



International Commission of Agricultural and Biosystems Engineering

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"...to serve - on a world-wide basis and through its members - the needs of humanity by fostering mutual understanding, improvement and rationalisation of sustainable biological production systems while protecting nature and environment and managing landscape through the advancement of engineering and allied sciences..."

Web: www.CIGR.org

Journal: www.CIGRjournal.org

Contact us: secretarygeneral@CIGR.org

Incoming President's Message



Prof. Remigio Berruto
Incoming President, CIGR

Agricultural and biosystems engineering is still my passion and is the essence of my professional academic life. It was more than 30 years ago when I started to work at the University of Turin (Italy). My first CIGR congress was in Dublin, in 1989 and I did not speak English. Luckily, at that time it was possible to do an oral presentation in French. Over there, through CIGR network, I meet Prof. Bakker Arkema, from Michigan State University, who helped me to start a PhD program at Purdue University, USA. Without CIGR, my knowledge, network, even my education, will not be the same. Through the years, my network developed into friendships. It was through the confidence and support of the members and people currently in the Presidium that I became the Member of the Vth Section of CIGR (2010-2014), the president Vth Section of CIGR (2014-2018), and then elected as incoming President of CIGR (2019-2024).

All people like me, with grey hairs, have seen profoundly changes in agriculture through the year. Population, even if is not growing at the expected rate, demand for new life style and more products available on the market. There are drivers and challenges that could be an opportunity or a threat for Agriculture, like greening of products, climate change, food safety, reuse of wastes and by-products, increased use of digital technologies and social media, supply chain globalisation, to cite some. These drivers require new knowledge, skills and business models to allow agriculture to profit of the actual scenarios. They are articulated unambiguously in the Global Initiative of ASABE in which CIGR has participated as a partner for several years, organising joint workshops and scientific conferences, but we need more aspects to be considered.

However, to push forward innovation, we need four pillars: the innovation itself, the education, the entrepreneurship and the communication. And there are gaps not covered in Agriculture with respect to these domains.

For the innovation, we need to look at the real impact, besides peer review papers, of what we are doing. We do not need only research and development, but also knowledge transfer to be applied at a global scale. We need to find business models, ways to collaborate in a win-win environment, between different areas of the world. Sometimes, we need only to apply the same technology somewhere else, without starting from scratch. Time-saving, money-saving could be huge, and it will be easy to transfer something proven to be successful in other regions of the world. This not only relates to technology but also business models, strategies, knowledge, and works for both research and education.

Too often we forgot that real innovation, to be used also require education and entrepreneurship. It still happens that farmers rely on technology sellers to acquire information about the technology itself. This approach presents some risks, and we need in the end to help farmers or farm advisors to judge about the use of a technology /innovation from a fair point of view. We need to act to provide flexible education, that looks at the technology and at the same time, provide skills for entrepreneurs, that can apply successfully business models to exploit the innovation. Moreover, last but not least, we need to engage the players in the agricultural sector as trainees of educational efforts.

For what concern the communication pillar, As the past President, my friend Tadeus Julizewski said: "It is still my opinion that establishing contacts (and keeping them alive) at governmental, political, and financial spheres should be one of the priorities in our organisational activities". I agree with this vision - Lobbying with the institutions is still a very important goal, especially today.

However, we also need to consider some other issues, related to social media existence, with a kind of a "Matrix" of the real world. Fake news, especially in agriculture, if not managed well, could destroy efforts made in years to achieve some consensus among stakeholders and consumers.

Agriculture needs an online reputation; we need to act in advance before problems hit our stakeholders. This requires unbiased communication with stakeholders, agencies at national and international level, and also touched our sector.

Engineering also needs young professionals. For this reason, we will continuously push the establishment of a young CIGR society, to involve students that later will become professional in the sector.

During my time in the Presidium, I will work toward making stronger CIGR, through work on services, website, newsletter, networking. I wish to thank particularly Prof. Emeritus Fedro Zazueta, actual CIGR Secretary-General. CIGR rely on people, and I think that all our members and us, in the Presidium, we are very lucky to have a so committed person to bring CIGR forward.

Moreover, last, but not least, I wish to thank you all, for the support you will provide to make CIGR a global institution in the biosystem engineering world.

As the year of 2019 is around the corner, I would like to extend my sincere wish for a happy new year to all the scientists and engineers in Agricultural and Biological Systems Engineering.

The year 2018 was productive for CIGR. We saw the 19th World Congress of CIGR that was held

in Turkey, and the smooth transition of the secretariat of CIGR from Japan to USA. The CIGR Technical sections conducted numerous activities, including specialty conferences and symposia.

Because of the Technical Sections and Work Groups performance in their areas, CIGR's influence around the world was widely expanded.

I would also like to thank members of the Presidium for their dedication and commitment to CIGR. Over 2018, the CIGR Presidium convened weekly video meetings to discuss important affairs.

Finally, I would like to express my heartiest appreciation for Prof. Fedro Zazueta, for his great work as the Secretary General of CIGR. Operations were improved because of the time and energy he devoted.

One of the most important ways to improve the quality of life of people is a result of the progress made in science and technology. All of us are engaged in providing people with an adequate supply of high-quality food.

I look forward to all of us strengthening the exchange and collaboration between regions, countries, and different industries. Let us work harder together to conserve resources, protect the environment, eradicate poverty and improve people's livelihood.

CIGR Workgroup Report



Claus Grøn Sørensen
Head of Research Unit
Faculty of Science and
Technology
Dept. of Engineering
Aarhus University
Denmark

The CIGR Working Groups are important building blocks of the CIGR organization. In order to further enhance the important role of the WG in CIGR, CIGR Working Groups are encouraged to:

- Increase their visibility and functionality in CIGR;
- Establish more close links with CIGR Sections;

- Sponsor or co-organize relevant CIGR Section Symposiums;
- Organize WG national or international workshops;
- Publish CIGR Booklets/Handbook on WG area of interests;
- Organize Special Issue in your WG area for CIGR E-Journal; and
- Conduct other relevant activities.

