



International Commission of Agricultural and Biosystems Engineering

Newsletter 125

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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..."



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Invitation to the CIGR World Congress: Kyoto, Japan 2022



Noboru Noguchi
Congress General Chair
Hokkaido University
Japan

It is a great pleasure and an honor to extend to you a warm invitation to attend "The XX CIGR World Congress 2022", to be held December 5th - 9th, 2022 at Kyoto International Conference Center, Kyoto, 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.

Kyoto has flourished as the capital of Japan for over a millennium, since 794. The city has an abundance of historically significant and unique locations, and has preserved its refined culture, historical sites, and innumerable Shinto shrines and Buddhist temples, continuing to fascinate visitors from all over the world.

We hope you will enjoy the content of the Congress, renew old friendships, make new friends, get new ideas, and above all, have a good time, as well as enjoy the city famous for its cultural traditions.

With best wishes,

A look back at the 5th CIGR International Conference



Stephane Godbout
Co-chair
IRDA
Canada



Rene Morrisette
Co-chair
Agriculture and Agri-food Canada
Canada

It is Tuesday May 11th, 10:00 am Quebec time and the Welcome ceremony is starting. Stéphane Godbout, the conference's co-chair, welcomes all participants. Karina, from Eklosion, does an excellent hosting performance.

It was very exciting after over 5 years of organization work to open this international conference. Initially scheduled for the summer of 2020, we were forced to cancel it due to the COVID-19 situation. Several scenarios were on the table: postpone the event entirely to 2021, hold the event virtually, or simply cancel the whole thing. With the support and endorsement of CSBE and CIGR, our committee moved forward a virtual event. Fortunately, all our guest speakers remained committed to attending virtually. The program was enhanced by virtual technical tours, special sessions, and post-conference workshops.

The quality of the presentations by our guest speakers was impressive, starting with Senator Rosa Galvez. Senator Galvez provided an excellent overview of Canada's position on GHG reduction and adaptation measures related to climate change. Kathy Baig, President of the Ordre des ingénieurs du Québec, underlined the importance of the Ordre and its values in our profession. The place of women in engineering was discussed and the OIQ's objective of having 30% of women engineers by 2030 is more than welcome. Finally, Andy Zynga, CEO of the European Institute of Innovation and Technology Food, presented how Europe wants to transform the food industry towards a more open innovation

structure. These last conferences showed the unavoidable interactions between society and our profession, agricultural and biosystems engineering.

At the World Congress on Computers in Agriculture and Natural Resources symposium, the

Video recordings of the technical presentations will be available until August 18th for registered participants.

Those wishing to access the recordings of the conference please register before July 31st at: <https://cigr2020.ca/en/registration>

speakers showed the importance of decision support tools in our context where more and more variables, stakeholders, and objectives come into play. In the special session on biogas, Jennifer Green presented impressive, but accessible, biogas projects on farms and industries. The 4th International Symposium on Gas Emissions and Dust from Livestock (EMILI) introduced innovative approaches to reducing GHG on farms such as a fume hood with biofilter to capture emissions directly from the building. The benefits and potential of biochar were also ably highlighted in the presentations introduced by expert Suzanne Allaire. According to these presentations, biochar seems an interesting avenue for on-farm carbon storage.

On the second day, the virtual technical tour on farm buildings allowed us to learn more about the Chair in Educational Leadership on Sustainable Agricultural Buildings at Université Laval, the family business Industrie Harnois and the advanced R&D facilities of the Centre de développement du porc du Québec. Later in the day, the Symposium on Livestock Building Innovations kicked off with excellent technical presentations in the domain. In the middle of the day, all were invited to attend the CSBE and CIGR Awards Ceremony, accompanied by a musical performance by Quebec City band The Lost Fingers.

On the third day of the conference, the special session on challenges in hydrological modeling

showed the new means to evaluate at several scales the impacts of beneficial agricultural practices on water quantity and quality. Later, the session on climate change showed the impact of the crisis but also presented ways to adapt or mitigate the changes. At the end of the day, two conferences from experts in biomethanization (Benoit Bourque) and on the impact of climate change on animal production systems (Thomas Banhazi) has been done. The presentation of the Armand Blanc and Best Paper awards followed these two conferences.

