

12th Congress of the European Society for Agronomy

Helsinki, Finland, 20-24 August 2012



ESA12



ESA

Programme

PROGRAMME OUTLINE

Monday 20 August 2012		
08:00	Registration	
10:00	Opening session: <i>Main auditorium (Iso Juhlasali), 2nd floor</i>	
12:00	Lunch	
13:30	Crop Modelling <i>Small auditorium (Pieni Juhlasali), 4th floor</i>	Soils and soil-plant-(microbe) interactions <i>Hall 1, 2nd floor</i>
15:00	Coffee	
	Crop and systems modelling 1 <i>Small auditorium, 4th floor</i>	Yield gap assessment and reduction <i>Hall 1, 2nd floor</i>
17:00 – 18:00	ESA executive meeting Installation of posters in foyers	
18:15 – 20:00	University reception	

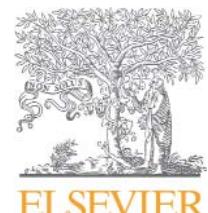
Tuesday 21 August 2012		
08:30	Registration	
09:00	Crop and systems modelling 2 <i>Small auditorium, 4th floor</i>	Sustainable bioenergy cropping 1. <i>Main auditorium, 2nd floor</i>
10:30	Coffee	
11:00	Crop protection, allelopathy, and pesticide reduction 1 <i>Small auditorium, 4th floor</i>	Sustainable bioenergy cropping 2 <i>Main auditorium, 2nd floor</i>
	Lunch Foyers: Poster session 1	
14:30	Crop protection, allelopathy, and pesticide reduction 2 <i>Small auditorium, 4th floor</i>	Crop adaptation to high latitudes <i>Main auditorium, 2nd floor</i>
16:00	Coffee	
16:30	Field biodiversity <i>Small auditorium, 4th floor</i>	Resource use efficiency <i>Main auditorium, 2nd floor</i>
18:00 – 19:30	Helsinki city reception	

Wednesday 22 August 2012		
08:30	Registration	
09:00	Field trips and modelling course	
	Free evening / Helsinki Festival	

PROGRAMME OUTLINE

Thursday 23 August 2012				Friday 24 August 2012	
08:30	Registration			08:30	Registration
08:00 — 08:45	The Worldwide "Farming Systems Design" initiative. <i>Main auditorium, 2nd floor</i>			09:00 — 10:00	ESA general assembly. <i>Main auditorium, 2nd floor</i>
09:00	Crop stress response 1. <i>Small auditorium, 4th floor</i>	Legume-supported rotations 1. <i>Hall 1, 2nd floor</i>	Farming systems design 1. <i>Main auditorium, 2nd floor</i>	10:00	Coffee
10:30	Coffee			10:30	Omics in crop sciences. <i>Small auditorium, 4th floor</i> Farming systems design 3. <i>Main auditorium, 2nd floor</i>
11:00	Crop stress response 2. <i>Small auditorium, 4th floor</i>	Legume-supported rotations 2. <i>Hall 1, 2nd floor</i>	Farming systems design 2. <i>Main auditorium, 2nd floor</i>	12:00	Lunch
12:30	Lunch Foyers: Poster session 2			13:00	Closing plenary session: <i>Main auditorium, 2nd floor</i>
14:30	Crop stress response and mitigation. <i>Small auditorium, 4th floor</i>	Cropping systems design. <i>Hall 1, 2nd floor</i>	Energy efficiency and environmental impacts of cropping systems 1. <i>Main auditorium, 2nd floor</i>		
16:00	Coffee				
16:30	Modelling in changing environments. <i>Small auditorium, 4th floor</i>	Management of novel crops, including cover/catch-crop systems. <i>Hall 1, 2nd floor</i>	Energy efficiency and environmental impacts of cropping systems 2. <i>Main auditorium, 2nd floor</i>		
19:00 — 24:00	Conference dinner: Ravintola Sipuli				

ORGANISERS, SUPPORTERS, EXHIBITORS, SPONSORS



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DEAR DELEGATES,



Welcome to Helsinki and to the 12th Congress of the European Society for Agronomy!

It has been a long road to get here. Four years ago, we put our heads above the parapet at the Bologna congress

and volunteered to host this event. Since then, thousands of emails have come in and gone out, along with phone calls and old-style letter post. We recruited a local committee, an international scientific committee, a list of potential (and later, invited) keynote speakers. In the process, we have done some things right while doing other things wrong, and we have pleased some people while offending others. Sweat has dripped and midnight oil has been burnt.

But look! All of a sudden, it is all together! We have about 300 delegates from 40 countries presenting over 100 talks and nearly 200 posters. We have 15

invited speakers, including from North America, Australia and Asia. We have, in short, a Congress.

I thank the members of the International Scientific Committee and the Invited Speakers for reviewing the abstracts and chairing the sessions. I thank the local committee for its many inputs, and our sponsors for their support. I thank Jussi, Päivi and Helinä from Congrex for looking after so much of the non-scientific part of the congress. I thank Jacques Wéry and the ESA headquarters team for keeping me informed about the way ESA likes things to be done. And I thank Pirjo Mäkelä for being my right-hand person throughout the preparations.

I hope that you enjoy the conference, make friends and influence people, and enjoy this lovely country as well while you are here.