Currently, 11 working groups are listed in CIGR:

- [Earth Observation for Land and Water Engineering](#)
- [Animal Housing in Hot Climate](#)

- [Rural Development and the Preservation of Cultural Heritages](#)
- [Cattle Housing](#)
- [Water Management & Information Systems](#)
- [Agricultural Engineering University Curricula Harmonization](#)
- [Rural Landscape Protection and Valorization](#)
- [Image Analysis for Agricultural Processes and Products](#)
- [Food Safety](#)
- [Logistics](#)
- [Precision Aerial Application](#)

Below are listed a status reporting of October 2018 for the different WG's. The status reporting is built on received reporting from the WG chairs, as far as reporting is received from these persons. A key indicator is whether the WG is currently active or not:

[Earth Observation for Land and Water Engineering Working Group](#)

The Working Group on "Earth Observation for Land and Water" has not been active during the last couple of years, mainly due to the lack of external funding for the organization of some events (a summer school among other things was planned). Key members have been quite busy for academic duties which hampered spending significant efforts to revitalize the Group. The chairperson Prof. Ing. Guido D'URSOSo leave it to CIGR leadership if keeping the WG or not.

Status: Inactive

[Animal Housing in Hot Climate Working Group](#)

Report from Mohamed Hatem, Agricultural Engineering Dept., Faculty of Agriculture, Cairo University, Giza, EGYPT, Chair of CIGR Working Group 13-SectionII:

This group participated and managed a special session during the CIGR conference in Aarhus in 2016. And in 2017, the cooperated a special issue about animal housing in hot climates.

Attached: Special issue about animal housing in hot climates. The collection of papers presented in this Special Issue is the outcome of the workshop organized by the Working group on Animal Housing in Hot Climates and celebrated within the 8th

European Conference on Precision Livestock Farming, 12-14 September 2017, in Nantes.

Status: Active

[Rural Development and the Preservation of Cultural Heritages Working Group](#)

Rural Development and Preservation of Cultural Heritages WG has been quite active until 2016, where there was a meeting of the WG during 44th symposium ATAE with interesting presentations like "Green energy and rural development-role of high education" delivered by prof. Dr Milan Martinov from Serbia "Machinery induced compaction of agricultural soil and mitigation strategies in Danube region" presented by dr. sc. Gerhard Moitzi from Austria, Off-grid slaughterhouses: services and use of renewable energy in inner areas by M.E. Menconi and S. Dell' Anna from Italy, The katuns-rural buildings as a perspective of seasonal mountain settlements in Montenegro by I. Lakovic, S. Petkovic, D. Statuto and P. Picuno from Montenegro and "Biomass valorisation for energy uses and Central European Initiative instruments to promote regional cooperation" by project manager Peter Canciani from Italy. At the Closing Session, the Convenor, dr.sc. Igor Kovacev, emphasized the role of EurAgEng and CIGR in the ecologically sustainable development of agriculture and in the preservation of the rural cultural heritage within the East-European countries.

The plan for 2017 was to: 1) promote the idea of preservation of cultural heritages via rural development especially during an open debate as part of the 45th symposium of ATAE, 2) finalise the Enquiry Forms and disseminate it to executives of CIGR with idea to be approved for further activities and, and 3) find candidates for new staff of the WG RDPCH. However, the chairperson, Silvio Kosutic, retired in 2016, prof. Martinov is also retired, BS Fabijanic is still active. Silvio Kosutic have been trying to find some younger colleagues around region who would be interested to continue the WG work but didn't succeed. Summary is that CIGR WG Rural Development and the Preservation of Cultural Heritages is currently inactive.

Status: Not active

Cattle Housing Working Group

The WG is composed of several experts (researchers, engineers, extension service persons) working in different fields (behavior, environment, climate conditions, construction...) around cattle housing. The aim of the WG is to analyze and provide references on housing conditions and building construction for cattle (dairy, beef, calves) in different climate regions of the world. The WG writes comprehensive guide books for beef and dairy cattle housing and short notes on more specific technical topics. The WG meets physically once a year for 3 days at the institute of the one of the members.

The last WG meeting was held in Trenthorst (Germany), June 13-15, 2018. Topics included a potential CIGR Cattle housing – handbook including Legislation (EU, national...) or guidelines for certain production ways (e.g. organic, biodynamic?) housing aspects but also rules concerning zootechnical management practices (e.g. castration, dehorning...). Basic requirements of calves – welfare principles (behavior, feeding – including colostrum management, temperature / biological needs, impact of light...). Group sizes & calculations on the number of places needed depending on the calving management (calving spread out over the year, concentrated in 1 or 2 periods etc.). Housing systems (including also cow-calf together housing, new approaches such as cuddle boxes, use of outdoor yards...) one information sheet per housing type / situation with all relevant aspects (i.e. dimension, flooring, how to manage, climate aspects, labor...) Additional feeding management aspects: AMD, different feeding systems, milk taxis... Climate conditions, gas concentrations inside a building, dust, moisture... and impact on health, etc.

Other activities 2016-2017:

- Article: The group started writing a review article on “compost barns”. The objective is to finish the paper early 2017.
- Participation in congress: Members of the WG participated in the “Livestock housing for the future” congress organized from February 22 to 24, 2017 in Lille (France).

Status: Active

Water Management & Information Systems Working Group

No formal report was received. Status: Presumed not active

Agricultural Engineering University Curricula Harmonization Working Group

The WG focus on activities related to harmonizing Higher Education in Agricultural/Biosystems Engineering. For example, by associating with current thematic networks in the Ag. Engineering community. Please find attached presentations held during AgEng2018 and the word file derived from it, as this represents the current status / activities of the WG on Agricultural Engineering University Curricula Harmonization.