The last day started with the CIGR general assembly and excellent technical presentations, including one on the inventory of biomass sources in Canada for a better understanding of the opportunities related to the carbon-neutral energy transition. On the same thematic, Lorie Hamelin (Toulouse Biotechnology Institute) presented high-level information putting into perspective, and on a larger scale, the strategies for the supply of non-fossil carbon sources. Frederic Pelletier (MELCC) followed with an overview of the carbon market system currently in place in Quebec.

Four days, 35 sessions, 275 technical presentations, the 2021 edition of the CIGR international conference was a real success, even if it was 100% virtual! We saw during this meeting innumerable results, ideas, and exchange showing

the will to address the numerous challenges around the development for a sustainable agriculture. In the face of immense challenges, the solution to sustainable agriculture will require a multi-expert collaboration that integrates social concern and the latest knowledge in agriculture. Engineers must therefore play a key role for a better future.

On behalf of the organizing committee, I would like to thank all the presenters for the quality of their presentation and specially the keynotes to bring us new and sustainable ways for agriculture more nested with the society. I would also like to thank all the individuals, teams and partners who helped support the organization of the event.

For those interested, the recordings will be available until August 18th for registered participants. Those not registered have until July 31st to register for access at:

<https://cigr2020.ca/en/registration>

Our partners:

Quebec City Business Destination, Cercle des Ambassadeurs de Québec, Faculté des sciences de l'agriculture et de l'alimentation de Université Laval, Association des ingénieurs en agroalimentaire du Québec, Université Laval, Institut de recherche et de développement en agroenvironnement.

Technical Sections Report



Tomas Norton
Technical Sections
Coordinator
KU Leuven
Belgium

The Technical Board held its yearly meeting on Meeting 10/5/2021. Participants in the meeting were: Jose Manuel (Chair TS1), Tomas Norton (Chair TSII), Francisco Rovira-Mas (Chair TSIII), Cengiz Akdeniz (Chair

TSIV), Dionysis Bochtis (Chair TSV), Oliver Schluter (Chair TSVI). Excused Patrizia Busato (Chair TSVII).

An update of section activities was given (see below). In addition, the board as decided that the Technical Board Meeting will be held every 6 months. Section Chairs agreed to assist on social media using a share on Teams and a protocol on how to share news. A common template for Expressions of Interest will be developed.

Francisco to contact Patrizia about synergies between the two sections.

Updates from Sections: Section I: Land and Water



Chair: Prof. José Manuel Monteiro Gonçalves
Politechnic Institute of Coimbra
Portugal

Section I organized in 2019: The 5th Inter-Regional Conference was co-organized with the 2nd Conference of the Pan African Society for Agricultural Engineering (PASAE - AfroAgEng) on Role of Agricultural Engineering in Meeting the Challenge of Global Food Security, in Morocco. The program included 40 oral presentations. The next Inter-regional conference: 6th Inter-Regional Conference on Land and Water Challenges in Albacete, Spain, September 2022.

Section 2: Structures and Environment



Chair: Tomas Norton.
KU Leuven
Belgium

CIGR Section II held its board Meeting on April 22, 2021.

In attendance were: Tomas Norton, Matteo Barbi, Anders Peter Adamsen, Andre, Panagiotis Panagakis, Vasco, Thomas Bartzanas, Tami Brown-Brandl. Items discussed were as follows:

Our Mission - Optimizing the interaction of living organisms with their individual micro-environment by using structures and guaranteeing the long-term sustainability (product quality and safety, human/animal health and welfare), of these biological systems in their surrounding environment.

Questions to answer: Do members need to be a member of a national society? Can we have two members from the same countries?

New Members – We need to make sure we care covering all research areas.

Areas to be covered: Greenhouses, Plant Factories (Hydroponics?), Waste Management –

Waste Utilization, Silos/Grain storage, Energy efficiency of buildings (zero energy/zero waste), Livestock Buildings, Emissions,

Section chairs will send Tomas Norton names and emails of potential section members.

Vasco provided an update on the Hot Climate working group. Sent a document. We need to update the document on current practices in the world and need to develop some workshops. Conference is virtual.

Virtual Meetings for working groups. 1 meeting with several breakout rooms for different working groups.

