk for the environment

Alexey Sorokin: Economics of land degradation and improvement: challenges for regional-scale assessments

Jaime Villacis: Performance of forest species on substrates derived from disturbed soils due to Petroleum activity in the Ecuadorian Amazon

Henk Wösten: Soil map providing basic information for crop and site specific water and fertility recommendations in Ethiopia

Irena Ymeti: Monitoring soil strength dynamics at plot scale using image texture analysis

10.30 – 11.00 Poster session with coffee break – *Restaurant 'The Spot', Orion building*

11.00 – 12.30 **PARALLEL SESSION**

2 sessions with 6 oral presentations

	Session Climate Change 1 (Orion 1040) <i>Chair: Boris Jansen</i>	Session 5.2: Land Functions 2 (Orion 2051) <i>Chair: Violette Geissen</i>
11.00 – 11.15	<i>Juliane Filser</i> Soil fauna: key to soil organic matter dynamics and modelling	<i>Julian Campo</i> Soil aggregation and soil organic carbon redistribution in a Mediterranean hill-slope affected by forest fires, erosion and deposition
11.15 – 11.30	<i>Edward Gregorich</i> Plant residue decay in diverse Canadian soils	<i>Clovis Grinand</i> Mapping temporal change of soil organic carbon: Impacts of deforestation in tropical humid and dry soil-landscape
11.30 – 11.45	<i>Jan Willem van Groenigen</i> Does the effect of earthworms on the soil greenhouse gas balance differ between farming systems?	<i>Adam Lajczak</i> Factors of abiotic environment influencing distribution and growth of peat bogs in Flysch Mountains, as exemplified by the Polish Carpathians
11.45 – 12.00	<i>Ingrid Lubbers</i> Exploring the relationship between soil mesofauna, soil structure and N ₂ O emissions	<i>Estefania Perez-Fernandez</i> A near infrared spectroscopy method to monitor changes in C content of soils in response to land use change
12.00 – 12.15	<i>Kees Jan van Groenigen</i> Application of a two-pool model to ecosystem carbon dynamics under global change	<i>Hedwig van Delden</i> Changes in soil organic carbon stocks at the European scale due to changes in climate, land use and management practices
12.15 – 12.30	<i>Liz Veerman</i> Use of lipid biomarkers to trace the source of soil organic carbon in afforested soils across Europe	<i>Esperanza Huerta</i> Earthworms are plastic transporters
12.30 – 14.00	Lunch and poster sessions – <i>Restaurant 'The Spot', Orion building</i>	

THEME 6: CLIMATE CHANGE

Chair: Karsten Kalbitz

- 14.00 – 14.25 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
Ingrid Kögel-Knabner, Chair of Soil Science, Technische Universität München, Germany
 Understanding organic matter sequestration for sustainable management of soils
- 14.25 – 14.50 **KEYNOTE** – *Plenary meeting room (Orion 1040)*
Pete Smith, Institute of Biological and Environmental Sciences, University of Aberdeen, United Kingdom
 Soils and climate Change
- 14.50 – 15.30 Plenary discussion - (*Orion 1040*)
- 15.30 – 16.00 One minute poster pitches – *Plenary meeting room (Orion 1040)*
- Presented posters:
- Adoum Abdraman Abgassi*: Carbon stocks in polders soils developed in inter Dunes landscapes under semi-arid climate (Lake Chad)
- Amira Aschi*: Effects of faba bean position in rotation system on abundance and diversity of soil microorganisms and nitrogen availability
- Padraig Flattery*: Estimating Soil Carbon: Exploring Methodologies
- Hala Kandil*: Role of cobalt in wheat water relationships under two different moisture regimes
- Boris Jansen*: The use of biomarkers to trace carbon transformations and input in soils
- Miriam Muñoz-Rojas*: Soil respiration in biodiverse semi arid ecosystems: effects of vegetation type and seasonal variation
- Estela Nadal-Romero*: The effects of land use changes on soil carbon stocks
- Nuria Valbuena*: The effect of mole drainage on N₂O emissions from a clay-loam soil under grassland
- 16.00 – 16.30 Poster session with coffee break – *Restaurant 'The Spot', Orion building*