Status: Active

Rural Landscape Protection and Valorization Working Group

No formal report has been received. Assumed chairperson Dr. Ken Ohno has notified me that he is not the chairperson anymore, and have handed over the chair to Prof. Hashimoto, Tokyo University. However, it has not been possible to get in contact with Prof. Hashimoto.

Status: Presumed inactive

Image Analysis for Agricultural Processes and Products Working Group

A new website has been developed that can be visited at <http://cigr-imageanalysis.com>. All information about the working group, including past and future events organized by the working group and also others closely related to our activities are listed. In addition, the articles presented in the workshops that have been organized by the working group to the present are available for download in pdf format. Also, software and image databases are available for free download from this website.

Key activities include organization of workshop related to the WG topic. In, 2016, the 6th International Workshop on Computer Image Analysis and Spectroscopy in Agriculture, was held in Aarhus (Denmark), chaired by Dr Jose Blasco (Spain) as Special Parallel Conference under the International Conference on Agricultural Engineering CIGR-AgEng 2016 (70 submissions from over 25 countries and five continents). In 2018, the 7th International Workshop on Computer Image Analysis and Spectroscopy in Agriculture was held at the XIX CIGR World Congress 2018, Antalya, Turkey, chaired by Dr Jose Blasco (Spain) and co-chaired by Claus G. Sørensen (DK).

The members of the governing board of the WG (Dr. Naoshi Kondo, Japan, Dr. Bosoon Park, USA, Dr. Victor Alchanatis, Israel, and Dr. José Blasco, Spain) have met to decide the activities and policy for future workshops. Offers have been received that are now under study to celebrate the upcoming events in Korea, Colombia, Turkey, and as a joint event along with the next CIGR Section VI Technical Meeting. It was agreed to continue celebrating the workshop together with the next CIGR events and also promote activities as CIGR WG to other regions of Latin America or Asia. It was agreed to move the workshop to be held in Japan under the presidency of Dr. Naoshi Kondo from 2017 to 2019.

Status: Active

Food Safety Working Group

On the 28th October 2016, the WG has organized its third Workshop just after the 10th CIGR Section VI Symposium, which was organized together with the XXV Brazilian Congress of Food Science and Technology. The Workshop was organized together with the Food Safety Portfolio of Embrapa (Brazilian Corporation for Agriculture Research). The event gathered several researchers and professionals from the academia, institutes and companies to discuss the scenarios and trends related to food safety and to present research proposals to attend such demands and opportunities. No record of activities since 2016.

Status: Active

Logistics Working Group

Activities (2016-2018):

- organize within CIGR specific workshops on the topic for the CIGR Congress in 2018 and ASABE Meeting. This will be made with the Flipped Classroom format.
- Shared knowledge and research done by members at regional, national and international level related to logistic fields and topics. This platform is in construction and will be available by the end of 2016. It will be made in Drupal.
- Applied for an EU call to make training material on Agriculture and Agri-food logistics for researchers who want to start research in this field.

The WG has a website, cigrlogistics.org, with some data inside. The proposal is to keep the website for making common initiatives (e.g. do some education material together) or it will be closed. Currently, the WG is not alive, with only a few people there. Remigio will Heinz Bernhardt if he want to move forward with the WG, otherwise the suggestion is to cancel the WG.

Status: Active but under evaluation

Plant Factory and Intelligent Greenhouse (PFIG) Working Group

Precision Aerial Application Working Group

List of 2017 activities include multiple items, like the construction of association research platform, the establishment of research sub-centers, holding and co-hosting a range of meetings, international academic exchange activities, etc. Please find attached status report.

The activities for 2018 have been:

- promote the precision agriculture field discipline and research cooperation and communication, to strengthen cooperation between China and Australia, Canada, United State, England, Pakistan, develop smart agriculture collaboration.
- promote agricultural aviation technology application in agricultural plant protection in China.
- untie global experts and scholars to discuss and solve agricultural aviation technology application key problems.
- The 6th International Precision Agriculture Aviation Conference held in 20th to 22th, June, 2018, in Shenzhen.
- The 2018 World UAV Conference will be held in 22th, June, in Shenzhen.
- carry out the research and application demonstration of international field aeronautical spraying test.

Status: Active

An Invitation to Join or Create a CIGR Workgroup.

Interested in establishing a network promoting an emerging science or technology that advances the goals of the Agricultural and Biosystems Engineering profession, creating a network of engineering professionals with common interests, improving education and outreach, or augmenting the impact of the profession, joining an existing working group?

Please contact CIGR Work Group Coordinator Prof. Claus Grøn Sørensen at WGCoordinator@CIGR.org

China National Agricultural Machinery & Parts Exhibition 2019

China Association of Agricultural Machinery Manufacturers (CAAMM) serves as the leading sponsor of China National Agricultural Machinery & Parts Exhibition 2019, which was held from March 9 to 11 in Zhengzhou, China. The event attracted some internationally renowned agricultural machinery enterprises as exhibitors, such as John Deere, YTO Group, Kubota, CLAAS, LOVOL and so on. The exhibition covers an area of 50,000 square meters, with nearly 300 exhibitors and more than 10,000 visitors. It is the largest, most professional and most informative event in agricultural machinery nationwide in this spring.



Prof. Chen Zhi, CIGR Past President, was elected as President of CAAMM

Prof. Chen Zhi was elected unanimously as the president of CAAMM. As the most representative and authoritative industrial association in agricultural machinery in China, CAAMM has more than 890 members, including agricultural machinery manufacturers, parts manufacturing enterprises, research institutes and universities. It has already established regular work exchanges and information exchange system with some international or regional associations, such as VDMA, DLG, AEM, ECO and so on.