The Working Group “Rural Landscape Protection and Valorisation” of the International Commission of Agricultural and Biosystems Engineering (CIGR) focuses on rural landscape analysis, monitoring, planning and design, also in relation to climate change, regeneration, ecosystem services, green systems, urban-rural connections, rural metabolism (click here for a short presentation of the working group: https://cigr.org/view_wg5). Next meeting scheduled on May 13, 11.45 Quebec time, within the CIGR online conference.

Agreed fields to consider in the section (these should be considered when suggesting new people):

- Plant Factories/Vertical farming (new)
- Zero energy/zero waste buildings (new)
- Traditional/natural building materials (new)
- Rural and historic buildings
- Emissions
- Structures
- Livestock buildings and technology
- Greenhouses and technology

New working groups (to be announced at EuroAgeng):

1. Precision Livestock Farming (Tomas, Tami, Panos)
2. Emission monitoring and modelling (Salvador?, Andre, Matteo, Thomas, In-Bok, Anders)
3. Greenhouse and plant factories (Thomas, In-Bok, Fatima)
4. Use of traditional materials (Jairo, Chepete?)
5. Rural buildings? (Matteo asks Patricia)

Follow up actions:

A model for running the working groups will be proposed to the executive board. Vasco will discuss with Fatima how we will bring the announcement of the working groups into the virtual meeting. Section II will sponsor the final conference of LivAge (COST Action on emissions of Thomas Bartzanas)

Section III: Plant production



Chair: Francisco Rovira Mas
Polytechnic University of
Valencia
Spain

Last event was held in 2019 at LandTechnik. We had planned the section meeting and a special tour for Section III within the Quebec Conference to be held in June 2020. As it was cancelled, all activities were suspended. We are planning now for the next congress, which will take place in Kyoto, Japan, next year.

Section IV: Energy in Agriculture



Chair: R.Cengiz Akdeniz
Ege University
Turkey

It was not possible to arrange meetings in 2020 and 2021. Possible meeting at end of 21 or beginning 22 in Poland. Pandemic prevented live meeting. Conferences will be organized under CIGR Section IV.

Section V: System Management



Chair: Dionysis Bochtis
Institute for Bio-Economy and
Agri-Technology (IBO)
Greece

Section V organized last CIOSTA meeting 38. 24-26 June 2019 Rhodes Island, Greece. Organizing 2 conferences currently: 39 CIOSTA CIGR 5

conference in Krakov Poland 21-22 June. Virtual format.

Section VI: Bioprocesses

Chair: Oliver Schlüter
Leibniz Institute for Agricultural Engineering and
Bioeconomy
Germany

Last symposium in Japan in 2019. Next symposium is under discussion (postponed due to COVID). Virtual or live conference is not yet decided. Live is preferred. Working group meeting on Food Safety in Japan 2019, now in 2021 virtual. Looking for new members of Technical Board. In process of pre-selecting potential members and motivate female members to join.

Section VII: Information Technology



Chair: Patrizia Busato
University of Turin
Italy

Main activities are summarized below:

Organization of EFITA 2019 – WCCA - CIGR VII Conference

Co-organization and sponsorship of the EFITA CIGRVII Congress in Rhodes Island, Greece, “Digitizing Agriculture”, that took place from June 27 to June 29, 2019.

EFITA is the European Federation for Information Technology in Agriculture, Food and the Environment. The conference is a biennial event that facilitates participants from over 25 countries focusing on knowledge sharing and thinking on the future of ICT technologies within the agri-food and bio-resource sectors. CIGR VII section already sponsored the one I organized in Turin, in 2013.

The 2019 edition focused on Digitizing Agriculture and will have the following major themes,

1. Topic group 1: Sensors
2. Topic group 2: Data

3. Topic group 3: Decision
4. Topic group 4: Action
5. Topic group 5: Cross cutting themes

From this Conference a four-book series is in process to be published by Springer.

We had about 150 participants, with 70 papers

Organization of EFITA 2021 – WCCA - CIGR VII Conference

The 2021 EFITA CIGR VII edition is titled “Digital agriculture web conference and kept the same themes of 2019 which are still actual. (Website: www.efita2021.com)

The conference was completely online, from 25 to 26 of May.

The proceedings will be uploaded at Proceedings Journal MDPI (each paper will receive an individual DOI number), and they will be all cited with Scopus. So far there are 140 registration, and 102 abstracts.