Best wishes

*Fred Stoddard
President, European Society for Agronomy,
August 2010 – August 2012*

COMMITTEES

Organising committee	Scientific committee	Congress secretariat	
Frederick Stoddard Pirjo Mäkelä Laura Alakukku Mikko Hautala Kristina Lindström Susanna Muurinen Sari Peltonen Mervi Seppänen Markku Yli-Halla	Frederick Stoddard Pirjo Mäkelä Marc Benoit Olaf Christen Marcello Donatelli Henrik Eckersten Brian Fowler Felix Herzog John Kirkegaard Jaume Lloveras Evelin Loit	José Paulo de Melo e Abreu Donal Murphy-Bokern Andrés Nábrádi Krystyna Rykaczewska Roxana Savin Jaswinder Singh Elizabeth Stockdale Hartmut Stützel Muriel Valantin-Morison Christine Watson Jacques Wéry	CONGREX / Blue & White Conferences Oy P.O.Box 81, FI-00371 Helsinki Tel. +358 9 560 7500 Fax +358 9 560 75020 Email: esa12@congrex.fi

GENERAL AND TRAVEL INFORMATION

Registration and Information Desk

On the congress days, participants can pick up their personal congress material at the registration desk, which will be open at University of Helsinki, main building (Street address: Fabianinkatu 33, ground floor) as follows:

- Monday, 20 August 2012 at 8:00 – 18:00
- Tuesday, 21 August 2012 at 8:30 – 18:00
- Wednesday, 22 August 2012 at 8:30 – 9:00
- Thursday, 23 August 2012 at 8:00 – 18:00
- Friday, 24 August 2012 at 8:30 – 15:00

The congress secretariat will be available to assist you during the entire congress at University of Helsinki.

Language

The congress language is English. There will be no interpretation.

Name Badges

Participants are obliged to wear the official congress name badges at all congress events. An additional fee will be charged for reproduction of lost name badges.

Photographing, Recording and Mobile Phones

Photographing or recording of oral presentations is not allowed. Mobile phones should be switched off in the lecture halls since they may interfere with the audio system of the halls.

Lunch and Refreshments

Lunch and morning and afternoon refreshments are included in the participants' registration fee. Coffee and tea will be available in the exhibition area (2nd floor) during the morning and afternoon coffee breaks and after lunch.

Non-Smoking Policy

Smoking is prohibited in the congress and exhibition areas. Smoking is allowed only outside in designated smoking areas.

Powerpoint presentations

PowerPoint presentations should be loaded onto the computer in your lecture room during the break before the start of your session, or on the day before. Should you wish to check your presentations, you may use the computer and projector in the speaker's room. The speaker's room for Monday, Wednesday, Thursday and Friday is Hall 16 on the 4th floor. The speaker's room for Tuesday is Hall 3 on the 2nd floor.

Lockers

Small lockers are available behind the registration area. You need a 2-euro coin as a deposit, and it is returned to you when you unlock the door.

Congress Assistants

Congress assistants and in-house technical staff assist in practical issues in the lecture halls before and during the sessions (e.g. setting up the presentations on the computers and handing microphones for questions).

Internet Connections

The entire building is enabled for Wi-Fi. Visitors from other European universities can log in to Eduroam using their usual procedures. Visitors from elsewhere can obtain a user-id and password from the registration desk. The University does not provide workstations for visitors.

Public Transportation

Helsinki has a good public transportation system. The closest tram stops are on Aleksanterinkatu, just to the south of the conference building.

Transportation to the airport

A taxi to the airport costs 30-40€ and takes about 30 min. Finnair provides an express bus from the City Terminal near the Central Railway Station for about 5€. Helsinki Public Transport HSL bus line 615 from Railway Square takes 35 min to get to the airport, leaves every 15 min and costs about 4€. The railway line from Central to the airport will open in about 2 years.

Abstract book

The abstract book will be published electronically, not on paper. In the first instance it will be accessible by using the "Abstracts" button on the conference website.

Certificate of Attendance

On request, all participants can receive a certificate of attendance from the registration desk.

Currency and Credit Cards

The official currency in Finland is euro (€). Most major credit cards are accepted in the hotels and shops. VISA, Eurocard and MasterCard are accepted at the congress registration desk.

First Aid

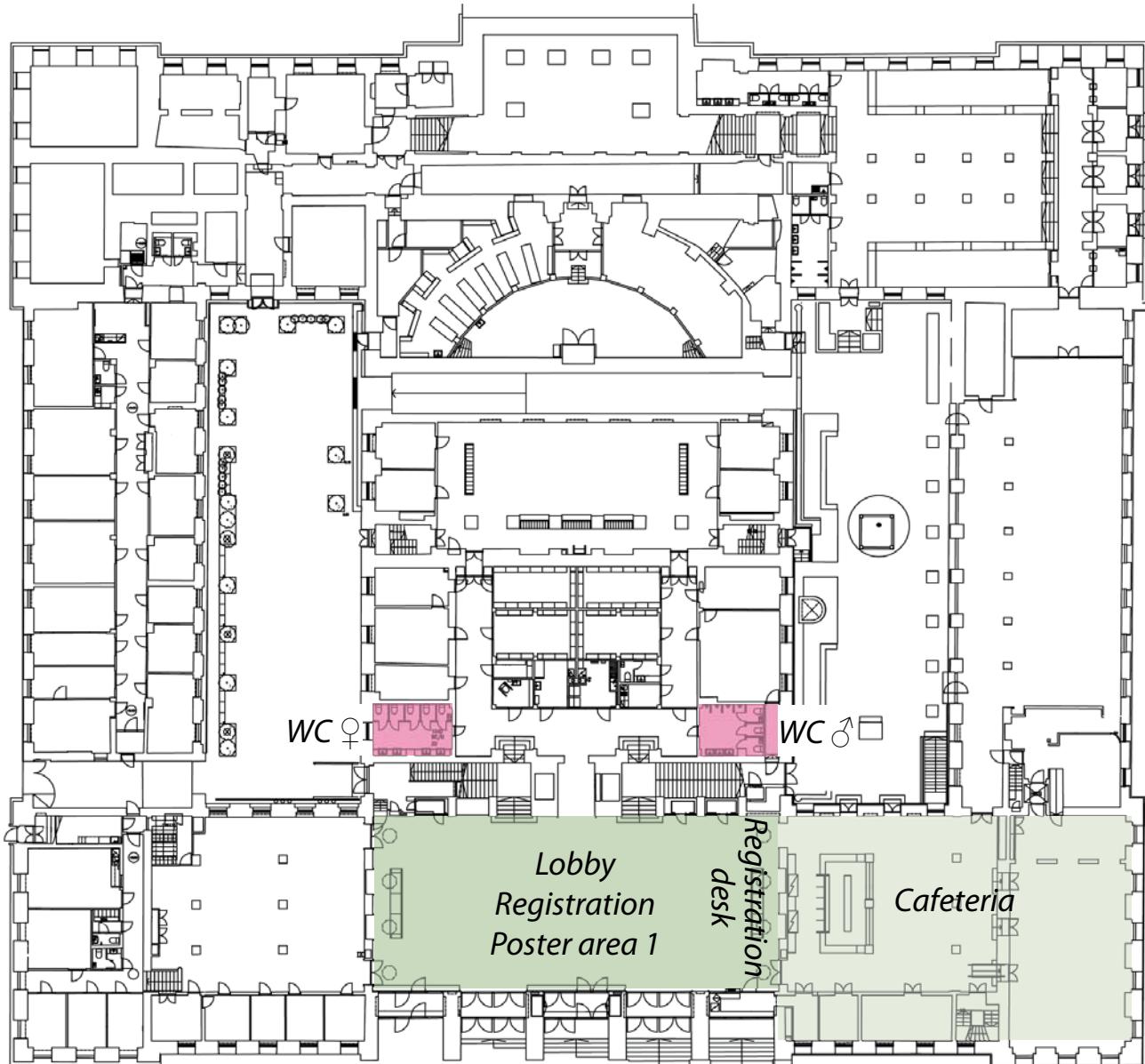
The general emergency phone number is 112. You can call this number free of charge from any phone, including foreign mobile phone connections, without any area code. In genuine emergencies, when someone's life, health or property is in danger, just call 112.