Over the same period, the officials of the Ministry of Agriculture and Rural Affairs were invited to interpret the policies concerning government's support for the agricultural machinery industry and the new method for agricultural machinery evaluation. Besides, seminars on grain drying technology and equipment, precision agriculture, and safe application of agricultural drones were also held.



Opening Ceremony

During the exhibition, the Sixth General Assembly of CAAMM was held. The members of the sixth board, members of the sixth executive board, supervisors and association leaders were elected at the assembly.

Section III, Plant Production: 2018 Report



Prof. Francisco Rovira-Más
Section III Chair

Section III co-organized the XIX CIGR World Congress held in Antalya, Turkey, on 22-26 April 2018. On 23 April, Section III held its section meeting where the renewal of board officers and members took place for the 2018-2022 term. The current section consists of 14 active members and two honorary chairs. This congress was especially fruitful for Section III in terms of awards, as John Schueller, Qin Zhang, and Markus Demmel were recognized by CIGR for their contribution to the commission.

Section III chair Francisco Rovira-Más and vice-chair Markus Demmel met in EurAgEng Conference in Wageningen (Netherlands, July 2018), and discussed on the idea of continuing the Next Leaders Events due to their success in the last ten years. Their proposal is to organize an industry-oriented tour around West Germany at the end of 2019.

The next full-board meeting for Section III will be at the 5th CIGR International Conference of Agricultural Engineering, which will take place in Quebec (Canada) from June 14 to 17, 2020. A full-day technical tour is being organized by the Canadian representative, Viacheslav Adamchuk, for Section III attendees to the 5th International Conference.

A list of CIGR Section VII Members can be found at: <http://cigr.org/Governance/technical-sections-3.php>

Young Professional and Student Initiative:

Following up on the Strategic Actions Plan developed in during the CIGR Congress of Antalya Turkey the Presidium has appointed a Young Professional and Student Advisory Task Force.

The purpose of this Task Force is to recommend to the CIGR Presidium specific achievable goals that will:

1. Identify specific and potential avenues by which CIGR may provide value to Agricultural and Biosystems Engineering Young Professionals and Students
2. Engage Young Professionals with CIGR
3. Engage Students with CIGR

The Task Force is asked, but not limit its scope, to review and make recommendations, including ways and means, related to:

1. Creating a Young Professional/Student branch of CIGR.
2. Connecting Young Professionals and Students to employment and academic opportunities.
3. Organizing events for Young Professionals and Students that create interest and commitment to the profession.

Organizing international student competitions in different specialties of the profession.

Task force members are: Folarin Alonge, Nigeria; Leisa Armstrong, Australia; Pierlugi Febo, Italy; Jinjy, Ge, China; Cristina Porraz-Zuñiga, Costa Rica and Sara Riley, USA.

CIGR VII, Information Technology: Report



Prof. Seishi Ninomiya
Section VII, Past Chair

This report was produced during the Section VII Meeting during the CIGR Congress in Antalya. Co-participants in developing the report included Members of Section VII: Prof. Patrizia Busato, Chair Section VII, Leisa Armstrong and Allan Leck Jensen.

MISSION

The mission of Section VII is to advance the use of information and communication technologies to harness optimal farm management and food supply chain, achieving sustainable agriculture. The sustainability includes productivity, profitability, environmental harmonization, robustness against climatic change, food security, food safety, food quality and farm welfare. ICT should be utilized in almost all the fields in CIGR and interdisciplinary collaborations are particularly important in the Section VII activities.

OBJECTIVES

- Section VII aims to promote people to achieve the following targets through maximally utilizing most up-to-date ICT;
- Policy making of ICT-based sustainable agriculture and rural development for green economy
- Enhancement of e-education/training and communication tools to effectively transfer technologies to farmers and to solve the last mile issue

- Enhancement of data acquisitions and development, and sharing, with efficient tool supports
- Enhancement of data integration for agricultural big data based on interoperable data standardization and openness
- Ensure privacy and security of data use in agricultural biological systems
- Enhancement of data and model integrations for effective decision supports
- Enhancement of DSS development for farmers, extension staffs, policy makers and distributors
- Enhancement of R&D of basic technologies and tools adaptable to ICT applications in agriculture

SCOPE

The scope of Section VII is broad, covering the following topics;

Policy

ICT policies for sustainable rural development, ICT adoption in rural community, e-government, e-agribusiness based on green economy,

Data content development

- Agricultural resources data banks, market information, weather information, soil information, technology information, digital library, intellectual property, big data cloud
- Privacy security and data quality
- Interoperable data exchange platform and cloud

Applications

- decision support system, precision farming, sensors, knowledge management system, GAP support system, traceability system, e-learning/training system, extension service
- Maximum utilization of big data and IOT

Technology

- Data/text/Web mining, AI, IOT, Bigdata, machine learning, cloud computing, social media/Web technologies, metadata, standards and cataloging, taxonomy, ontology and the

semantic Web, information retrieval, open source tools, sensor network, sensors, Grid, human-computer interaction, mobile services, remote sensing, GIS, pattern recognition, image analysis, modeling, security, other emerging technologies

- Data science
- Data security
- Open data, Open science

Activities

To achieve the objectives, Section VII promotes the collaborations among related groups, providing opportunities to discuss and exchange information among them. The main activities of Section VII are to organize sessions and workshops collaborating with several organizations which have the similar aims in terms of the utilization of ICT in agriculture.

Section VII co-organizes WCCA (World Congress of Computer in Agriculture) as a member of INFITA (International Network of Federations of Information Technology in Agriculture, <http://www.infita.org/>). A WCCA takes place annually synchronously with one of the international conferences organized by one of the INFITA members.