December 2020 Technical Section Board Meeting Report

Agenda points that were discussed:

1. New website for CIGR: The CIGR have now published the new website, which indeed looks very nice and modern. The only thing that is lacking is current information on members and as a Section we should ensure that our information there is up to date. Please can I ask everyone to look to the website and send the information to update your profile. I have more information in the attached document about the website of CIGR Section II and the information that you need to send. Please send this information to the [webmaster](#) with me in copy.

Discussion: everyone agreed to do this but some discussion that the communication between the EB and Section Chairs’s seems to have distanced, e.g. not all the chairs knew about the website.

Actions: It was agreed that that everyone to update their corresponding web section.

2. Updated description of the Section: If you have additions to your description of the Section then please suggest so that I can incorporate and we

finally submit to the next Executive Board meeting. Let me know if you agree or have changes.

Discussion: most are happy with the current descriptions of their TS. If further changes are needed, then this will be made obvious to the TC so that it can be presented at the EB. SC of TS3 noted a concern in the overlap with TS7 because digital ag has been adopted by machinery. Electrification of tractors. Merits discussion with TS7. Maybe renaming is enough. Agronomy is not covered in TS3, it is more technology, robotics, sensing. However, equipment is a bigger part of TS3 than TS7. Many of people in TS3 are from agricultural engineering, precision ag, farm equipment. Suggestion from Chair of TS5 was that each TS should have their own identity and that this could be started simply with a symbol for each TS that connects with the overall CIGR symbol.

Actions: The chairs agreed to look to the makeup of the current Sections and whether there is a need to refresh them. Further meetings between TS3 and TS7 are needed. Francisco will contact Chair of TS5 (Patrizia Busato)

3. Membership: both the Section and Section board need new members. According to the Statutes the following criteria apply for membership:

Technical Sections: “Each individual member of CIGR (Every member of a regional or national society that is member of CIGR is member of CIGR) can join one or possibly no more than two Technical Sections following his/her own field of interest, without any extra fee payment.”

Technical Section Board: “It is aimed that every Regional Society is represented by at least one member in all Section Boards.” “Normally no more than one representative per each member Organization can be member of each Section Board.”

Discussion: general consensus that more active members in the TS’s would be welcome. Starting professors and younger researchers should be more involved. The difference between the TS and its board, e.g. 16 members only applies to Section Board not TS. Section Chair of TS3 renewed all the members in 2018 due to seniority of TS3 and programme of new leaders in 2018. Many challenge

is the desert between the congresses. There is competing objectives as young people have not the funding, but senior people have. Small number (e.g. 10 people) can usually attend the meetings at the conferences: in the technical sessions. Future leaders activities: See expanding the membership as being difficult as input is not regular. Would like to have more people from industry. Suggestion to send out a call for Expressions of Interest to regional societies. General template should be available to all the chairs. These can be screened by Technical Boards.

Actions: All TCs would like to attract more members to the TS. Find answers to the following questions: do members need to be a member of a national society? Can there be two members from the same society on the Section Board? Ask if an advertising campaign for the TS would be useful and if it could start from the EB of CIGR. E.g. starting point could be sending out Expressions of Interest to regional societies, starting from a common template regarding CIGR conditions (how to become member, requirements).

4. New working groups: Working groups can emerge from TS (likely starting point). Associated with TS2 are 2 active working groups. Would you agree to the proposal that each WG has a defined assignment for 1 year and at the end of the year a decision is made to dissolve the WG or continue. Please give your ideas on this.

Discussion: Some WGs are not really active and a new way to motivate and manage them is welcome. Maybe a year assignment would be good if it can fit within the work of the TS members. Mission driven is a good approach but should have the pool of people to choose from. Workshops or dissemination events can help focus.

Action: Proposal on yearly WG missions to be sent to the EB to see if it could work. While idea is supported by the Section Chairs a doubt surrounding having enough active people.

5. New Events: We need to get sponsoring events again in 2021 and onwards – please think of some suggestions.

Discussion: most TS are active at the conferences every 2 years but also interested in doing a virtual conference every other year. The presumption is that this needs a lot of effort so support to make this professional would be appreciated. Can CIGR help in “hybrid” TS conferences which can include Working groups dissemination? Main challenges seen send a list a schedule and attendees and follow-up. Virtual meetings can be a big step forward. Budgets to organize this would be very interesting. Chair of TS5 has experience in organizing EFITA and WCCA conferences. The company used and procedures followed could be shared. The costs to set-up websites on the conferences are not high.