Liability

By registering into the congress and/or by participating in the exhibition joined to the congress, participants agree that neither the organising committee nor the congress secretariat assume any responsibility for damage or injuries to persons or property during the congress. Participants and exhibitors are advised to organise their own health, travel and personal insurances.

FLOOR PLANS

1st floor (ground floor)



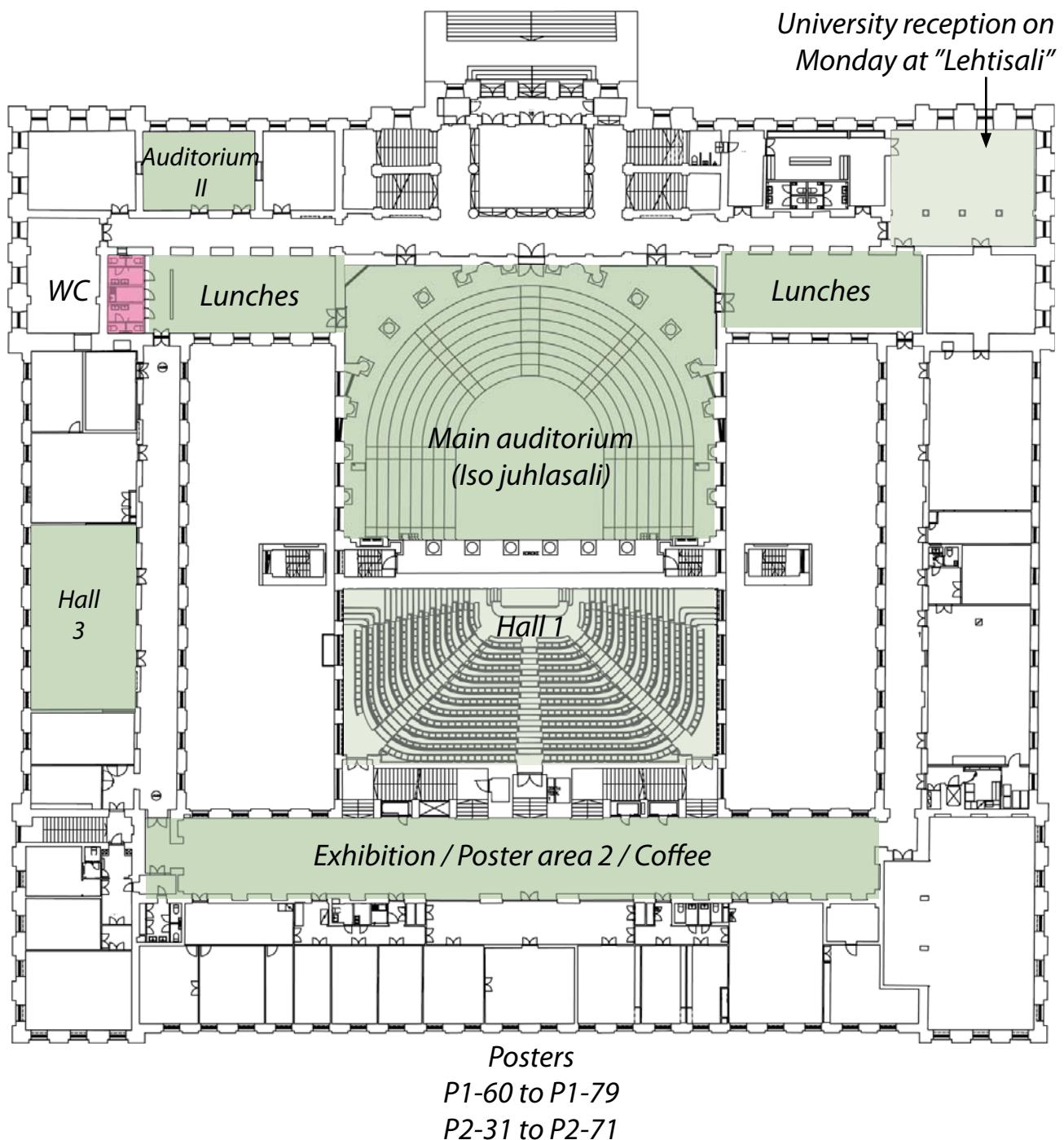
Entrance
(Fabianinkatu 33)