16.30 – 18.00 **PARALLEL SESSIONS**

2 sessions with 6 oral presentations

	Session Land Functions 3 (Orion 1040) <i>Chair: Erik Cammeraat</i>	Session Climate Change 2 (Orion 2051) <i>Chair: Karsten Kalbitz</i>
16.30 – 16.45	<i>Estela Nadal-Romero</i> How do soil properties change after land abandonment in Mediterranean areas?	<i>Ní'matul Khasanah</i> Carbon neutral? Changes in mineral soil carbon stock under oil palm plantations derived from forest or non-forest in Indonesia
16.45 – 17.00	<i>Andrea Román Sánchez</i> Mediterranean landscape dynamics: soil formation processes long term	<i>Gillian Kopittke</i> On the Rise and Fall of Carbon Balances in a Managed Heathland
17.00 – 17.15	<i>Jeroen Schoorl</i> Resolution effects on feedbacks between soil redistribution and land use change in the Guadalhorce Valley, Alora, Spain	<i>Albert Tietema</i> A 15N tracer experiment shows long-term stabilization of N deposition in the organo-mineral complexes in the mineral soil of a forest ecosystem: consequences for C sequestration
17.15 – 17.30	<i>Arnaud Temme</i> LORICA: a new soil landscape co-evolution framework	<i>Jerome Ebagnerin Tondoh</i> Assessing the potential of soils for climate change mitigation and adaptation in West African drylands
17.30 – 17.45	<i>Marcos Angelini</i> Digital soil mapping of an Argentinian Pampa Region using structural equation modelling	<i>Jan van den Akker</i> Subsidence and CO ₂ emissions of peat soils in agricultural use
17.45 – 18.00	<i>Oren Hoffman</i> Experimental and natural changes in semi-arid vegetation patterns affect runoff production and shrub-herb interactions	<i>Juniarti Yuni</i> Soil carbon stock in sub-optimal land due to climate change on development <i>Cymbopogon nardus</i> L. Simawang Village, West Sumatra, Indonesia
18.00 – 19.00	<i>Restaurant 'The Spot', Orion building</i> Conference closure - Jakob Wallinga, chair Snacks with refreshments and poster sessions	

Practical Information

Conference Venue

Orion Building, Wageningen Campus
Address: Bronland 1, Building 103
6708 WH WAGENINGEN
Tel. +31 (0) 317 48 87 77 -Orion Reception desk

Travel to Wageningen Campus

If you travel by car there is a large parking area (free parking) behind the Orion building. There is also a regular bus service from Wageningen bus station and the train station Ede-Wageningen (bus nr. 88 - 'Valleilijn' and bus nr. 84). Bus nr. 84 has a bus stop opposite the Forum building, next to Orion.

Bus service from Wageningen City Centre Hotels to the Orion Building

A shuttle bus service leaves each morning from the Wageningen City Centre Hotels, Hotel de Wageningsche Berg and Hotel de Hof van Wageningen to the Wageningen Campus. A return shuttle bus service after the conference is also available. See our bus schedule on the next page.

For the Excursions on Tuesday, 25th of August, buses will leave at the parking of Hotel de Hof van Wageningen and make a stop at Hotel De Wageningsche Berg.

Poster placement

You are welcome to place your poster the morning of your session at the poster session location (Restaurant The Spot); please remember to remove it at the end of the day to make the space available for next days' posters.

WiFi at Orion

There is free WiFi available during the Conference. The wi-fi codes are available at the registration desk and are strictly for Wageningen Soil Conference –participants. Please be aware that the network regulations for working on the Wageningen UR network are applicable. If anyone using the WSC 2015 WiFi-codes causes security issues on the Wageningen UR network unfortunately the WiFi option will be closed to all participants.