- CIGR2010 in Quebec, Canada (2010)
- EFITA2011 in Prague, Czech (2011)
- WCCA Workshop in Windhoek, Namibia (2011)
- Initiation of African Network for Information Technology in Agriculture (ANITA) during IAALD African Chapter Meeting (2012)
- AFITA/WCCA2012 in Taipei, Taiwan (2012)
- EFITA/WCCA2013 in Turin, Italy. (2013)
- WCCA2014 in San Jose, Costa Rica (2014)
- AFITA2014 in Perth, Australia (2014)
- EFITA-WCCA/CIGR 2015 in Poznan, Poland (2015)
- AFITA-WCCA2016 in Suncheon, Korea (2016)
- CIGR2016 in Aarhus, Denmark (2016)

- EFITA-WCCA2017, Montpellier, France (2017)
- CIGR2018 in Antalya, Turkey (2018)
- AFITA-WCCA2018 in Mumbai, India (2018)
- EFITA2019, Rhodes, Greece (to be held 2019)
- CIGR2020, Quebec, Canada (to be held 2020)

Section VII organizes sessions and workshops on specific topics during the CIGR conferences

- “Sensor Network and its Applications in Agriculture”, an organized session in CIGR2011 in Tokyo

Section VII co-organizes workshops and sessions in several related conferences and meetings

- “Agriculture and Food Security Workshop” in 5th GEOSS Asia-Pacific Symposium in Tokyo, Japan (April, 2012)
- “ICT for Optimal Crop Management against Climatic Change”, a proposed session in APAN (Asia Pacific Advanced Network) Chiang-Mai Meeting (February, 2012).
- “Human and Machine Interaction”, an organized session in EFITA2013 in Turin (June, 2013)

- Section VII meetings

- CIGR2010, Quebec, Canada
- CIGR2011, Tokyo, Japan
- CIGR2012, Valencia, Spain
- EFITA2013, Turin, Italy
- WCCA2014, San Jose, Costa Rica
- CIGR2014, Beijing, China
- EFITA2015, Poznan, Poland
- CIGR2016, Aarhus, Denmark
- EFITA2017, Montpellier, France
- CIGR2018, Antalya, Turkey
- WCCA2019, Rhodes, Greece (To be held at)

A list of CIGR Section VII Members can be found at: <http://cigr.org/Governance/technical-sections-7.php>



6TH INTERNATIONAL SYMPOSIUM ON “MODELING IN HORTICULTURAL SUPPLY CHAIN” TO BE MOLFETTA, BARI, ITALY IN JUNE 9-12, 2019

This is the sixth of a series of highly Modern insights in the realm of system biology and biosystem engineering, new developments in ICT and DSS, and the high complexity of modern production systems have pushed forward the development of novel modeling tools and techniques (including advanced statistical data analysis) and their applications in production, storage and logistics of fruit and vegetables.

Model-It 2019, the 6th Intl. Symposium on “*Modeling in Horticultural Supply Chain*”, will cover model applications, from production (in greenhouses or open fields) to marketing and distribution, including postharvest handling and food processing, including environmental conditions, agrometeorology, ecology and biodiversity, plant physiology, plant disease and pest control, precision farming, water management, non-destructive evaluation of quality, process control, microbiology and food safety, logistics and traceability, econometrics, marketing and distribution, and decision support systems.

Scientists with different backgrounds will share ideas and solutions and take advantage of mutual contamination in order to increase knowledge and

possibly start new cooperation. The symposium will serve as a meeting place for research and industry, facilitating the application and dissemination of models while enhancing knowledge transfer within different application areas.

Model-It 2019 will be held on **June 9-12, 2019 in Molfetta**, a jewel medieval city on the Adriatic sea, 20 minutes from the International airport of Bari, in Puglia, the south-eastern tip of the Italian peninsula.

Model it 2019 is also sponsored by CIGR Section VII.

The Symposium will be convened by Giancarlo Colelli and Maria L. Amodio, professors at the University of Foggia, Italy and members of AIIA (the Italian Association of Agricultural Engineering) and of CIGR.

Registration and abstract submission is already possible at the event website: www.unifg.it/modelit2019; Submission deadline is January 8, 2019.

More info please write to giancarlo.colelli@unifg.it.



International Summer School

NEW TECHNOLOGIES FOR SUPPORTING WATER RESOURCES MANAGEMENT FOR A SUSTAINABLE AGRICULTURE IN THE MEDITERRANEAN AND MIDDLE EAST REGIONS

University of Naples Federico II
Portici (Naples, ITALY), 9-14 June 2019

The International Summer School is addressed to **graduate, post-graduate, PhD and post-doc students** in disciplines related to Agricultural Engineering, Irrigation and Water Resources, Environmental Protection.

It aims at providing the newest methodologies and practical applications for Earth Observation techniques related to irrigation water management at different scales of analysis, as well as to get acquainted on tools for computation of crops water requirement and irrigation demand. Through a complete analysis of a case-study, the students will gain hands-on experiences on advanced GIS and remote sensing tools for a better understanding of water management in agriculture.

No fees are required.

Hotel accommodation will be provided for young participants (age<32) from Northern Africa and Near East countries, selected on the basis of their CV and marks.

Topics of the course

Day 1: Evaluation of water demand for irrigation from the farm to the basin scale: evapotranspiration and water balance models, water use efficiency, irrigation demand.

Day 2: Basics of Earth Observation techniques: principles of remote sensing, sensors characteristics, data availability, vegetation monitoring.

Day 3: EO-Mapping of irrigation: crop parameters estimation and assessment of irrigated area and crop water requirements by using Sentinel-2 and Landsat data.

Day 4: Evapotranspiration assessment from Earth Observation: actual ET mapping, surface energy balance, coupling soil water balance model with EO data.

Day 5: Irrigation water planning and crop water use efficiency: irrigation efficiency evaluation, examples and lessons learnt from actual case-studies.