Action: TC to discuss the possibility of CIGR supporting a virtual or “hybrid” conference/event every other year and determine what is the level of support available.

6. Funding from CIGR: We might be able to get some budget to improve our dissemination activities. What would we use the budget for in Section? Please give ideas.

Discussion: Funding for online conferences would be the most useful (see above point)

Action: TC to ask about the EB about the funding to support video conferencing (service of CIGR?)

7. Industry involvement: how can we involve more industry/get them interested in our activities? Please give ideas.

Discussion: In general Section Chair welcomed involvement of more industry. Response of Chair TS3. Industry do not see a value in what they get. Conferences are ok but not heavy inclusion of industry. ASABE focusses on standards, CIGR not, therefore, industry involvement is a big challenge, big players should be involved perhaps members of the Section Boards. Companies can steer the focus of the Section conference/events. Have interviews with companies to ask them? What about farmers and societies like FAO?

Action: TC to ask to EB is we can also direct calls for EOIs to industry.

CIGR Workgroups Report



Claus Grøn Sørensen
Workgroups Coordinator
Aarhus University
Denmark

Due to the length of the 2021 Workgroup Report a summary of activity by workgroup is presented here. The full report is available at <https://2021.cigr.org/2021WGReport.pdf>

The current pandemic has obstructed the advance of several CIGR Workgroups. Nevertheless, there are 11 Active CIGR Workgroups, not including the newly formed Artificial Intelligence and Data Science group discussed below. Shown here are those Workgroups reporting recent activity.

[WG1 - Animal Housing in Hot Climate](#)

Currently in the process of organizing a Hot Climate Workshop. Possible venues are Israel and Morocco.

[WG2 - Cattle Housing](#)

Paused activities due to Pandemic.

[WG3 - Agricultural Engineering University Curricula Harmonization](#)

Activities are in progress and will be carried out by dissemination of activities of ERABEE-TN and future projects, which will be submitted to the EU by the partners of this network.

[WG4 - Rural Landscape Protection and Valorization](#)

The first meeting of the working group “Rural landscape, structures and infrastructure planning and valorization” held During the CIGR International Conference. Forty researchers and members of various institutions participated. Many scholars were not able to attend this first meeting but have joined the WG and want to remain in

AN INVITATION TO PARTICIPATE IN A CIGR WORKGROUP

If you have an interest in the subject matter of a CIGR WG, please follow the link related to your WG of interest. You will see details about its mission, goals, and objectives as well as activities currently underway.

Please contact the WG Chair in case of interest.

contact. Many colleagues contributed introducing themselves and their research activities and proposing initiatives that could be shared with the WG members, as well as launching proposals for projects looking for partners and giving their availability to collaborate. Both the virtual room and the chat served as a fruitful networking opportunity. We also launched an instant poll, to decide the acronym for our WG, and “RESTART” (Rural Landscape Structures Valorization) was chosen as the most voted option. It has been a very nice start, and together with the colleagues that have given their availability to collaborate in promoting the WG activities we will do our best to keep the group lively and active, thus saving this good energy which came out of this first meeting. During the meeting, activities were defined, and a first list of seminars and collaboration opportunities was that the first meeting of the working group “Rural landscape, structures and infrastructure planning and valorization” held on May 13 was successfully participated by 40 researchers and members of various institutions. Many other scholars were not able to attend this first meeting but have joined the WG and want to stay in touch. We are glad that many colleagues contributed introducing themselves and their research activities and proposing initiatives that could be shared with the WG members, as well as launching proposals for projects looking for partners and giving their availability to collaborate. Both the virtual room and the chat served as a fruitful networking opportunity. We also launched an instant poll, to decide the acronym for our WG, and “RESTART” (Rural

Landscape Structures Valorization) was chosen as the most voted option. It has been a very nice start, and together with the colleagues that have given their availability to collaborate in promoting the WG activities we will do our best to keep the group lively and active, thus saving this good energy which came out of this first meeting. During the meeting activities were defined and a list of seminars and collaboration opportunities was drafted for the next months.

[WG5 - Image Analysis for Agricultural Processes and Products](#)

Information about the working group, including past and future events organized by the working group and 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.

