



Italian Society for Agronomy

50th National conference



Evolution of agronomic systems in response to global challenges

Polo Umanistico – University of Udine

Via Monsignor Pasquale Margreth, 3 - 33100 Udine

15 - 17 September 2021

PROGRAM

Wednesday 15 September 2021

10:00-13:00 **Workshop: Agriculture and global changes**

Chair: *Prof. Paolo Ceccon* – University of Udine

10:00-10:10 Introduction

Oral presentations

Hour	Authors	Title
10:10-10:30	<i>Scott Hutchins</i> (Former USDA)	Research and Innovation: The Way Forward for all Nations Seeking to Achieve Truly Sustainable Agriculture
10:30-10:50	<i>Emanuele Zanini</i> (School of Food and Nutritional Sciences, University College Cork, Ireland)	The food environment: an integrated approach to limited planet resources. the feeding-future strategy
10:50-11:10	<i>Jonathan Hillier</i> (Cool Farm Alliance)	Developing on farm tools for climate change
11:10-11:30	<i>Magdalena Mach</i> (Directorate-General for Agriculture and Rural Development, European Commission)	EIP-AGRI: 7 years of innovation in agriculture and forestry

11:30-12:45 Discussion

12:45-13:00 Conclusions

Wednesday 15 September 2021

15:00 - 15:30 **Opening of the 50th Conference of the Italian Society for Agronomy**

Prof. Michele Perniola – President of the Italian Society for Agronomy (SIA)

Prof. Paolo Ceccon – Head of Department DI4A - University of Udine

15:30-16:00 **SIA PhD thesis award** (*Prof. Michele Perniola* – *Prof. Luca Bechini*)

Dr. Carolina Fabbri (University of Florence) - Analysis of the effects of agronomic management on the dynamics of nitrogen and carbon emissions from agricultural soils

Dr. Matteo Longo (University of Padova) - Enhancing experimental and insilico methods to evaluate ecosystem service trade-offs in agri-environmental measures

Dr. Aurelio Scavo (University of Catania) - Allelopathic effects of *Cynara cardunculus* L. extracts

16:00-19:00 **Session 1. Integrated weed management: new tools and strategies** (Section co-organized by Italian Society for Agronomy and Italian Society of Weed Research)

Part 1 - Chair: *Dr. Vittoria Giannini* – University of Sassari

16:00-16:20 **Invited speaker** (*Prof. Scott McElroy* – Auburn University) Basic science limitations in the field of weed science

Oral presentations

Hour	Authors	Title
16:20-16:35	<i>Fogliatto S., Patrucco L., De Palo F., Moretti B., Milan M., Vidotto F.</i>	Cover crops as green mulching for weed management in rice
16:35-16:50	<i>Nikolić N., Rizzo D., Marraccini E., Ayerdi Gotor A., Mattivi P., Saulet P., Persichetti A., Masin R.</i>	Herbicide use reduction in maize by combining site and time specific weed control
16:50-17:05	<i>Cutulle M., Maja J.</i>	Determining the utility of an Unmanned Ground Vehicle (UGV) for weed control in specialty crop systems

17:05-17:35 Coffee break

Part 2 - Chair: *Prof. Francesco Vidotto* – University of Turin

17:35-18:00 **Invited speaker** (*Prof. Nilda Burgos* - University of Arkansas) New technology and innovation in weed science

18:00-19:00 Discussion

Thursday 16 September 2020

9:00-10:30 Session 2. Agricultural systems and sustainability in a context of ecological transition

Chair: *Prof. Francesco Tei* – University of Perugia

09:00-09:30 **Invited speakers** (*Prof. Nicola Silvestri* - University of Pisa; *Prof. Giuseppe Di Miceli* - University of Palermo) Cropping systems and sustainability in a context of ecological transition (Results of SIA working group composed by: Francesco Tei, Enrico Bonari, Antonio Berti, Nicola Silvestri, Vincenzo Tabaglio, Enrico Ceotto, Giuseppe De Mastro, Giuseppe Di Miceli)

