



International Commission of Agricultural and Biosystems Engineering

Newsletter 119

December 2019

"...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..."

5TH CIGR International Conference
June 14-18, 2020
Quebec, Canada

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Journal: www.CIGRjournal.org

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Rural Landscape Protection and Valorization Workgroup



Prof. Patrizia Tassinari
University of Bologna

Mission

The themes of the protection and valorization of the physical integrity of landscape, of its historical and cultural sedimentations, of the different environmental resources, and of the impact of the various productive activities that have profoundly transformed landscape over time, are often addressed by specific disciplines in a sectorial way. Only more recently landscape protection and valorization issues have been approached with a less sectorial approach. However, the challenges posed by the evolution of social, economic, environmental and climatic dynamics, as well as by the acknowledgment of the sustainability principles, require an increasingly multi-cross-inter-disciplinary approach to the study of landscape, going beyond descriptive approaches. The study of landscape becomes an even more urgent need for rural landscape, where agriculture, animal husbandry and forestry represent the main productive activities, as well as for peri-urban fringes, where those activities must find a balance with others more linked to human settlement and other productive activities or services for the community. We believe that the CIGR scientific community, given its wide range of expertise in many fields, may and should play a key role in addressing the issues related to landscape transformations compatible with the many challenges that agriculture, animal husbandry and forestry are facing, often also in conflict with other productive activities.

The WG aims to promote the alinement of visions and mutual exchange of knowledge from different contexts, and to facilitate the preparation of joint research, innovation and demonstration projects, as well as publications and dissemination activities. The WG will address the rural landscape domain with a clear focus on environmental, economic and social sustainability.

Objectives

The Rural Landscape Protection and Valorization Working Group is aimed at facilitating a transdisciplinary approach to rural landscape studies, and at representing a permanent forum for the discussion about rural landscape analysis, monitoring, planning and design. The WG aims at gathering scholars from different disciplines and backgrounds, covering the geographical and socioeconomic diversities, promoting virtual and real discussions and workshops, with the aim to create new research, education and dissemination opportunities that would not be possible within each single discipline.

Scope

The WG will focus on the agriculture/landscape nexus, and on bridging landscape protection and valorization through innovation, considering both the economic importance of a well-planned and managed rural landscape for the production and valorization of food, fiber, and other plant and animal products, its strategic environmental relevance related to the provision of ecosystems services, as well as the key role related to social and cultural issues and the benefits descending from the production of immaterial goods.

Tasks/work plan

The WG will first of all collect the expression of interests from the CIGR community across the various disciplines and establish an initial group of members. The group will be always open to new members in the future, and we count on a progressive involvement of new members by means of the words spread by the members themselves. An initial meeting, scheduled on a CIGR event, will officially launch the new WG.

Since the Rural Landscape Protection and Valorization domain covers a very wide range of topics, the WG would be organized according to the following tasks:

- Rural landscape and climate change

- Rural landscape regeneration
- Rural landscape and ecosystem services
- Rural landscape and heritage
- Rural landscape and tourism
- Rural landscape planning and design
- Rural landscape and education

Subgroups may be defined, focused on the aforementioned tasks, with one or more persons coordinating each subgroup.

Expected outcomes

- The constitution of the working group may be started by proposing some themes for a comparison aimed at indicating which are the main challenges to be faced, as well as the methods and the expected results, for each of the above-mentioned tasks (with modalities to be defined: website, etc.)
- The product of this work may then be discussed with other WGs to receive critical contributions, integrations, improvements, or amendments, also in order to create synergies between the WGs.

The outcomes that could arise from the discussions and comparisons could also be problem statements, technical notes, comparisons on analysis methodologies, and methodological exchanges with other disciplines, in order to define transformation scenarios based on the environmental and technological challenges that agriculture, animal husbandry and forestry must face in different geographical and climatic contexts. Those thematic contributions may also be related to scenarios already developed by other scholars.

In addition to the outcomes related to interdisciplinary research, the WG may also provide outcomes for the education field, to be implemented in existing first, second and third level programs, as well in vocational courses, or in new programs and curricula.

The WG could also enhance synergies with other international networks active in the field of landscape.

Section III Annual Report 2019



Prof. Francisco Rovira Mas
Section III, Chair

Section III organized the sixth edition of the Next Leaders Event in Germany between 5 and 12 November 2019. These events were initiated by professors John Schueller and Hermann Auernhammer in 2009 with the purpose of engaging mid-career experts around the world in agricultural machinery, as a way of reinforcing international linkages and facilitating the dynamic renewal of section members. The 2019 event was carefully planned by vice-chair Markus Demmel, and consisted of two days of visits to farm equipment manufacturers Rauch, Kuhn, and John Deere; the participation at VDI-MEG Landtechnik conference of agricultural engineering; and a two-day visit to AGRITECHNICA, one of the world's largest and

most important agricultural machinery exhibition held at the Hannover Fair Ground.