Posters
P1-01 to P1-03
P1-26 to P1-38
P1-80 to P1-97
P2-26 to P2-30
P2-72 to P2-92

FLOOR PLANS

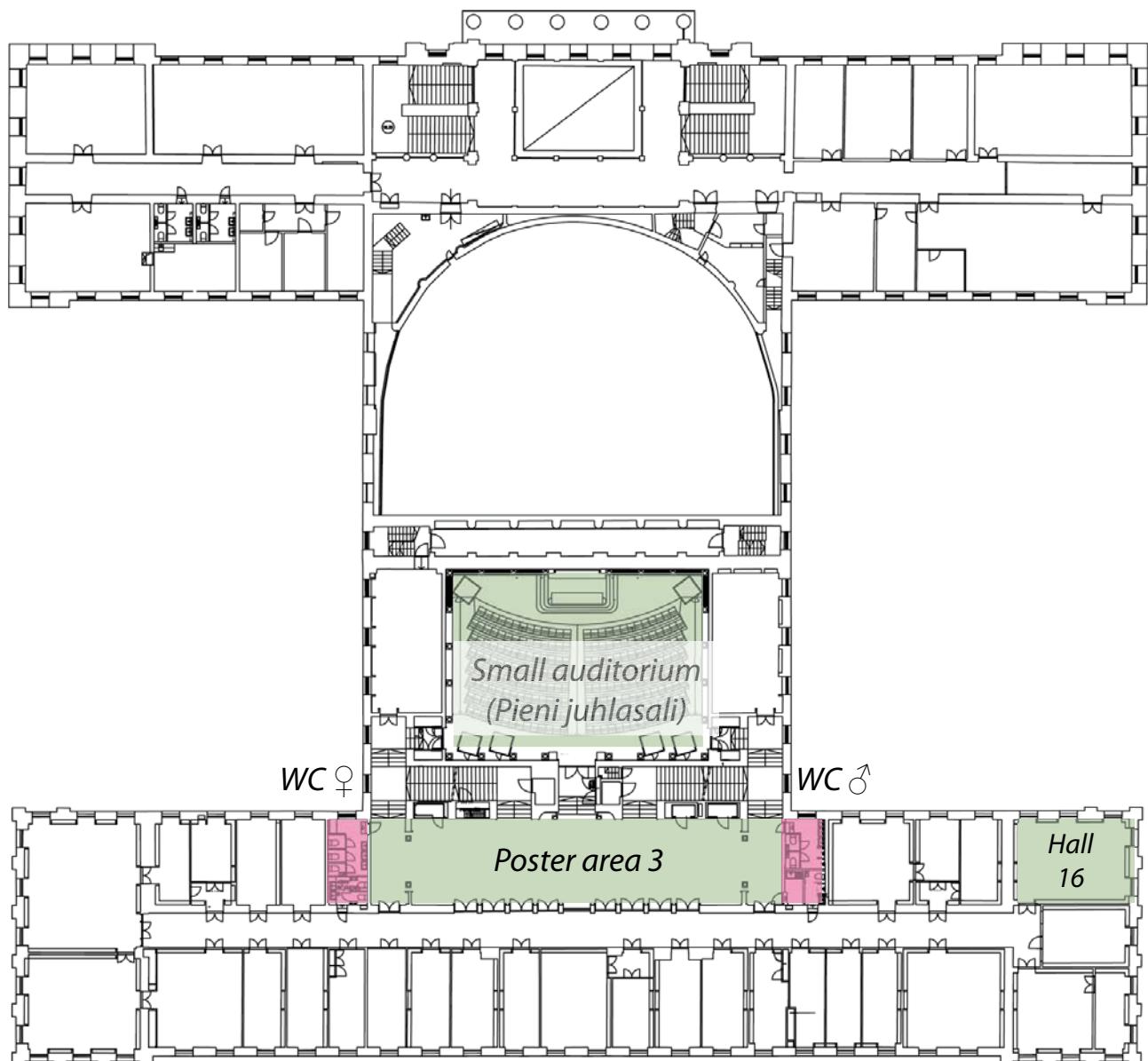
2nd floor

Entrance (Senate Square)



FLOOR PLANS

4th floor



Posters
P1-07 to P1-25
P1-39 to P1-59
P2-01 to P2-25

SOCIAL PROGRAMME



University reception

Date Monday, 20 August 2012
Time 18:15-20:00
Place Room "Lehtisali", 2nd floor at the University of Helsinki Main Building
Price Included in the registration fee



Helsinki city reception

Date Tuesday, 21 August 2012
Time 18:00-19:30
Place Helsinki City Hall, address: Pohjois-Esplanadi 11-13
(by market square)
Price Included in the registration fee

No transportation will be provided (walking distance from the venue and main hotels).
Please show the invitation card upon entrance.



Conference dinner

Date Thursday, 23 August 2012
Time 19:00-24:00
Place Restaurant Sipuli, address: Kanavaranta 7 (near market square)
Price 60 € (only pre-booked tickets, tickets no longer available onsite)

No transportation will be provided (walking distance from the venue and main hotels).
Please show the dinner ticket upon entrance.