Oral presentations

Hour	Authors	Title
9:30-9:45	<i>Bregaglio S., Ginaldi F., Vonella A.V., Montagni A., Campi P., Bajocco S., Ruggieri S., Fanchini D., De Nart D., Ventrella D., Garofalo P., Giuliani M., Gatta G., Carucci F., Buono V., D'Amato G., Donatelli M.</i>	Coupling remote sensing and simulation modelling to drive tomato irrigation in Capitanata: a digital twin
9:45-10:00	<i>Maucieri C., Caruso C., Barbera A.C., Borin M.</i>	Biofertilization of bioenergy herbaceous crops with arbuscular mycorrhizal fungi
10:00-10:15	<i>Ferrero F., Tabacco E., Borreani G.</i>	Intensity of agricultural practices affects environmental impacts and productivity of corn for grain
10:15-10:30	<i>Piccoli L., Grillo F., Furlanetto I., Ragazzi F., Obber S., Bonato T., Meneghetti F., Ferlito J., Saccardo L., Morari F.</i>	Liquid digestate fraction application might sustain silage maize production improving nitrogen use efficiency

10:30-11:00 Coffee break

11:00-13:00 Session 3. La storia della SIA e 50 anni di convegni

Chair: *Prof. Michele Perniola* – Presidente SIA

Comunicazioni orali

Ora	Autori	Titolo
11:00-11:20	<i>Prof. Tommaso Maggiore</i>	Storia della SIA: le persone
11:20-11:40	<i>Prof. Salvatore Luciano Cosentino</i>	Storia della SIA: la ricerca
11:40-12:00	<i>Prof. Carlo Grignani</i>	Storia della SIA: i convegni
12:00-12:20	<i>Prof. Pier Paolo Roggero</i>	Storia della SIA: la rivista
12:20-12:40	<i>Prof. Giuliano Mosca</i>	Storia della SIA: la formazione

12:40-13:00 Discussion

13:00-15:00 Lunch

15:00-18:00 Assemblea dei soci

Friday 17 September 2020

9:00-9:30 **Invited speaker** (*Dr. Marc Barbier – INRAE*) Delineating scientific domains in the literature using the CorTexT platform

9:30-10:45 **Session 4. Agricultural models for impact mitigation**

Chair: *Dr. Domenico Ventrella – CREA*

Oral presentations

Hour	Authors	Title
9:30-9:45	<i>Deligey A., Lamerre J., Preudhomme H., Rey O., Guidet J., Leclercq C., Marraccini E.</i>	Assessment of C storage and GHG emissions in cropping systems maximising biomass
9:45-10:00	<i>Martani E., Ferrarini A., Amaducci S., Hastings A.</i>	Soil organic carbon increase within the first two years from perennial energy crops reversion back to arable land
10:00-10:15	<i>Tolomio M., Mzid N., Pascucci S., Pignatti S., Casa R.</i>	Preliminary assessment of the Italian hyperspectral mission PRISMA for N-related crop traits estimation
10:15-10:30	<i>Tranchina M., Bellaccini C., Mantino A., Annecchini F., Ragaglini G., Villani R.</i>	Carbon footprint of biogas production systems through a LCA approach in a Mediterranean environment: insights from the SMART-GAS Operational Group Project
10:30-10:45	<i>Vitali A., Moretti B., Bertora C., Lerda C., Celi L., Pullicino D.S., Tenni D., Miniotti E., Romani M., Sacco D.</i>	Conservation tillage effects on a mid-term rice continuous monoculture system: yield and soil fertility

10:45-11:00 Coffee break

11:00-12:30 **Session 5. Agronomic models and ecosystem services**

Chair: *Dr. Gemini Delle Vedove – University of Udine*

11:00-11:30 **Invited speaker** (*Prof. Paolo Barberi – Sant'Anna School of Advanced Studies*)
Fostering the agroecological transition through agroecosystem services: opportunities and challenges for agronomists

Oral presentations

Hour	Authors	Title
11:30-11:45	<i>Antichi D., Tramacere L.G., Sbrana M., Bendinelli S., Mazzoncini M., Frascioni C.</i>	Agronomic aspects of cover crops termination with roller crimper
11:45-12:00	<i>Tadiello T., Gabbriellini M., Botta M., Perego A., Ragaglini G., Bechini L., Acutis M.</i>	Modelling of the mulch management with the ARMOSA Model
12:00-12:15	<i>Bochicchio R., Caporale A.G., Labella R., Adamo P., Amato M.</i>	Stability Improvement of Mars Simulant MMS-1 and Moon Simulant LHS-1 by a root exudate analogue as a model for an agronomic approach to ecosystem services in space research