In addition to vice-chair Markus Demmel, chair Francisco Rovira-Más, and honorary chairs John Schueller and Qin Zhang, the following eleven professors participated in the event: Yanfu Kuo from National Taiwan University, Stavros Vougioukas from University of California Davis, Sarvio Valente from Universidade Federal de Viçosa, Du Chen from China Agricultural University, Milan Kroulik from Czech University of Life Sciences, Ioannis Ampatzidis from University of Florida, Xiaoqiang Du from Zhejiang University of Sciences and Technology, Lav Khot from Washington State University, Sakai Satoru from Shinshu University, Hiwa Golpirra from University of Kurdistan, and Dana Choi from Pennsylvania State University. The picture below shows the group at the manufacturing plant of John Deere in Manheim.

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.



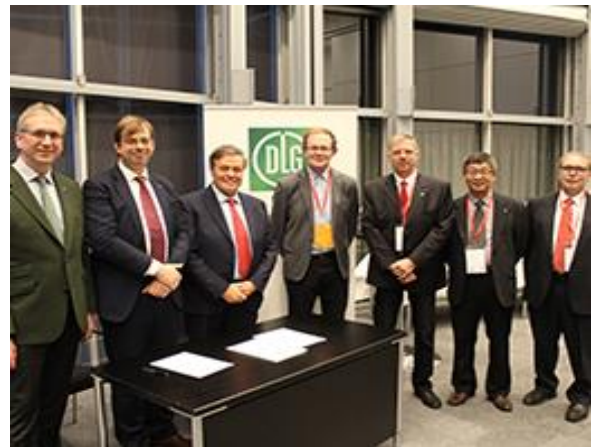
Section III Members Visiting the John Deere Plant in Manheim

CIGR and DLG enter into Collaboration Agreement

During the 77th International Conference "LAND. TECHNIK - AgEng 2019", the Deutsche Landwirtschafts-Gesellschaft – (German Agricultural Society, or DLG and CIGR entered into a collaboration agreement for the development of projects on common interests aligned with the mission of both organizations.

The [DLG](#) (Deutsche Landwirtschafts-Gesellschaft – German Agricultural Society) was founded by the engineer and author Max Eyth in 1885. It has over 25,000 members and is a leading organization in the agricultural and food sectors.

This agreement describes the general terms upon which future projects will be based on. The agreement defines the appropriate use of the organizations watermark and intellectual property as well as relying on specific projects to allocate financial responsibility. The agreement was signed on behalf of CIGR by Incoming President Remigio Berruto.



Participants in the signing ceremony are shown Left to right in the photo: Reinhard Grandke, CEO, DLG; Hubertus Paetow, President, DLG; Remigio Berruto, Incoming President, CIGR; Claus Soerenson, Past President, EurAgEng; Markus Demmel, Vice-Chair, CIGR-Section III; Qin Zhang, Honorary Chair, CIGR-Section III; John Schueller, CIGR Auditor. Present not in the photo: Francisco Rovira, Section III Chair.

CIGR 2020 International Conference



Prof. Stephane Goodbout
Chair, 2020 CIGR
International Conference
IRDA, Canada

Under the theme “Integrating Agriculture and Society through Engineering”, the primary goal of this conference is to bring together elite scientists from all over the world, and to provide a unique

forum for exchange on the challenges and opportunities in agricultural and biosystems engineering.

The conference will take place from June 14th to the 18th 2020 in Québec City, Canada. Québec City offers a blend of culture and history that is unique in North America. Located along the majestic Saint-Lawrence River, Quebec City is the only walled city north of Mexico and the old part of the town is a UNESCO World Heritage treasure. The province of Québec’s capital is also known to be one of the safest urban districts of the world. Québec City ranks first among Canadian destinations.

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2019 CIGR Journal Report



Prof. Zhao Fengming
CIGR Journal Editor
Vice Secretary General
CSAM

From the June 1st to November 30th, 2019, the Editorial Office of CIGR Journal has continually been working hard and achieved progresses under the guidance of CIGR Presidium, with strong support of Prof. Fedro Zazueta, the active volunteering work of all the Associate Editors (AE), the enthusiastic support and efforts of the reviewers and the authors. Thanks to the whole experts and editorial team, the new submissions and registered users to CIGR Journal in 2019 continue

to grow steadily. The table below shows the statistics of the CIGR Journal from June 1st to November 30th, 2019, using Open Journal System (OJS).