SCIENTIFIC PROGRAMME

Monday 20 August 2012

08:00	Registration (every day)	
10:00	Opening session: Main auditorium (Iso Juhlasali), 2nd floor Welcome: Fred Stoddard, President, ESA	
10:15	Jari Koskinen, Minister of Agriculture & Forestry, Finland	
10:45	Juha Helenius, deputy dean, Faculty of Agriculture & Forestry, University of Helsinki	
11:00	Jarmo Juga, head, Department of Agricultural Sciences, University of Helsinki	
11:15	Discussion document: A proposed declaration from the ESA Congress on the need for crop rotations to be properly recognized in the CAP. Discussion to be continued in the closing plenary.	
11:45	Other conference "housekeeping" business	
12:00	Lunch	
	Crop Modelling Chair: Hartmut Stützel (Germany) Small auditorium (Small auditorium), 4th floor	Soils and soil-plant-(microbe) interactions Chair: Kristina Lindström (Finland) Hall 1, 2nd floor
13:30	Böttcher, Ulf. Parameterisation of a phenological model of winter oilseed rape. 131-1	Keynote: Kirkegaard, John. Soil-plant interactions and Australia's conservation farming revolution: sense, nonsense and roots to success. 132-1K
13:45	Brunel-Muguet, Sophie. Sink strength for S as a major parameter to model vegetative growth in oilseed rape (<i>Brassica napus</i> L.) under contrasting sulfur (S) supplies. 131-2	
14:00	Neukam, Dorothee. A new approach for calculating stomatal resistance of wheat as a step towards dynamic simulation of canopy temperature. 131-3	Bertrand, Michel. WORMDYN : a dynamical model to predict earthworm populations and communities dynamics. 132-3
14:15	Vos, Jan. Explaining the yield advantage of wheat-maize intercropping from plant responses to available space using functional- structural plant modelling. 131-4	Manici, Luisa M. Exploitation of natural resources to increase soil health: BIO-INCROP, a project on organic fruit tree cropping systems. 132-4
14:30	Stella, Tommaso. A new generation of SUCROS-type models: an example for WOFOST and rice simulations. 131-6	Denoroy, Pascal. Change for 16 years of P status along soil profile in a French podzol in relation with different P fertilization under irrigated maize production. 132-5
14:45	Soufizadeh, Saeid. Developing algorithms for modelling the dynamics of N balance in maize in a gene-to-phenotype context. 131-5	Hussain, Qaiser. Methanogen archaeal and methanotroph bacterial communities dynamics in response to rice cultivars and linkage to CH ₄ flux. 132-2
15:00	Coffee	

Monday 20 August 2012 continued

	Crop and systems modelling 1 Chair: Niels Anten (Netherlands) Small auditorium, 4th floor	Yield gap assessment and reduction Chair: John Kirkegaard (Australia) Hall 1, 2nd floor
15:30	Bassu, Simona. Uncertainties in Maize Crop Model Responses to Climate Factors. 141-1	Keynote: Slafer, Gustavo. Matching growth of wheat production and demand: shall we further increase yield potential or close the gap with actual yields? 142-1K
15:45	Maiorano, Andrea. Comparison of modelling approaches to simulate the phenology of agricultural insect pests under future climate scenarios. 141-2	
16:00	Keynote: Donatelli, Marcello. Estimating impact assessment and adaptation strategies under climate scenarios for crops in Europe. 141-3K	Van Wart, Justin. Review of agroecozones for use in yield gap analysis. 142-2
16:15		Hochman, Zvi. Yield Gap Analysis – what is the required spatial and temporal resolution for agronomic relevance? 142-3
16:30	Asseng, Senthil. A comparison of 27 wheat crop models for climate change impact: The AgMIP Wheat pilot study. 141-4	Pampolini, Mirasol. Yield gap reduction using Nutrient Expert recommendations for maize and wheat in Asia. 142-4
16:45	van Bussel, Lenny. Testing extrapolation domains of weather stations for modeling maize yields at continental and global scales. 141-5	Zingore, Shamie. Assessment of nutrient-induced maize yield gaps in smallholder systems in Africa. 142-5
17:00 – 18:00	ESA executive meeting (Hall 16) / Installation of posters in foyers	
18:15 – 20:00	University reception / Vice Rector, Professor Jukka Kola Lehtisali, 2nd floor	

Tuesday 21 August 2012

	Crop and systems modelling 2 Chair: Marcello Donatelli (Italy) Small auditorium, 4th floor	Sustainable bioenergy cropping 1. Chair: Olaf Christen (Germany) Main auditorium, 2nd floor
09:00	Anten, Niels. Why plants are not optimal for maximum production: a game theoretical analysis of plant traits. 211-1	Keynote: Thrän, Daniela. Sustainable bioenergy cropping. 212-1K
09:15	Nendel, Claas. The simulation of winter wheat yields in Thuringia, Germany, using meteorological data with different spatial resolution. 211-2	
09:30	Kupisch, Moritz. Analysis and modeling of spatio-temporal patterns of CO ₂ and H ₂ O fluxes at leaf and canopy scale in crop fields. 211-3	Prade, Thomas. Industrial hemp (<i>Cannabis sativa</i> L.) — a high-yielding energy crop. 212-2
09:45	Fayaud, Benoit. Early growth in intercrops: an experimental and simulation approach for a range of species under different sowing conditions. 211-4	Kenedy Etone, Epie. Intercropping Jerusalem artichoke (<i>Helianthus tuberosus</i> L.) with legumes for energy purpose. 212-3
10:00	Wallach, Daniel. Assessing the uncertainty in model-based evaluation of irrigation strategies. 211-5	Popp, József. The increasing competition for biomass. 212-4
10:15		Gaile, Zinta. Maize hybrids for biogas production in conditions of Latvia. 212-5
10:30	Coffee	
	Crop protection, allelopathy, and pesticide reduction 1 Chair: Heikki Hokkanen (Finland) Small auditorium, 4th floor	Sustainable bioenergy cropping 2 Chair: Hannu Mikkola (Finland) Main auditorium, 2nd floor
11:00	Keynote: Albajes, Ramon. Ecological footprint of agriculture and crop protection: analyzing environmental impacts of crop protection methods within an integrated framework. 221-1K	Christen, Olaf. Crop rotation affect GHG-balances and energy-balances of oilseed rape. 222-1
11:15		Ferchaud, Fabien. Water drainage and nitrate leaching under contrasted biomass crops. 222-2
11:30	Médiène, Safia. Temporary grasslands impact weed abundance and diversity. 221-2	Marrou, Helene. Producing food and electricity in the same system: experimental evidence of agrivoltaic system potential. 222-3
11:45	Doisy, Diana. Grassland canopies limit the replenishment of weed seed bank during seed rain. 221-3	Mastrorilli, Marcello. Sorghum productivity as a consequence of limited and waste water irrigation in Southern Italy. 222-4
12:00	Leclerc, Melen. An epidemiological modelling framework to help agronomists defining crop protection strategies – the risk of <i>R. solani</i> in sugar beet using biofumigation. 221-4	Dufossé, Karine. Effects of the removal of a 20-year old Miscanthus stand on GHG emissions, soil nitrate and carbon stocks. 222-5
12:15	Ruza, Antons. Development of winter wheat root and crown rot depending on soil tillage system and pre-crops. 221-5	Beaudoin, Nicolas. Dynamics of nitrogen uptake and remobilisation in <i>Miscanthus x giganteus</i> using ¹⁵ N-labelled fertilizer tracing. 222-6
	Lunch Foyers: Poster session 1	