Conference Secretariat during the Conference

Mrs Hedy Wessels Tel. +31 (0) 317-485 309 or +31 (0)6-12 385 733

Emergencies Orion

In case of medical and other emergencies, please call the Orion emergency telephone number:
Tel. +31 (0) 317 484 444

Disclaimer

All best endeavours will be made to present the Wageningen Soil Conference 2015 programme as published. However, the Wageningen Soil Conference reserves the right to alter or cancel without prior notice, any of the arrangements, timetables, plans or other items relating directly or indirectly to the programme for any reason beyond its reasonable control. Wageningen UR is not liable for any inconvenience caused as a result of such alteration. **Please be aware that participants take part at their own risk. Wageningen UR will not be responsible for personal injury or loss or damage of property.**

Bus schedule Hotels Wageningen City Centre to Orion - WSC 23-27 August 2015

Monday 24/8 Bus 19 pers. Bus 1 Wageningse Berg	A.M. 3 Rides between Hotel Wageningse Berg – Orion v.v. WB 08.00- Orion 08.15 WB 09.00- Orion 09.15
Bus 19 pers. Bus 2 Hof van Wageningen	3 Rides between Hotel Hof van Wageningen (Hotel De Wereld can join) – Orion v.v. HvW 08.00- Orion 08.15 HvW 08.30- Orion 08.45 HvW 09.00- Orion 09.15
Monday 24/8 Bus 19 pers. Bus 1 Wageningse Berg	P.M. 3 Rides between Wageningse Berg – Orion v.v. Orion 19.00- WB 19.15 Orion 19.30- WB 19.45 Orion 20.00- WB 20.15
Bus 19 pers. Bus 2 Hof van Wageningen	3 rides between Orion - Hof van Wageningen v.v. Orion 19.00- HvW 19.15 Orion 19.30- HvW 19.45 Orion 20.00- HvW 20.15
Wednesday 26/8 Bus 1 Wageningse Berg Bus 19 pers.	A.M. 3 Rides between Wageningse Berg – Orion v.v. WB 07.15- Orion 07.30 WB 07.45- Orion 08.00 WB 08.15- Orion 08.30
Bus 19 pers. Bus 2 Hof van Wageningen	3 Rides between Hotel Hof van Wageningen (Hotel De Wereld can join) – Orion v.v. HvW 07.15- Orion 07.30 HvW 07.45- Orion 08.00 HvW 08.15- Orion 08.30
Wednesday 26/8 Bus 19 pers. Bus 1 Wageningse Berg	P.M. 3 rides between Orion – Wageningse Berg v.v. Orion 18.15- WB 18.30 Orion 18.45- WB 19.00 Orion 19.15- WB 19.15
Bus 19 pers. Bus 2 Hof van Wageningen	3 rides between Orion - Hof van Wageningen v.v. Orion 18.15- HvW 18.30 Orion 18.45- HvW 19.00 Orion 19.15- HvW 19.15
Thursday 27/8 Bus 19 pers. Bus 1 Wageningse Berg	A.M. 3 Rides between Wageningse Berg – Orion v.v. WB 07.15- Orion 07.30 WB 07.45- Orion 08.00 WB 08.15- Orion 08.30
Bus 19 pers. Bus 2 Hof van Wageningen	3 Rides between Hotel Hof van Wageningen (Hotel De Wereld can join) – Orion v.v. HvW 07.15- Orion 07.30 HvW 07.45- Orion 08.00 HvW 08.15- Orion 08.30
Thursday 27/8 Bus 19 pers. Bus 1 Wageningse Berg	P.M. 3 rides between Orion – Wageningse Berg v.v. Orion 18.15- WB 18.30 Orion 18.45- WB 19.00 Orion 19.15- WB 19.15
Bus 19 pers. Bus 2 Hof van Wageningen	3 rides between Orion - Hof van Wageningen v.v. Orion 18.15- HvW 18.30 Orion 18.45- HvW 19.00 Orion 19.15- HvW 19.15