As CIGR Journal already set up its goal to enter Thomson Reuters’ citation, improving both the technical level and paper quality has been the primary task of the Editorial Office of CIGR Journal. Authors, reviewers, Associate Editors, Editors-in-Chief and CIGR Presidium members are the keys to ensure upgrading the quality of CIGR Journal. I want to particularly call for the sustained support from the Associate Editors for the publication of CIGR Journal, also welcome recommendation of devoted Associate Editors by all people who are concerned about the development of CIGR Journal. The total number of Associate Editors of CIGR Journal is 19 at present. They are from 15 countries of the Netherlands, Spain, Egypt, Iran, Turkey, China, the United States, Italy,

Portugal, Serbia, Hungary, New Zealand, Greece, India and Bulgaria.

The number of total submitted papers from June 1st to November 30th, 2019 is 131, 20 submissions per month on average. The average time to complete the review process, editorial process to publish a manuscript is more than 90 days. Among the 103 assigned submissions, 14 (13.6%) have finished peer reviewing and are in editing. The blockage of manuscripts resulted in this low efficiency of peer reviewing. During this period, we handled 90 blocked manuscripts which submitted before 2018 (the earliest is July 6, 2015). Some Associate Editors need to assign the manuscripts to more reviewers in order to speed up the review process since the selected reviewers did not accept the reviewing invitation or didn't send back comments timely. It is also notable that 17 (16.5%) of newly submitted manuscripts were archived by the Editor-in-Chief before assigning to the Associate Editors because of their incompatibility with the author's guideline, not in scope of the CIGR Journal and poor English level. It is the responsibility of Editor-in-Chief to filter unqualified manuscripts, sustain and improve the quality of our Journal. During the past 6 months, two normal issues of CIGR Journal, Vol. 21, No. 2 and 3 with 25, 29 manuscripts separately were

published on time. No.4 with 30 manuscripts will be published in December.

By November 30th, 2019, the total number of registered users in CIGR Journal through OJS reached 12959 with 1061 new users compared to the statistics accounted last time on April 30th, 2019. The number of registered readers is 10686 with 723 new compared to the database of April 30th, 2019. Also, owing to the incomplete registration information, particularly without clearly indicating the review areas of the reviewers, it is hard for the Associate Editors to select proper reviewers according to their expertise. Some reviewers have little interest in reviewing the papers and that prolonged the time of peer-review process. The CIGR Journal warmly welcomes the participation of its members as well as the scientists and engineers engaged in agricultural and biosystems engineering worldwide. We appreciate your journal work and your support. If you have not registered in CIGR Journal, please do so by visiting the Journal website of <http://www.cigrjournal.org/index.php/Ejournal/index>, and registering as an author, reader and reviewer.

As of now, there are 364 manuscripts in total, with 109 papers accepted and in editing, the rest are still in process--under review or revision.

019 Statistics for the CIGR Journal (June 1st to November 30th)

Issues	Published 2 (Vol.21, No.2-No. 3)
Items (Research papers)	25 in Vol.21, No.2; 29 in Vol.21, No.3
Total new submissions	131
Peer reviewed	103
In review with some review comments	87 (84.5%)
In review without review comments	16 (15.5%)
Papers were held by Associate Editors	84 (81.6%)
Accepted as assigned, including published and in editing	14 (13.6%)
Declined as assigned	17 (16.5%)
Total manuscript in process	418
Days from submission to complete review	Over 60
Days from submission to publication	Over 90

Note: Percentages for peer-reviewed submissions sometimes may not add up to 100% as items resubmitted are either accepted, declined or still in the process of review.

5th College Students Intelligent Agriculture Equipment Innovation Competition at Anhui Agricultural University, China



Brendan McInnis
Clemson University,
USA



Henning Kuper
University of Hohenheim,
Germany

The Fifth National College Students Intelligent Agriculture Equipment Competition was held on November 23rd, 2019 at the Anhui Agricultural University. Over 1200 teachers and students formed 335 teams from 58 universities around China. Teams participated in one of three categories; Category A consisted of creative innovations in the field of intelligent agriculture production equipment. In category B, teams developed intelligent weeding robots and category C consisted of teams partnering with local companies to develop intelligent systems that could be put into production. Brendan MacInnis from Clemson University and Henning Kuper from the University of Hohenheim were selected as CIGR representatives sent over to observe the competition.

Brendan: I was very intrigued to see the vast creativity and complexity many teams were able to achieve with their projects. You could really see all the hard work and dedication the teams put into these projects and their visions of future agricultural equipment. Autonomy and intelligence are needed

to take on a larger role in agriculture, to help achieve more production for a continuously growing global population. This was a great opportunity to see how teams of future engineers are creating and implementing solutions to further benefit the agriculture community. I would like to thank the International Commission of Agriculture and Biosystems Engineering Committee for giving me the opportunity to experience this event.