Admission and Registration

A maximum of **20** participants will be admitted. Candidates should send the **application form** by e-mail to: Prof. Guido D'URSO, Dept. Agricultural Sciences University of Naples Federico II: duorso@unina.it

The deadline for applying is on 30 March 2019.

Communication of acceptance and details on the course, travel and accommodation will be given by 15th April, to allow participant to proceed with VISA application (if required).

Application form, detailed program and location description available at the link:

<http://www.agraria.unina.it/post-laurea/summer-school/international-summer-school>

Lecturers of the course:

- Alfonso Calera Belmonte, University of Castilla La Mancha, Albacete, Spain
- Guido D'Urso, University of Naples Federico II, Italy
- Nicola Lamaddalena, CIHEAM-Bari, Italy
- William Kustas, United States Department of Agriculture, Beltsville MD, USA
- Jawad Al-Bakri, University of Jordan, Amman, Jordan
- Marie Therese Abi Saab, Lebanese Agric. Research Inst., Beirut, Lebanon



CIGR IV would like to invite you to the International Conference Section IV of CIGR: Energy in Agriculture (3th edition in Olsztyn), to be held in Olsztyn, Poland, in 24-27 June, 2020. The conference aims at promoting exchange of knowledge on research and innovation for the energy in agriculture : Bioenergy, Renewable Energy Systems, Transmission and Storage of Electricity.

For more information please visit:

<http://uwm.edu.pl/eia2020>

Looking forward to welcoming you there...

Chairman of the Organizing Committee

Associate Professor **Piotr Sołowiej**

Faculty of Technical Sciences

University of Warmia and Mazury in Olsztyn

tel. 0048 895234932

eia2020@uwm.edu.pl

Topics

- Fuel and bio-fuel production and utilization in agriculture,
- Small scale bio-power plants (CHP),
- Biomass conversion technologies,
- Bio-energy markets and sustainable developing considering the aspects of the environment protection,
- Solar thermal and photovoltaic systems and wind power systems used in agriculture,
- Energy efficiency technologies.
- **Transmission and storage of electricity.**

Important Dates

01.11.2019 Opening of online registration

15.11.2019 Opening of abstract

submission

10.01.2020 Deadline for abstract submission

10.02.2020 Notification of abstracts' acceptance

15.04.2020 Deadline for full paper submission

30.04.2020 Deadline for Early bird Registration

31.05.2020 Deadline for Camera-Ready full papers

05.06.2020 Conference Final Programme availability

Venue

The University of Warmia and Mazury is located on the outskirts of the city of Olsztyn in the North-East of Poland. The flagship of the University of Warmia and Mazury is Kortowo - an academic town, recognized as the most beautiful academic campus in Poland and one of the most beautiful in Europe. The oldest part of the academic town is remembered at the end of the 19th century. The characteristic red brick buildings, under the protection of the monument conservator, have been meticulously renovated. Today, in the old walls house modern laboratories and lecture halls are located. The buildings of the old part of Kortowo are located in the park, founded at the turn of the 19th and 20th century. The campus occupies 230 ha and lies among greenery, over two lakes. Larger - Lake Kortowskie has a beautiful sandy beach and offers excellent conditions for resting and water sports. The rental of water equipment, which includes kayaks, pedal boats, and sailboats may be used not only by students and university staff, but also by guests. Accommodation will be offered in the campus and in hotels located nearby.



XXXVII CIOSTA & CIGR V International Conference

Rhodes, Greece | June 24-26, 2019

Sustainable Decisions in Bio-Economy



CIOSTA



CIOSTA and CIGR V would like to invite you at XXXVIII CIOSTA & CIGR V International Conference, to be held in Rhodes Island, Greece, in 24-26 June, 2019. The conference aims at promoting the exchange of knowledge on research and innovation for the management of Agriculture and Forestry production and provision systems under the theme: Sustainable Decisions in Bio-economy.

For more information please visit: www.ciosta2019.com

Looking forward to welcoming you there...

The CIOSTA President, **Prof. Claus Grøn Sørensen**

The CIGR V (upcoming) Chair, **Prof. Dionysis Bochtis**

Important Dates

01.11.2018	Opening of online registration
15.11.2018	Opening of abstract submission
10.01.2019	Deadline for abstract submission
15.01.2019	Notification of abstracts' acceptance
15.04.2019	Deadline for full paper submission
30.04.2019	Deadline for Early bird Registration
31.05.2019	Deadline for Camera-Ready full papers
05.06.2019	Final Conference Programme available

Thematic Areas



"Production"

Innovation and developments in agriculture and forestry, Precision agriculture, IT-based farm and forestry management, Food processing and storage, Organic farming



"Sustainability"

Environmental impact of agricultural production and processing, Sustainable small-scale agricultural production, Farm waste management



"Ergonomics"

Safety and ergonomics in agriculture, Machinery and robotics in agriculture



"Cross-Cutting Topics"

Decision support systems for farmers, Landscaping, Training and educational issues in agriculture and forestry, Open Topics



"Agri-Chains"

Farm and agro-food logistics, Agro-food traceability, Circular economy in the agri-business

Venue

Rodos Palace Hotel is exquisitely located near Rhodes town, with easy access to all major sights and attractions of the island. It is just a breath away from the beach and it allows you smooth transfer to the airport and port. The perfect retreat for those of you who wish to combine great accessibility and connectivity along with serenity and tranquility!

Address

Iraklidon Avenue (Trianton)
Ixia P.O.Box 121
85100 Rhodes, Greece
Tel: (+30) 22410 97222
Fax: (+30) 22410 25350
E-mail: info@rodos-palace.gr



EFITA-HAICTA-WCCA CONGRESS

A Conference supported by CIGR VII and INFITA

Rhodes, Greece | June 27 - 29

EUROPEAN FEDERATION FOR INFORMATION TECHNOLOGY IN AGRICULTURE, FOOD AND THE ENVIRONMENT



The European Federation for Information Technology in Agriculture, Food and the Environment (EFITA) would like to invite you at the 12th EFITA International Conference, to be held in Rhodes island, Greece, on 27-29 June, 2019. EFITA is an International Conference dedicated to the state-of-the-art and future use of ICT in the agri-food sector and bio-resources sectors.