12:30-13:00 Closing of the 50th conference of the Italian Society for Agronomy

Scientific Committee

Michele Perniola
Luca Bechini
Anna Dalla Marta
Michela Farneselli
Salvatore La Bella
Giorgio Testa
Domenico Ventrella
Antonio Pulina
Carmelo Maucieri

Organizing Committee

Paolo Ceccon
Mario Baldini
Francesco Danuso
Luisa Dalla Costa
Gemini Delle Vedove
Guido Fellet
Luca Marchiol
Fabiano Miceli
Alessandro Peressotti

POSTERS

Session 1. Integrated weed management: new tools and strategies

Authors	Title
Picapietra G., Acciaresi H.A.	Lowering pre-emergent herbicides use to junglerice (<i>Echinochloa colona</i>) control
Disciglio G., Tarantino A., Frabboni L.	Field evaluation of the resistance of two processing tomato cultivars to the parasitic <i>Phelipanche ramosa</i>
Sias C., Wolters B.R., Reiter M.S., Flessner M.L.	Cover crops as a weed seed bank management tool: a soil down review
Caluori F., Fogliatto S., Patrucco L., Tosco T., Granetto M., Vidotto F.	Weed control efficacy of a novel dicamba-based nano-herbicide formulation
Pozzi T., Guarise M., Reyneri A., Ferrero A.	Durum wheat management for a zero pesticide supply chain
Dinelli G., Negri L., Alpi M., Bosi S.	Weed biocontrol and cover crop termination with alternative natural compounds
Radicetti E., Petroselli V., Allam M., Mancinelli R.	Soil tillage and fertilization affect durum wheat and weeds interactions in Mediterranean environment
Buratovich M.V., Acciaresi H.A.	Mixed winter cover crops and dynamics of weeds in agricultural systems of rolling pampas argentine

Session 2. Agricultural systems and sustainability in a context of ecological transition

Authors	Title
Alberghini B., Berzuini S., Zanetti F., Vecchi A., Tavarini S., Galasso I., Clemente C., Abou Chehade L., Angelini L., Dalle Zotte A., Monti A.	Camelina a new source of healthy oil and cake: effect of variety choice and growing conditions
Pescatore A., Grassi C., Orlandini S., Marco Napoli M.	Effects of biochar on berseem clover (<i>Trifolium alexandrinum</i> , L.) growth and heavy metal (Cd, Cu, Pb, and Zn) accumulation
Bonnin D., Tabacco E., Borreani G.	Addressing the feed-food and land use competition: the case study of piedmontese beef farms
Zegada-Lizarazu W., Parenti A., Monti A.	Relay planting cereal and dedicated legume crops
Marotti I., Frassinetti E., Alpi M., Dinelli G., Trebbi G.	Health-beneficial properties of organically grown stinging nettle (<i>Urtica dioica</i> L.) in the first year of cultivation
Aquilani C., Argenti G., Bellini E., Bozzi R., Confessore A., Dibari C., Moriondo M., Nannucci L., Staglianò N., Cappucci A., Gasparoni E., Mele M., Mantino A., Vichi F., Pugliese C.	BOSCOLAMENTO Project: Virtual fencing for the grazing management of Maremmana cattle in an agrosilvopastoral system
Dal Cortivo C., Ferrari M., Panozzo A., Barion G., Sella L., Vamerali T.	Effect of sowing density and nitrogen rate on growth and yield of old wheat varieties in organic farming
De Falco E., Ferrazzano M., Vitti A.	Innovative use of by-products recovered from thyme residues to optimize basil growth
Di Stefano A., Barion G., Ferrari M., Dal Cortivo C., Panozzo A., Vamerali T.	Iron biofortification by foliar spraying in old open-pollinated maize varieties
Zanetti F., Alberghini B., Berzuini S., Jeromela A.M., Codina N., Royo-	Camelina a new multipurpose oilseed crop for improving farm diversification across Europe