Tuesday 21 August 2012 continued

	Crop protection, allelopathy, and pesticide reduction 2 Chair: Sari Peltonen (Finland) Small auditorium, 4th floor	Crop adaptation to high latitudes Chair: Brian Fowler (Canada) Main auditorium, 2nd floor
14:30	Valantin-Morison, Muriel. Sustainability performances of innovative cropping management systems for winter oil seed rape in multi-location trials. 231-1	Keynote: Peltonen-Sainio, Pirjo. Coping with the special features of the extreme northern corner of crop production. 232-1K
14:45	Métral, Raphaël. How to design and experiment new cropping systems with low pesticide inputs for perennial crops : framework development and application to vineyards. 231-2	
15:00	Fortino, Gabriele. Adapting DEXiPM model for ex post assessment of the sustainability of innovative cropping systems. 231-3	Nkurunziza, Libère. Model-based cultivar testing with genotype parameters and weather conditions. 232-2
15:15	Bankina, Biruta. Possibilities of integrated disease management for winter barley in Latvia. 231-5	Fogelberg, Fredrik. Introduction of soya bean (<i>Glycine max</i>) cropping to Sweden. 232-3
15:30	Duchovskiene, Laisvune. Control of the most widely spread cabbage pest in white cabbages. 231-6	Jokela, Venla. Effects of vernalization on freezing tolerance and canopy structure of timothy (<i>Phleum pratense L.</i>). 232-4
15:45	Discussion	Angulo, Carlos. Effects of weather data resolution on crop yield simulations when using different models – A case study in Finland. 232-5
16:00	Coffee	
	Field biodiversity Chair: Muriel Valantin-Morison (France) Small auditorium, 4th floor	Resource use efficiency Chair: Roxana Savin (Spain) Main auditorium, 2nd floor
16:30	Herzog, Felix. Biodiversity indicators for European farms. 241-1	Keynote: Foulkes, M. John. Increasing the efficiency of water and nutrient use of crops by exploitation of novel germplasm, traits and technologies. 242-1K
16:45	Bockstaller, Christian. Assessing the pollination value of field margin flora by means of a predictive indicator. 241-2	
17:00	Keynote: Ekbom, Barbara. How field biodiversity can enhance ecosystem services. 241-3K	Brunel-Muguet, Sophie. Effects of shading on biomass production and N-dynamics in winter oilseed rape (<i>Brassica napus L.</i>). 242-2
17:15		Gislum, Rene. The use of seed and straw N concentration to estimate NUE in perennial ryegrass for seed production – a case study from Denmark and New Zealand. 242-5
17:30	Wolfrum, Sebastian. Cost-efficiency of measuring earthworm diversity in a German case study at farm-scale: lessons for application in monitoring and agricultural practice. 241-4	Discussion
17:45	Lüscher, Gisela. Plant, earthworm, spider and bee diversity in agricultural fields of grazing and field crop farming systems in eight regions across Europe. 241-5	
18:00 – 19:30	Helsinki city reception Pohjoisesplanadi 11-13, one block south of the conference building	

Wednesday 22 August 2012

	Field trips and modelling course
	Free evening / Helsinki Festival

FIELD TRIPS

All depart from Senate Square at 0900 Wednesday 22 August. Don't be late, as Finns expect punctuality! There are soft drinks and light snacks available on the buses and every trip includes lunch. All tickets for trips 1 and 2 have been sold. Tickets for trip 3 may still be bought from the registration desk on Monday.

1. Mixed farming and organic systems, Mikkeli region, South Savo.

First stop is the mixed livestock and arable farm of Jari Leppä near Pertunmaa (<http://www.antinmaentila.fi>). You will stop for a grand buffet lunch at Tertin Kartano (<http://www.tertinkartano.fi>). Near Juva, you will visit Ali Ronkainen's organic farm (<http://www.hayrila.fi>). The return journey will take a different route through Kouvola. Expected return time around 9 p.m.

2. Visit to Agrifood Research Finland MTT and Boreal Plant Breeding, Jokioinen.

The first stop is Boreal Plant Breeding Ltd (<http://www.boreal.fi>), who will provide coffee before you are shown around the facilities and the field experiments. Lunch will be in the Ometta restaurant on MTT land. After lunch, the group will visit the field experiments of MTT (<http://portal.mtt.fi>) to see aspects of crop cultivation in Nordic conditions and experiments on crop protection for crop rotation and conservation tillage measures. On the return journey, if time permits, you will stop at a farm in Hyvinkää where nutrient recycling is practiced. Expected return time around 8 p.m.

3. Visit to the University of Helsinki's campus at Viikki.

You will see some of the facilities of the Department of Agricultural Sciences, including experiments on biochar, allelopathy, rotations, and intercropping. We will go for a walk through the arboretum and natural area on the edge of Viikki Bay. Lunch at Gardenia, (<http://www.gardenia-helsinki.fi/lounaslista.htm>) where there is also a tropical greenhouse. Expected return time 1.30 p.m.