Henning: The scope of the final event and the previous regional events have generated many good results in the form of created projects and robots. They have also brought together future experts from the agricultural sector and provided them with a platform for exchange and networking. Particularly noteworthy is the focus on the practical relevance of the projects, the broad spectrum and the partially technical complexity. In general, participation as an observer at the event was informative, instructive and exciting. I would like to thank the International Commission of Agricultural and Biosystems Engineering for enabling me to participate.



Judging the performance of a robot and some of the entries into the competition.

Latin-American and the Caribbean Congress of Agricultural Eng. Students (CLEIA)



Cristina Porrás Zuñiga
President
Latin American and the
Caribbean Association of
Agricultural Engineering
Students (ALEIA)

CLEIA is a youth event that provides a space for the Agricultural Engineering guild to share, in a personalized way, experiences and scientific dissemination with topics presented by students and professionals. The participants of the event are members of the different countries of Latin America and the Caribbean, giving the opportunity for a great exchange of experiences of different cultures, so that during the event workshops, meetings and cultural visits will be promoted.

The X CLEIA was held from November 04 to 08 at the Chapingo Autonomous University in the city of Texcoco de Mora-Mexico, with the participation of students from countries such as Colombia, Ecuador, Peru, Brazil, Costa Rica, Guatemala and Mexico.

During the X CLEIA, topics such as Agroindustry, Postharvest, Precision Agriculture, Biosystems, Agricultural Sciences, Agricultural Economics, Natural Resources, Environment, Geomatics, Irrigation, rational use of water, machinery and Agricultural Automation were addressed

The future CLEIA will take place in of San José, Costa Rica at the beginning of 2021, with the support of the University of Costa Rica and the Costa Rica Institute of Technology. It is expected to have the participation of different Latin American countries, rescuing the participation of students from Chile and Argentina. Besides, the Latin American and Caribbean Association of Agricultural Engineering Students (ALEIA) and the Costa Rican Association of Agricultural Engineering and Biosystem Students (ACREIAB), we externalize the invitation to all countries that have the profession Agricultural Engineering, Biosystem Engineering or related programs to participate in the largest student event in Latin America about Agricultural Engineering.

For more information you can contact the email agricola.acreiab@gmail.com or agricola.aleia@gmail.com



Latin-American and the Caribbean Agricultural Engineering Students attending the X CLEIA at the Chapingo Autonomous University, Mexico.

Free Download (Spanish): Curso de Maquinaria Agricola



Prof. Luis Marquez Delgado
Polytechnic University of
Madrid, Spain

The course [Agricultural Machinery](#) (Spanish) developed by Prof. Luis Marques Delgado is available to the public at the website of the Spanish Ministry of Agriculture, Fisheries and Food.

Prof. Marquez is a prolific author in the area of agricultural machinery. He is a professor at the Polytechnic University of Madrid, Spain, and Technical Editor of [Agrotecnica](#)

Agrievolution Summit 2019 – Madrid/Valencia (Spain)

The 2019 [Agrievolution](#) Summit was held in Madrid las October 1st and 2nd. Over 160 global agriculture machinery manufacturers, government officials, farmers and industry leaders contributed to a discussion on “Mechanization of Specialty Crops and Skills and Education”. The event was organized by the [Spanish Association for Agricultural Machinery \(ANSEMAT\)](#).

The Agrievolution Industry Issues Committee, Chaired by Ignacio Ruiz, identifies critical global agriculture industry issues and provides support, generates awareness or takes influential action as appropriate on behalf of our 6000+ member companies.

“Whether it’s reaching out to our respective government officials and agencies, working with like-minded NGOs, drafting white papers or providing endorsements, the Alliance acts as the global voice of the agriculture equipment manufacturing industry.”

ANSEMAT is a non-profit business association that since its establishment in 1995, represents the companies that manufacture and import machinery and facilities for aquaculture, livestock and green spaces, ensuring and defending their interests nationally and internationally.

The Summit included a field visit to a farm in Valencia (citrus, olive trees, vineyards, almond trees) where agricultural, machinery live field demonstrations for Specialty Crops were organized as part of the DEMOAGRO fair.



Ignacio Ruiz,
ANSEMAT Secretary General,
and Fedro Zazueta,
CIGR Secretary General

Prof. Fedro Zazueta, CIGR Secretary General addressing the participants on the subject of Education and Training.



Over 50 manufactureres were present at the Valencia DEMOAGRO Fair.