For more information please visit: www.efita2019.com

Looking forward to welcoming you there...

The Conference Chairman, **Prof. Dionysis Bochtis**

Thematic Areas



"Sensors"

Wireless sensor networks, Remote Sensing and GIS applications, Bio-sensors, Physical and Chemical sensors, Optical sensors



"Decision"

Modelling and Simulation, Prediction models, Multi-Agent systems, Planning tools, Environmental ICT management systems, Farm management systems (FMIS), Decision Support Systems



"Action"

On line farm services, Web applications, Cloud computing applications, Monitoring Robots, Action Robots, Machine embedded ICT tools



"Data"

Big data management, Data mining, Data visualization, Data and Knowledge Management, Metadata and data standards, Ontologies for agriculture, Knowledge bases and Knowledge repository services, Web of Data and Open Data, Image processing



"Cross-cutting Themes"

Social Networking in agriculture, e-agribusiness, ICT and business, Rural economies and ICT policies for rural development, Traceability tools, Human-Computer Interaction, Open topic

Important Dates

01.11.2018	Opening of online registration
15.11.2018	Opening of abstract submission
10.01.2019	Deadline for abstract submission
15.01.2019	Notification of abstracts' acceptance
15.04.2019	Deadline for full paper submission
30.04.2019	Deadline for Early bird Registration
31.05.2019	Deadline for Camera-Ready full papers
05.06.2019	Final Conference Programme available

Venue

Rodos Palace Hotel is exquisitely located near Rhodes town, with easy access to all major sights and attractions of the island. It is just a breath away from the beach and allows you smooth transfer to the airport and port. The perfect retreat for those of you who wish to combine great accessibility and connectivity along with serenity and tranquility!

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E-mail: info@rodos-palace.gr

5th Interregional Conference on Land and Water Challenges. "CHALLENGES OF WATER MOBILIZATION AND SOIL CONSERVATION IN BETTER ADAPTING TO CLIMATE CHANGE"
in conjunction with
2nd Conference of the Pan African Society for Agricultural Engineering on "THE ROLE OF AGRICULTURAL ENGINEERING IN MEETING THE CHALLENGES OF GLOBAL FOOD SECURITY"

Conferences supported by CIGR Section I and PASAE - AfroAgEng
IAV Hassan II Rabat, Morocco: 10 -13 September 2019



ANAFIDE is pleased to invite you to a joint international meeting organized in collaboration with the international Commission of Agricultural Engineering (CIGR) and the Pan African Society for Agricultural Engineering (AfroAgEng) and composed of the two following important conferences: (i) 5th Interregional conference on "Challenges of water mobilization and soil conservation in better adapting to climate change" in collaboration with CIGR First Section, and (ii) 2nd conference of the Pan African Society for Agricultural Engineering on "The role of Agricultural Engineering in meeting the challenges of global food security. For more information please visit: www.5interreg-2ndpanafricconf.ma. Looking forward to welcoming you there!

Prof El Houssine BARTALI (Conference Chairman)

Important Dates

1st May 2019 **Deadline for abstract submission**
31st May 2019 **Notification of abstracts' acceptance**
15th July 2019 **Deadline for full paper submission**
20th August 2019 **Final Conference Program available**

Abstracts to be sent to : Sinter.2ndpanafric@gmail.com or bartali.h@gmail.com

THEMATIC AREAS

5th Interregional Conference

Water Mobilization: Geospatial technologies as tools for decision support; Techniques for implementation, management and maintenance of conventional and unconventional water mobilization infrastructures; Mechanisms for financing water mobilization infrastructures; Impacts of climate change on water resources and hydraulic structures; Risk analysis models related to climate change: flood, flood, drought, erosion and related topics.

Soil Conservation: Conservation agriculture in rainwater harvesting; Soil conservation constraints in irrigation; Conservation techniques in forestry; Techniques for improving pastoral routes; Tools for planning, managing and monitoring soil quality

Cross-cutting Themes: Impact of climate change on the conservation of water and soils; Development of adaptation approaches to climate change; Design of rural infrastructures, hydraulic structures, watershed management, agricultural planning; Improving the effectiveness of water and soil; monitoring systems, warning and response to extreme events; Public-private partnership for hydro-agricultural development projects and water resources management; Governance, regulation and community and transboundary management of water resources.

2nd AfroAgEng Conference

Challenges of population growth and growing demands, water shortages and climate change; Development of irrigation as a sustainable approach to increase food production; Increasing productivity reducing environmental impacts; Maintaining food safety and quality assurance; Building environmentally aware watershed models; Considering the balance of food, water, and energy usage in developing countries seeking to adapt to climate change; Provide infrastructure, logistics and institutions needed to reduce post-harvest losses; Applications of precision agriculture in rural communities; Engineering controlled environments for agriculture production for a sustainable future.

IAV Hassan II - RABAT : Venue of the Conference

The conference will be held in the capital city of Rabat characterized by a mild climate and where participants can visit historical places such as 12th Century old Hassan Tour, and old city shopping streets. The meeting place is Hassan II Institute of Agronomy and Veterinary Medicine (IAV). This is one of the outstanding academic and research institutions in Africa having very broad cooperation links with several universities in Africa, Europe, North America and Asia. It is easily accessible by TRAM line from the hotels of Rabat.