<i>Esna! A., Vecchi A., Facciolla E., Monti A.</i>	
<i>Parenti A., Zegada Lizarazu W., Monti A.</i>	Integrated food-energy cropping systems
<i>De Santis M.A., Rinaldi M., Menga V., Giuzio L., Fares C., Flagella Z.</i>	Changes in protein composition of chickpea genotypes under organic and conventional cropping systems
<i>Petris R., Piani B., Fontana M., De Infanti R., Miceli F.</i>	Grain yield and rutin content in buckwheat (<i>Fagopyrum esculentum</i>) cv. Lileja, as affected by planting time and density
<i>Barbera A.C., Cavallaro V., Leonardi G., Pellegrino A., Leonardi A., Spina A.</i>	First results on the effects of inoculum and organic matter fertilization on <i>Lupinus angustifolius</i> L. growth
<i>Spina A., Cavallaro V., Leonardi G., Stagno F., Pellegrino A., Roccuzzo G., Leonardi A., La Rosa S., Barbera A.C.</i>	First results of the effects of inoculum and organic matter fertilization on the morphological and eco-physiological parameters on <i>Lupinus albus</i> L.
<i>De Peppo M., Anecchini F., Ragolini G., Cappucci A., Mele M., Volpi I., Guidotti D., Mantino A.</i>	Herbage biomass estimation from UAV and Sentinel-2: preliminary results from PINDARICO and PRECISION SHEEP projects
<i>Ronga D., De Falco E., Mellone F., Lanzara E., Vitti A.</i>	Innovative use of biostimulant products to optimize lettuce production
<i>Rizzu M., Altea L., Migheli Q., Paulotto A., Roggero P.P., Seddaiu G.</i>	Sustainable intensification indicators: perspectives from European and African researchers
<i>Tedone L., Ruta C., De Mastro G.</i>	Industrial hemp (<i>Cannabis sativa</i> L.) in Mediterranean environment: propagation and agronomical aspects
<i>Ruta C., De Mastro G.</i>	Environmental friendly nitrogen fertilization on globe artichoke

Session 4. Agricultural models for impacts mitigation

Authors	Title
<i>Fabbri C., Guerrini L., Mancini M., Napoli M.</i>	Predicting bread quality parameters using remote sensing: a case study in Tuscany region
<i>Battisti M., Capo L., Zavattaro L., Blandino M.</i>	Maize growth and yield responses to conservative tillage system and starter fertilization strategies
<i>Womack N.C., Piccoli I., Camarotto C., Squartini A., Guerrini G., Gross S., Maggini M., Cabrera M., Morari F.</i>	Could hydrogels improve soil pore network? Preliminary results on three different soils
<i>Bosi S., Negri L., Dinelli G.</i>	Is it possible to apply an economic threshold for herbicide applications in common wheat?
<i>Negri L., Bosi S., Fakaros A., Dinelli G.</i>	The GREAT LIFE project: growing resilient agriculture through crop diversification with millet and sorghum
<i>Toffanin A., Borin M., Vellidis G.</i>	Innovative strategies to increase water and nitrogen use efficiency in maize
<i>Maglione G., De Tommaso G., Iuliano M., Arena C., Vitale L.</i>	The aeration of buffalo slurry reduces soil GHGs emissions and improves spinach plant growth
<i>Carrino L., Visconti D., Fiorentino N., Fagnano M.</i>	Cultivation of <i>C. cardunculus</i> for biomass on brownfield pre-washing soil and post washing sludge assisted with compost amendment and microbial biostimulants
<i>Carrino L., Visconti D., Todisco D., Fiorentino N., Fagnano M.</i>	Simple germination and root elongation bioassay for early detection of salt-tolerant genotype