Chinese Society of Agricultural Engineering Celebrates 40th Anniversary



Haiyan Cen
Zhejiang University
Hangzhou, China

The 2019 Chinese Society of Agricultural Engineering (CSAE) academic annual meeting and the 40th anniversary were held on December 7-9 in Hangzhou, China. The main topic this year is “Advance agricultural engineering and promote the rural area development”. Over 1000 agricultural engineers, researchers and representatives from all over the world attended this event to improve academic exchange and expedite the Chinese agricultural modernization.





Sui Bin, President of China Society of Agricultural Engineering



Recipients of “the outstanding contribution award of CSAE for 40 years after reform and opening-up”

On the opening ceremony, Sui Bin, President of China Society of Agricultural Engineering first addressed the conference his congratulations and welcome. Afterwards, Deng Xiuxin, vice chairman of China Association of science and technology and vice president of China Academy of engineering, Liu Chengguo, former executive vice minister of the Ministry of agriculture and the fifth president of China Society of agricultural engineering, Liu Jian, chairman of the National Alliance for rural cultural industry innovation, former director of Poverty Alleviation Office of the State Council and former Vice Minister of the Ministry of agriculture, Zhang Hui, President of planning, design and Research Institute of the Ministry of Agriculture, Wu Xiaocheng, deputy secretary of the Party committee of Zhejiang University, Prof. Fedro S. Zazueta Ranahan, Secretary General of CIGR, Prof. Anshuman Varma, deputy director of CSAM, Prof. Sue Nokes, President of ASABE, Mo Guanggang, Deputy Secretary General of CAAS, Zhang Xiansheng, Secretary General of CAAS attended the opening ceremony and made a speech.

The conference presented “the outstanding contribution award of CSAE for 40 years after reform and opening-up”, “the eighth Youth Science

and technology award of CSAE”, “the excellent thesis award of CSAE for 40 years”, and “the outstanding contribution award of CSAE” etc. Tens of agricultural engineering scientists including Members of Chinese Academy of Engineering and university professors were honored at the conference.

Eight technical sessions were organized, including “Agricultural mechanization and equipment engineering”, “efficient utilization of soil and water resources”, “facility agricultural engineering”, “recycling of agricultural waste resources”, “processing and storage of agricultural products”, “agricultural electrification and information engineering”, “agricultural system and management engineering” and “agricultural aviation application”.

The conference was hosted by CSAE and organized by the College of Biosystems Engineering and Food Science of Zhejiang University. The planning and Design Institute of the Ministry of agriculture and rural areas, Zhejiang Agricultural Engineering Society, Zhejiang agricultural and Forestry University, Zhejiang University of technology and other institutes supported the conference.



The “Agricultural mechanization and equipment engineering” session



Prof. Yong He, representing the organizer of the conference, the College of biosystems engineering and food science of Zhejiang University, receiving the “Special organization award” from Academician Xiwen Luo.

Photos provided by Xiangli Hua.



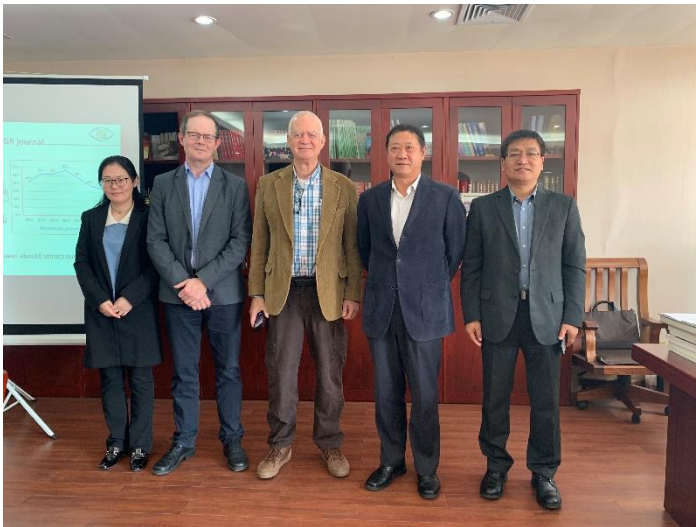
Conference Participants.

CIGR Presidium Visit to China (in Pictures)

At the invitation of the Chinese Academy of Agricultural Machinery Manufacturers (CAAMM) a delegation of the CIGR Presidium visited Chinese Agricultural and Biosystems Engineering institutions, including research, teaching and industry. The visit was conducted from October 28 through November 1. The delegation included President and Prof. Chen Zhi, Workgroup Coordinator and Prof. Claus Sorensen, and Secretary General and Prof. Fedro S. Zazueta.