Conference address: ANAFIDE, 2 rue Haroun Errachid Agdal Rabat
10090 Morocco Tel: +212661152805 or +212661094175

Call for Abstracts: X International Scientific Agriculture Symposium "Agrosym 2019"

3-6 October 2019, Jahorina (Bosnia and Herzegovina)



X International Agriculture Symposium "AGROSYM 2019"

CIHEAM Bari is one of the three organisers of AGROSYM's 10th edition jointly with the University of East Sarajevo - Faculty of Agriculture, and the University of Belgrade - Faculty of Agriculture, in collaboration with **32 International Institutions** (Universities and Research Centres) from 19 countries.

AGROSYM is nowadays considered the most important scientific event in the field of agriculture and rural development in the Balkan area. It is also increasingly becoming a scientific platform for exchange of knowledge and good practices related to agriculture, food, rural development, environment and forestry in the Mediterranean area.

AGROSYM 2019 will cover the following thematic areas: (1) *Plant production*; (2) *Plant protection and food safety*; (3) *Organic agriculture*; (4) *Environmental protection and natural resources management*; (5) *Animal husbandry*; (6) *Rural development and agro-economy*; (7) and *Forestry and agro-forestry*.

Parallel to AGROSYM 2019 working sessions, some thematic side events will focus on *Coastal areas management*; *Climate change mitigation*; *Aliens pests*; *Youth and innovation in the agri-food sector*; *Gender mainstreaming and research...etc.*

The Symposium's **10th edition** will take place in the magnificent Termag Hotel, located in Jahorina mountain, near Sarajevo.

In 2018, during the four days of AGROSYM's 9th edition (4-7 October 2018), we welcomed over **1200 participants** from over **85 countries** to the event. Moreover, **1300 papers** were presented, and we were proud and honoured to achieve such a broad

participation.

Please note: Registration deadline for abstract submission is **May 10th, 2019** through this online address.

[Read here for detailed information about the Symposium.](#)

The Scientific Committee of AGROSYM 2019 will grant the Excellent Paper Award for oral presentations and the Excellent Poster Award for poster presentations. Certificates and gifts will be delivered. Please share this call with your network and colleagues who may be interested by forwarding [this announcement](#).

Looking forward to meeting you in Jahorina (Bosnia and Herzegovina) in October 2019 we send our best regards.

The Organizers:

For any additional information, please feel free to contact:

Dr. Sinisa Berjan, Symposium Secretary
General, agrosym2019@gmail.com

University of East Sarajevo-Faculty of Agriculture and

Dr. Nouredin Driouech, Coordinator of CIHEAM Bari
Alumni Network (FTN), infoftn@iamb.it **CIHEAM-**

Mediterranean Agronomic Institute of Bari

- [Download Symposium 1st announcement](#)

- Visit our website: <http://www.agrosym.rs.ba/>

- Follow us on

Facebook: <https://www.facebook.com/AgrosymSymposium>



2019 IEEE INTERNATIONAL WORKSHOP ON
**METROLOGY FOR AGRICULTURE
 AND FORESTRY**



 24-26 OCTOBER 2019

 **PORTICI – ITALY**
 University of Naples Federico II
 Department of Agricultural Sciences

CALL *for*
PAPERS



MetroAgriFor intends to create an active and stimulating forum where academics, researchers and industry experts in the field of measurement and data processing techniques for Agriculture, Forestry and Food can meet and share new advances and research results. Attention is paid, but not limited to, new technologies for agriculture and forestry environment monitoring, food quality monitoring, metrology-assisted production in agriculture, forestry and food industries, sensors and associated signal conditioning for agriculture and forestry, calibration methods for electronic test and measurement for environmental and food applications.



WORKSHOP TOPICS

Sensor networking and integration
 Approaches and tools for measuring Food Quality
 Soil analysis, mapping and monitoring
 Crop analysis, mapping and monitoring
 Precision agriculture, forestry and livestock farming
 Measurements for agriculture, forestry and environment
 Agroclimatic measurements

Accepted papers will be published in the proceedings of the Workshop and the proceedings will be submitted for indexing in the **IEEE Xplore Digital Library**.

IEEE content is indexed by Google and has agreements in place with other publishers and services to include IEEE papers in their online and print indexes.

SPECIAL SESSIONS

Special sessions have the main aim of creating a mini-workshop on a specific topic, where researchers working on the same argument can make knowledge, familiarize, exchange ideas, create cooperation. Special Sessions are being developed by designated chairs.

Please find more information at the following URL:

www.metroagrifor.org/special-sessions

ORGANIZERS

ONORARY CHAIR

Enrico Primo Tomasini, *Polytechnic University of Marche, Italy*

GENERAL CHAIRS

Leopoldo Angrisani, *University of Naples Federico II, Italy*

Pasquale Daponte, *University of Sannio, Italy*

Matteo Lorito, *University of Naples Federico II, Italy*

IMPORTANT DATES

Extended Abstract Submission

May 20, 2019

Notification of Acceptance

July 20, 2019

Final Paper Submission

September 1, 2019

MORE INFORMATION



www.metroagrifor.org



info@metroagrifor.org





The primary goal of this conference is to bring together the elite scientists from all over the world, and to provide a unique forum for exchange

on agricultural and biosystems challenges and opportunities. For information please see <http://www.cigr2020.ca/en/>



The XX CIGR World Congress 2022

HOME COMMITTEES ORGANIZATION REGISTRATION & ACCOMMODATION GENERAL INFORMATION

***Sustainable Agricultural Production
- Water, Land, Energy and Food -***

December 5 (Mon)-9 (Fri), 2022
Venue: **Kyoto International Conference Center, Japan**

The theme of this CIGR World Congress "Sustainable Agricultural Production - Water, Land, Energy and Food" will underpin the need for collaboration and cooperation of individuals from a wide range of professional backgrounds. This congress will provide an excellent international

platform for academicians, researchers, engineers, industrial participants, and students from around the world to share their research findings with global experts in all areas related to agricultural engineering. For information please see <http://CIGR2022.org>.