<i>Panozzo A., Barion G., Ottoboni P., Ferrari M., Di Stefano A., Dal Cortivo C., Mezzalana G., Vamerali T.</i>	The impact of trees on growth and yield of soybean in poplar alley-cropping systems in the Veneto region
<i>Ferrise R., Trombi G., Padovan G., Costafreda-Aumedes S., Di Giuseppe E., Pasqui M., Moretto J., Morari F.</i>	A simple decision support web-application for precise nitrogen application in durum wheat cultivation
<i>Farneselli M., Falcinelli B., Pannacci E., Paolotti L., Boggia A., Rocchi L.</i>	Circular agricultural system in safflower: agronomic practices and oil extraction environmental impact
<i>Fellet G., De Marco R., Pilotto L., Marchiol L.</i>	15N-Urea release evaluation from two types of mesoporous silica nanoparticles: perspectives for future application as slow release nanofertilizer
<i>Rizzo D., Chartier T., Sarazin A.</i>	Field crop robotics: a bibliometric overview and an agronomic state of art
<i>Galieni A., Platani C., Dattoli M.A., Campanelli G., Leteo F., Pane C., Nicastro N., Stagnari F.</i>	Vis-NIR-SWIR spectroscopy to predict safety of spinach
<i>Grassi C., Altobelli F., Orlandini S., Napoli M.</i>	Assessing the impact of terraces on soil erosion
<i>Sartori F., Piccoli I., Polese R., Berti A.</i>	How tillage and soil covering affect agro-environmental indicators. preliminary results during the transition from conventional to conservation agriculture
<i>Berzuini S., Zanetti F., Alberghini B., Vecchi A., Facciolla E., Monti A.</i>	Camelina (<i>Camelina sativa</i> L. Crantz) a cash cover crop with potential to increase winter soil coverage
<i>Libutti A., Rivelli A.R.</i>	Leaf fresh weight and nitrate content of <i>Beta vulgaris</i> L. var. <i>cycla</i> grown on soil treated with biochar and compost
<i>Murgia T., Pulina A., Garau G., Roggero P.P.</i>	Sement-APP: a decision support system to design sustainable Mediterranean grassland systems
<i>Zavattaro L., Michelone C.</i>	Sustainability assessment and fertilisation management tools for agroforestry systems
<i>Mancinelli R., Petroselli V., Allam M., Radicetti E.</i>	Effects of different soil tillage methods and fertilization on potato crop
<i>Tiloca M.T., Deligios P.A., Cossu M., Sanna G., Solinas S., Farci R., Jouny N., Ledda L.</i>	Respiration dynamic during transition from conventional to organic management in globe artichoke mediterranean cropping system
<i>De Falco E., Salerno G., Marmo A., Ronga D., Celano G.</i>	Application of micro-scale devices for the study of spontaneous vegetation and erosion in the national park of cilento, Vallo di diano, alburni. First results
<i>Anneccchini F., Pecchioni G., Ragaglini G., Mantino A.</i>	Cardoon as a biorefinery crop for marginal areas in Tuscany: the EIP-AGRI Operational Group GO-CARD
<i>Piccitto A., Calcagno S., Copani V., Testa G., Scordia D., Patanè C., Cosentino S.L.</i>	Evaluation of diverse mediterranean castor genotypes
<i>Patanè C., Saita A., Pellegrino A., Cavallaro V., Cosentino S.L., Scordia D., Longo S., Clifton-Brown J.</i>	Seed germination in two new miscanthus hybrids
<i>Corinzia S.A., Ciaramella B.R., Piccitto A., Testa G., Patanè C., Cosentino S.L., Scordia D.</i>	Yield of lignocellulosic perennial grasses under different soil water availability
<i>Ciaramella B.R., Corinzia S.A., Scordia D., Patanè C., Cosentino S.L., Testa G.</i>	Tolerance of giant reed to the cultivation in heavy metal polluted soil

<i>Calcagno S., Piccitto A., Copani V., Corinzia S.A., Scordia D., Testa G., Patanè C., Cosentino S.L.</i>	Effect of different irrigation levels and nitrogen doses on seed yield of castor
<i>Benincasa P., Falcinelli B., Stagnari F., Galieni A.</i>	Starting with quality seed for low impact cultivation: nitrogen fertilization schedule in a wheat seed crop affects the growth parameters of offspring seedlings
<i>Scordia D., Corinzia S.A., Piccitto A., Ciaramella B.R., Calcagno S., Testa G., Patanè C., Cosentino S.L.</i>	First harvest results of reduced and well-watered perennial grass clones, species and hybrids
<i>Lombardo S., Pandino G., Scavo A., Abbate C., Parisi B., Pesce G.R., Litrico A., Patanè G., Salicola S., Scandurra A., Mauromicale G.</i>	Mycorrhizal inoculation improves organic potato quality grown under calcareous soil
<i>Pandino G., Di Benedetto D., Abbate C., Scavo A., Pesce G.R., Patanè G., Salicola S., Scandurra A., Mauromicale G., Lombardo S.</i>	Macro- and microelements of globe artichoke as effected by mycorrhization and fertilization
<i>Pulvento C., De Mastro G.</i>	Climate-smart farming practices in south Italy within TRUSTFARM project