Meeting with Senior Editor of the CIGR Journal

On October 28th the CIGR Delegation met with Prof. Zhao Fengming, Senior Editor of Agricultural Engineering International, the CIGR Journal, and Prof. Li Youji. The main focus of the meeting was discussion on the articulated strategic goal of improving the listing of the Journal and increasing the number of section editors to expedite the review process.



From Left to right: Prof. Zhao Fengming, Prof. Claus Sorensen, Prof. Fedro S. Zazueta, Prof. Chen Zhi, and Prof. Li Youji.

Visit to LOVOL

On Oct A visit was conducted to a major manufacturer of agricultural machinery in China. LOVOL manufactures, tractors, combines, agricultural implements and engines that are distributed through a large network of dealerships worldwide.



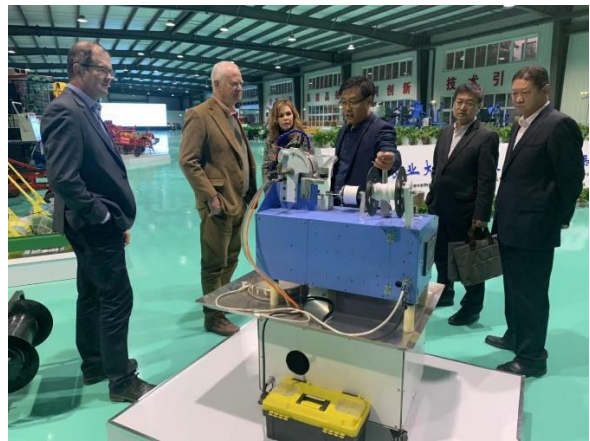
Mr. Zhang Chunmeng (second left to right) hosted the visit at LOVOL.



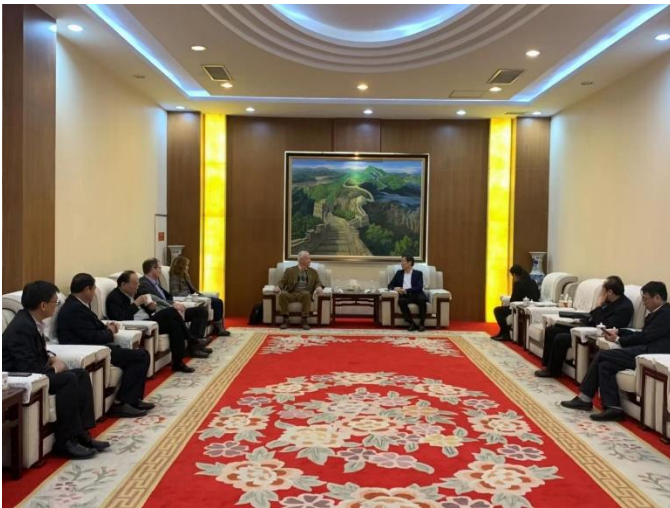
Networked autonomous agricultural equipment.

Visit to Quindao Agricultural University

The visit continued to the Quindao Agricultural University (QAU) in the Shandong Province. QAU is a comprehensive university that includes 22 departments, 77 full-time four-year undergraduate majors or specialties, 13 first-level disciplines of postgraduate programs, 78 second-level disciplines of postgraduate programs and three professional postgraduate programs. QAU has an enrollment of 35,000 students, including 1,400 graduate students.



At QAU's museum-teaching facility highlighting the contributions made by the university to China's agriculture.



President and Prof. Song Ziyun welcoming the CIGR delegation to the QAU.



Virtual Reality (VR) teaching facility.



Established in 1969 the College of Mechanical and Electrical Engineering Celebrated its 50th anniversary.



Celebratory medallion.

China International Agricultural Machinery Exhibition (CIAME)

The National Agricultural Products Ordering Fair was established in the 50s. Starting 2011, it is jointly sponsored by The China Agricultural

Machinery Distribution Association (CAMDA), The China Agricultural Mechanization Association (CAMA) and The China Association of Agricultural Machinery Manufacturers (CAAMM).



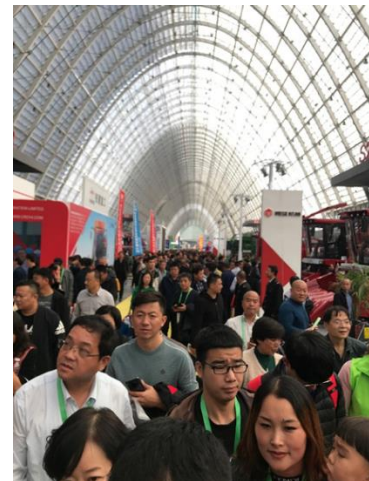
Opening Session of the Technical Conference.