Modelling course

Auditorium II, near the Main auditorium

Thursday 23 August 2012

08:00 – 08:45	The Worldwide "Farming Systems Design" initiative. Chair: Jacques Wéry (France) Main auditorium, 2nd floor		
	Crop stress response 1 Chair: Krystyna Rykaczewska (Poland) Small auditorium, 4th floor	Legume-supported rotations 1. Chair: Donal Murphy-Bokern (Germany) Hall 1, 2nd floor	Farming systems design 1. Chair: Jacques Wéry (France) Main auditorium, 2nd floor
09:00	Benoît, Marc. Global climate changes and local changes in cropping systems: cropping system calendar changes in Lorraine (France) due to climate changes. 411-1	Justes, Eric. Cover crops are worthwhile in grain legume based rotation to valorise the biological N ₂ fixation and concomitantly maintain soil fertility. 412-1	Keynote: Tittonell, Pablo. Supporting design and co-innovation in farming systems - Actors, agroecological knowledge and landscape functions. 413-1K
09:15	Durand, Jean-Louis. CLIMAGIE: A French INRA project to adapt grasslands to climate change. 411-2	Baddeley, John. Assessing the role of cereal-legume intercrops in low-input rotational cropping systems. 412-2	
09:30	Tokatlidis, Ioannis. Adapting maize crop to climatic changes. 411-3	Keynote: Watson, Christine. Legume-supported crop rotations: A European perspective. 412-3K	Stobart, Ron. Farming systems research; evaluation of current practice and the development of novel approaches within UK systems. 413-2
09:45	Oosterhuis, Derrick. Heat stress-induced limitations to reproductive success in cotton. 411-4		Nesme, Thomas. Phosphorus flows, mineral fertilizer use and agricultural production systems: a regional perspective for France. 413-3
10:00	Khazaei, Hamid. Leaf temperature as a promising tool for evaluating drought adaptation in faba bean (<i>Vicia faba</i> L.). 411-5	Reckling, Moritz. Assessing the economic and agronomic potential of legume-supported crop rotations across Europe using a crop rotation generator. 412-4	Nowak, Benjamin. To what extent does organic farming depend on artificial fertilizers? 413-4
10:15	Discussion	Pelzer, Elise. Combining high yields and margins and low environmental impacts is possible with cereal-legume mixture. 412-5	Colbach, Nathalie. Changing agricultural practices modifies the species and trait composition of the weed flora. A simulation study using a cropping system model. 413-5
10:30	Coffee		

Thursday 23 August 2012 continued

	Crop stress response 2. Chair: José Paulo de Melo e Abreu (Portugal) Small auditorium, 4th floor	Legume-supported rotations 2. Chair: Jaume Lloveras (Spain) Hall 1, 2nd floor	Farming systems design 2. Chair: Pablo Tittonell (Netherlands) Main auditorium, 2nd floor
11:00	Keynote: Fowler, D. Brian. Low-temperature stress in cereals: know the land - know your crop. 421-1K	Pappa, Valentini. Nitrous oxide emissions of legume based agricultural systems in Europe. 422-1	Keskitalo, Marjo. Diversification of crop production through crop rotations. 423-1
11:15		Iannetta, Pietro. A nitrogen-budget analysis of legume supported cropping systems from across Europe. 422-4	Xiao, Ying. Modeling the spatial distribution of cropping systems at a large regional scale: a case of crop sequence patterns in France between 1992 and 2003. 423-2
11:30	Pecio, Alicja. Selection of spring barley lines with respect to drought stress resistance. 421-2	Mikic, Aleksandar. Modelling mutual annual legume intercrops for forage production. 422-5	Lopez-Ridaura, Santiago. Participatory design and evaluation of durum wheat - legume intercropping systems in Camargue, South of France. 423-3
11:45	Kettlewell, Peter. Mitigating drought stress in wheat with polymer sprays. 421-3	Cupina, Branko. Field pea companion crop in sainfoin establishment. 422-6	Thiollet-Scholtus, Marie. Farming system design explain successful or unsuccessful vineyards, a global method. 423-4
12:00	Siebert, Stefan. Impact of heat stress, drought and wetness on crop yield anomalies in Germany. 421-5	Discussion	Merot, Anne. Up-scaling from field to farm scale: analysis of the conversion pathways to organic farming to support farmers Application to vineyard systems. 423-5
12:15	Mohammady, Shahram. Inheritance of carbon isotope discrimination in wheat (<i>Triticum aestivum</i> L.). 421-4		Perrin, Aurélie. Agronomical analysis of Life-Cycle Impact Assessment (LCIA) variability for different horticultural cropping systems at regional scale. 423-6
12:30	Lunch Foyers: Poster session 2		

Thursday 23 August 2012 continued

	Crop stress response and mitigation. Chair: Mervi Seppänen (Finland) Small auditorium, 4th floor	Cropping systems design. Chair: Evelin Loit (Estonia) Hall 1, 2nd floor	Energy efficiency and environmental impacts of cropping systems 1. Chair: Marc Benoît (France) Main auditorium, 2nd floor
14:30	Bandiera, Marianna. Roots as interface between crops and metal-polluted soils in phytoremediation. 431-1	Bedoussac, Laurent. Is intercropping an efficient solution to design low input systems? 432-1	Keynote: Pointereau, Philippe. Energy efficiency in cropping, including tillage systems. 433-1K
14:45	Bertholdsson, Nils-Ove. Use of leaf fluorescence and hydroponics for screening of waterlogging tolerance in barley. 431-2	Landé, Nathalie. Multi-targeted assessment of reduced tillage cropping systems for the close future in European agriculture. 432-2	
15:00	Schillinger, William. Winter wheat seedling emergence from the world's deepest sowing depths. 431-3	Wery, Jacques. Indicating processes and performances of agrosystems : a framework based on a conceptual model and its use in vineyards fields. 432-3	Topp, Kairsty. An assessment of UK agriculture: energy analysis. 433-2
15:15	Keynote: Villalobos, Francisco. Avenues for improving the productivity of irrigation at different scales. 431-5K	van der Werf, Wopke. Effectiveness of intercropping for plant disease suppression – a meta-analysis. 432-4	Sattari, Sheida. Residual soil phosphorus substantially decreases global P fertilizer requirements. 433-4
15:30		Colnenne-David, Caroline. New cropping systems under environmental constraints: First results of ex post assessment. 432-5	Burchill, William. Nitrous oxide emissions from white clover based grassland used for dairy production under moist maritime climatic conditions. 433-5
15:45	Zavareh, Mohsen. Exogenous applied nitric oxide alleviates salt-induced oxidative stress in rice (<i>Oryza sativa</i> L.). 431-4	Biau, Anna. Effect of residue management and nitrogen fertilization on maize production. 432-6	Vasenev, Ivan. Agroecosystem land quality and services analysis at the Central region of European territory of Russia. 433-3
16:00	Coffee		