Session 5. Agronomic models and ecosystem services

Authors	Title
<i>Bellini E., Argenti G., Dibari C., Staglianò N., Galvagno M., Filippa G., Nannucci L., Aquilani C., Confessore A., Moriondo M.</i>	A simplified grass growth model for pasture biomass assessment
<i>Tosti G., Falcinelli B., Guiducci M.</i>	Lentil – spring cereal intercropping: first results from a field trial in Central Italy
<i>Damatirca C., Moretti B., Zavattaro L., Celi L., Fornasier F., Bertora C.</i>	Soil organic matter response to 29 years of maize residues incorporation under contrasting nitrogen fertilisation regimes
<i>Rossi A., Tavarini S., Vagnoli L., Chini J., Angelini L.G.</i>	Can topping and harvest time affect performance and potentiality of monoecious and dioecious hemp (<i>Cannabis sativa</i> L.) varieties?
<i>Gabbrielli M., Acutis M., Marino Gallina P., Perego A., Shchegolikhina A., Tadiello T., Bechini L.</i>	Growth and nitrogen uptake of winter and summer cover crops
<i>Verdi L., Evangelista B., Marini L., Mancini M., Benedettelli S., Palchetti E., Dalla Marta A., Orlandini S.</i>	Evaluation of the climatic and genetic effect on technological quality of spelt: Tuscany case study
<i>Saia S., Angeletti F.G.S., Mearini T., Mariotti M.</i>	Double utilization reduced total biomass, grain yield and N uptake in oat, barley, wheat and triticale
<i>Mariotti M., Angeletti F.G.S., Tozzi B., Saia S., Arduini I.</i>	Rutin and quercetin in the forage and grain of common buckwheat as affected by seeding density
<i>Pannacci E., Farneselli M., Ottavini D., Brunetti M., Tei F.</i>	Performances of four quinoa varieties under agro-environmental conditions of central Italy
<i>Florio F.E., Cocetta G., Cabassi G., Povolò M., Pricca N., Bonazza F., Degano L., Ferrante A.</i>	Agronomic evaluations of hemp varieties for seeds production
<i>Sitzmann T.J., Zavattaro L., Moretti B., Padoan E., Celi L., Grignani C.</i>	Influence of compost properties on organo-mineral fertilizers composition

<i>Cozzolino E., Ottaiano L., Di Mola I., Nocerino S., Leone V., Piccirillo G., Mori M.</i>	Effect of different green manure on yield of perennial wall rocket
<i>Cozzolino E., Di Mola I., Ottaiano L., Leone V., Nocerino S., Rippa M., Mormile P., Mori M.</i>	Effect of biostimulant application on yield of rocket subjected to different nitrogen levels and grown under different greenhouse cover films
<i>Di Mola I., Ottaiano L., Cozzolino E., Nocerino S., Spigno P., Maggio A., Mori M.</i>	Re-introduction of old varieties of common wheat in a marginal land of Campania region: yield and its components
<i>Di Mola I., Cozzolino E., Ottaiano L., Nocerino S., Riccardi R., Maggio A., Mori M.</i>	Adaptability of old varieties of durum wheat to a hilly internal area of Campania region
<i>Ottaiano L., Di Mola I., Cozzolino E., Leone V., Nocerino S., Piccirillo G., Mori M.</i>	Can biostimulant application reduce the detrimental effect of saline irrigation water in rocket?
<i>Cozzolino E., Sifola M.I., del Piano L.</i>	Effect of strip mulching on topped burley tobacco growth and yield
<i>Denora M., Candido V., Perniola M., Cardone L., Castronuovo D.</i>	The use of an innovative soil amendment in broccoli crop
<i>Sabatino L., Virga G., Farruggia D., Iacuzzi N., Consentino B.B.</i>	Sweet pepper (<i>Capsicum annuum</i> L.) performances as subjected to arbuscular mycorrhizal fungi and different molybdenum doses