CIAME is a showcase for the introduction of innovation in agricultural machinery.



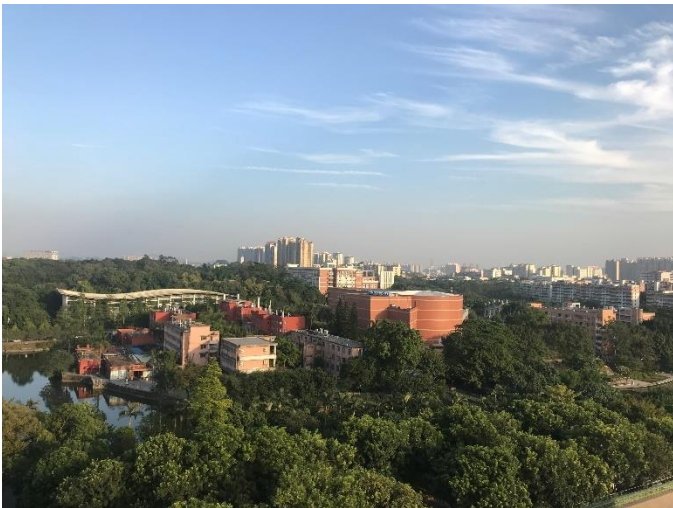
Unveiling of new book on agricultural machinery.



Over 125,000 persons attend CIAME.

Visit to South China Agricultural University

South China Agricultural University (SCAU) was founded in 1909 as Guangdong Province agricultural experiments station and Affiliated Institute of Agriculture. It was renamed to its current name in 1984 and holds the rank of Cultivated High-level University. SCAU has approximately 43000 students including nearly 5500 graduate students.



The SCAU campus is 550 hectares with a substantial fraction of green spaces.



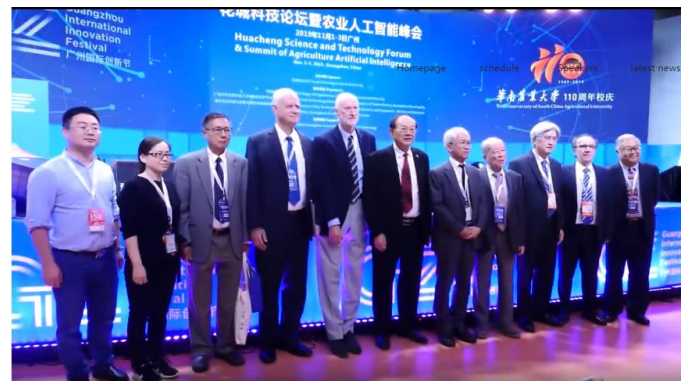
(left to right) Prof. Naiqian Zhang, Prof. Fedro Zazueta and Prof. Luo Xiwen.

Prof. Luo and his team presented an overview of some of the contributions made by SCAU to agriculture. According to the Essential Science Indicators (ESI, 2019) database, 6 disciplines of the University entered global top 1% including Plant and Animal Sciences, Agricultural Science, Chemistry, Microbiology, Materials Science and Engineering.

Guangzhou International Innovation Festival

The Artificial Intelligence Summit was held during the 2019 Guangzhou International Innovation Festival. A number of CIGR members were invited speakers.

The summit focused on achievements and the future outlook of AI technologies in agriculture.



Upcoming CIGR Conference Agriculture 4.0 Bangkok Thailand



www.agriculture4pointzero.com

Agriculture, Food and Horticulture are key sectors throughout Southeast Asia, accounting for a substantial share of the region's GDP and employing an important part of the workforce. With the increasing populations, climate change, rising level of urbanisation and workforce challenges due to rural depopulation in most of the ASEAN countries, there is an urgent need for innovative solutions for the agriculture sector.

Currently, the agriculture sector is undergoing digital transformation with huge potential to producers and the consumers. Introduction of digital agriculture, industrialisation and mechanisation of production processes, connectivity and data management are now set to unleash the next revolution in the history of agriculture and farming. Utilising smart IT, Drones, Machine Learning and other advanced technologies and crucially networking these assets enables more efficient use of resources, results in higher yield and production, increase efficiency and productivity and answers to the new environment.

The hosting of the inaugural **Agriculture 4.0 Conference and Exhibition 2020 (Agri 4.0)** is set to provide an interactive platform to discuss the opportunities offered by disruptive digital technologies to increase productivity, and access to services and markets in the agricultural sector. This will be an unparalleled meeting place for decision-makers, plantation and farms managers, digital leaders, and other business professionals to share knowledge and experience in optimising the agricultural farming process in the age of technology.