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	Modelling in changing environments. Chair: Jouko Kleemola Small auditorium, 4th floor	Management of novel crops, including cover/catch-crop systems. Chair: Elizabeth Stockdale (UK) Hall 1, 2nd floor	Energy efficiency and environmental impacts of cropping systems 2. Chair: Felix Herzog (Switzerland) Main auditorium, 2nd floor
16:30	de Melo e Abreu, José Paulo. Predicting olive phenology in Portugal in a warming climate. 441-1	Justes, Eric. Simulation of catch crop efficiency to decrease nitrate leaching under various French pedoclimatic conditions using the STICS soil-crop model. 442-2	Pulkkinen, Hannele. Climate impacts of Finnish crops – a national method to estimate nitrous oxide emissions. 443-1
16:45	Cappelli, Giovanni. Simulation of climate change impacts on rice yield and pre-harvest quality in Latin America. 441-2	Vos, Jan. Challenges in developing tef (<i>Eragrostis tef</i> (Zucc.) Trotter) for temperate climates. 442-3	Fischer, Jenny. On-farm evaluation of nitrogen leaching rates from organic crop rotations under consideration of the previous crop, with special emphasis on legumes. 443-2
17:00	Delmotte, Sylvestre. Transition toward organic agriculture: using an agent-based model to assess with farmers possible trajectories of conversion. 441-3	Florio, Giulia. Production of <i>Arundo donax</i> L. and <i>Miscanthus x giganteus</i> Greef et Deu. to obtain second generation ethanol in two Italian environments. 442-4	Goglio, Pietro. Contribution analysis of reactive Nitrogen to N fertilizer application impacts in two different cropping system managements. 443-3
17:15	Bergez, Jacques-Eric. Record: an integrated platform for agro-ecosystems study. 441-4	Manderscheid, Remy. Free air CO ₂ enrichment effects on canopy development and biomass production of different sorghum-genotypes as compared to maize. 442-5	Kersebaum, Kurt Christian. Model based assessment of agri-environmental measure effects concerning the reduction of nitrogen pollution regarding the Water Framework Directive. 443-4
17:30	Ben Touhami, Haythem. Bayesian calibration of the Pasture Simulation Model (PaSim) to simulate Swiss grasslands under climate extremes. 441-5	Fauquet-Alekhine-Pavlovskaya, Elena. Agronomic test of fenugreek as alternative crop. 442-1	Bienkowski, Jerzy Franciszek. The importance of changes in dietary habits of Poland's inhabitants in reducing greenhouse gas emissions. 443-5
19:00 — 24:00	Conference dinner: Ravintola Sipuli Kanavaranta 7, about 500 m east of the conference building		

Friday 24 August 2012

09:00 – 10:00	ESA general assembly. Main auditorium. Chair: Jacques Wéry (France)	
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	Omics in crop sciences. Chair: John Foulkes (UK) Small auditorium, 4th floor	Farming systems design 3. Chair: Christine Watson (UK) Main auditorium
10:30	Keynote: Tardieu, Francois. Plant Phenotyping, a new field and opportunity for crop scientists. 521-1K	Rossing, Walter. Designing research projects for impact on stakeholders: an analysis of the co-innovation approach in EULACIAS. 522-1
10:45		Birman, Delphine. Using local knowledge to assess ecological services in complex agricultural system at the landscape level. 522-2
11:00	Singh, Jaswinder. Barley genomics with maize Ac/Ds transposons. 521-2	Groot, Jeroen. The COMPASS framework – Navigating agricultural landscapes for science-based innovation. 522-3
11:15	Uppal, Rajneet. Effect of wheat dwarfing alleles on grain yield and quality. 521-4	Mandryk, Maryia. Assessing farmers' objectives: implications for adaptation. 522-4
11:30	Al-swedi, Fadil. Micro propagation and genetic transformation in <i>Brassica oleracea</i> var. <i>botrytis</i> . 521-5	Debolini, Marta. Factors affecting soil organic matter conservation in Mediterranean hilly cropping systems: a case study on 43 cropping systems in Tuscany (Italy). 522-5
11:45		Murphy-Bokern, Donal. The agri-environmental implications of food choices. 522-6
12:00	Lunch	
	Closing plenary session: Main auditorium Chair: Fred Stoddard (Finland)	
13:00	Keynote: Keatinge, J.D.H (Dyno). Climate uncertainty: What response is needed from vegetable agronomists worldwide?	
13:30	ESA future activities Division 1: Plant system biology; the cultivated plant in the field. Division 2: Field scale agroecology; the cultivated field as an ecosystem. Division 3: Cropping systems at the farm, regional and global scales; the cropping system in its embedding system Interactions with other groups such as Farming Systems Design	
14:15	Finalizing the proposed declaration from the ESA Congress on the need for crop rotations to be properly recognized in the CAP.	
14:45	Final words from the retiring president. Fred Stoddard. Welcome to the next congress. András Nábradi (Hungary). Farewell	

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