The conference represents a unique opportunity for learning, exchanging opinions, and expanding one's network enabled by live presentations followed by dynamic networking sessions – providing the attendees with valuable insights from specialists in the sphere of agriculture technologies.

KEY THEMES OF AGRICULTURE 4.0

- Available Technologies for Agriculture 4.0
Drones, Sensors, Internet of Things, Robotics, Big Data, AI and more
- Precision Agriculture
- Agricultural Resource Management for Improved Resource-use
- Process Automation and Mechanisation
- Water Management and Irrigation
- Innovative Approach towards Technological Development
- Indoor Farming Technologies
- Agriculture Software Enhancing
- Investment in R&D
- New Business Models
- Cross disciplinary themes

REASONS WHY YOU SHOULD NOT MISS THIS

Understand The Current & Future Trends

Hear from inspiring digital leaders, agriculture economists and business innovators on new technologies & applications for plantations and farms

Extensive Showcase

Discover new and innovative technologies and services for smart and precision farming and agriculture

Comprehensive Content

Updated information reflecting your most concerned issues in developing smart and precision agriculture

Premium Networking

Unrivalled networking and exchange of experiences across 20+ countries

Distinguished Presenters

Renowned best practitioners, industry leaders and innovators sharing insights

Business Opportunity

Explore potential collaborations and with 300+ local and international industry stakeholders

5th CIGR International Conference, June 2020, Quebec, Canada.



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/>

EurAgEng Conference, July, Evora, Portugal



The **AgEng2020 Conference** will be held in Évora, Portugal, between 5 and 9 of July 2020 with the focus on **New Challenges for Agricultural Engineering towards a Digital World**. It is our pleasure to host this conference and we want to invite all of you to participate.

Authors are invited to submit an extended abstract of maximum 1200 words in English, (excluding references, including figures and tables), as MS Word file. The abstracts and or posters can be submitted electronically by email: submission.etagro@gmail.com no later than **15th April 2020**. Abstracts will be accepted based on quality, originality and relevance to the conference topics. Authors of accepted abstracts are also invited to submit full research papers of high quality, originality and relevance to the conference topics. We look forward to receiving your paper and we hope to see you actively taking part in the International Section in Agricultural Economics of the **16th Conference** of the Hellenic Association of Agricultural Economists – ETAGRO.



ASABE 2020 presents a forum to expand awareness of current industry trends, promote and acknowledge innovations in design and technology, and provide opportunities for professional development – all with a focus on the economic, political and societal impacts facing the industry. Join us for 4 days this summer in Omaha!

Share your expertise, professional insights, and industry best practices by becoming a presenter. Interact with the industry's best and brightest engineers and engineering students while imparting your knowledge. Hot topics are especially encouraged in the areas of: Digital Agriculture, Data Analysis, Artificial Intelligence, Machine Learning, Autonomous Systems and public awareness surrounding issues related to agriculture, food, and natural resources.

ASABE is seeking abstracts for the following technical communities:

- Applied Science & Engineering
- Energy Systems
- Ergonomics, Safety & Health
- Education, Outreach & Professional Development
- Information Technology, Sensors & Control Systems
- Machinery Systems
- Natural Resources & Environmental Systems
- Plant, Animal, and Facility Systems
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Submitting an abstract indicates your commitment to present at the annual meeting. Please expect to attend. Three submissions are allowed per author.



**16th Conference
International Section**

9-10 October 2020, Athens, GR

*Sustainable Agriculture, Food Security and Climate Change:
Challenges and Opportunities in Bio-economy*

www.etagro.gr/2020

The Hellenic Association of Agricultural Economics (ETAGRO) is pleased to invite contributors across the globe to attend the International Section in Agricultural Economics which is going to be part of the 16th Conference of the Hellenic Agricultural Economics Association, held in the historic and lively city of Athens during October 2020. The main theme of the International Section of the Conference is Sustainable Agriculture, Food Security, and Climate Change: Challenges and Opportunities in Bio-economy.

Authors are invited to submit an extended abstract of maximum 1200 words in English, (excluding references, including figures and tables), as MS Word file. The abstracts and or posters can be submitted electronically by email: submission.etagro@gmail.com no later than **15th April 2020**. Abstracts will be accepted based on quality, originality and relevance to the conference topics. Authors of accepted abstracts are also invited to submit full research papers of high quality, originality and relevance to the conference topics. We look forward to receiving your paper and we hope to see you actively taking part in the International Section in Agricultural Economics of the **16th Conference** of the Hellenic Association of Agricultural Economists – ETAGRO.

XX CIGR World Congress, December 2022, Kyoto, Japan



The XX CIGR World Congress 2022

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***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>.