[WG6 - Food Safety](#)

No report.

[WG7 - Logistics](#)

The logistic WG made a website accessible at <http://www.cigr-logistics.org>

The purpose of this website is to share contacts, organization information and project, documents, events, ideas related to Logistics and CIGR V activities done by CIGR V members, although people interested in this domain could register. Registration is needed to browse or to add, update the information on the website.

[WG8 - Precision Aerial Application](#)

No report.

[WG9 - Plant Factory and Intelligent Greenhouse](#)

No report.

[WG10 - Functional Wellness Foods and Nutrition](#)

The Workgroup organized the “2019 International Joint Conference on JSAM, SASJ and 13th CIGR VI Technical Symposium joining FWFN WG and FSWG workshops” (September 3rd-6th 2019, Sapporo, Japan): FWFN Working Group worked closely with Technical Section VI “Bioprocesses” and “Food Safety” (FS) Working Group to organize this conference. The conference covered research areas such as “Postharvest Machinery”, “Postharvest Facility”, “Postharvest/Food Technology and Process Engineering”, “Food Quality”, “Food Safety”, “Food Function/Nutrition”.

Other important activities including WG member participation as keynote speakers in international conferences and the organization of regional conferences. In addition, members published 33 Journal papers, one book chapter and one book.

[WG11 - Rural Development and Preservation of Cultural Heritage](#)

Organized a discussion panel held during the 5th CIGR International Conference 2021, Québec, Canada.

(<https://www.cigr2020.ca/en/program/discussion-panels/62-rural-development-and-the-preservation-of-cultural-heritages-cigr-working-group-11>)



Zhao Fengmin
Senior Editor, CIGR Journal
CSAM
China

From May 1st, 2020, to April 30th, 2021, 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, the enthusiastic support and efforts of the reviewers and the authors. The numbers of manuscript submissions and registered users continue to grow steadily. The table 1 shows the statistics of the CIGR Journal from the May 1st, 2020, to April 30th, 2021, using Open Journal System (OJS).

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. Here I want to particularly express my sincere thanks to the Associate Editors. With the help of CIGR Presidium, the total number of Section Editors of CIGR Journal is 25 at present. They are from 17 countries of the Netherlands, Spain, Egypt, Iran, Turkey, China, the United States, Italy, Portugal, Serbia, Hungary, New Zealand, Greece, India, Iran, Saudi Arabia and Bulgaria.

The number of total submitted papers from May 1st, 2020 to April 30th, 2021 is 292, 24 submissions per month on average. Submissions accepted are 115. Submissions declined after review are 104. The average time to complete the review process, editorial process to publish a manuscript is near eight months. Among the 292 submitted manuscripts, 78 are unassigned. During the 214 assigned manuscripts, it is also notable that 40 (15.4%) 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. 55 (21.2%) have finished peer reviewing and are in editing, 93 are in the review process and 57 (22.1%) are with reviewers' comments. The other 26 manuscripts were sent to reviewers, but they did not get any respond. So, 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.

In 2020, four issues of CIGR Journal, Vol. 22, No. 1 to No. 4 with 111 manuscripts and total pages of 1054 were published on time. In 2021, Vol. 23, No. 1 with 30 manuscripts were published, Vol. 23, No.2 with 30 manuscripts will be published at the end of June.

By April 30th, 2021, the total number of registered users in CIGR Journal through OJS reached 28782 with 5457 new users compared to the statistics accounted last time on April 30th, 2020. The number of registered readers is 26392 with 5591 new compared to the database of April 30th, 2020.

Recently, OJS upgraded to OJS3. In order to cooperate with the upgrading and make the progress of the job go smoothly, the editorial team has prepared a lot. These days, we have been familiar with this system. We probably knew how to use it and could use it to handle most of our work. Next step, we will try our best to be familiar with the more functions to serve the journal better.

In summary, our work is going well. However, there are some problems we should pay attention to:

1. The work efficiency of Associate Editors varies greatly. We found some Associate Editors did not work for a long time, which shows that the manuscripts have not been handled since sent to them. Therefore, we also need to strengthen dynamic management for Associate Editors.

2. The overall quality of the journal has improved but there is still a big gap compared with excellent journals. The Cite Score of Scopus raised from 0.6 in 2017 to 0.8 in 2019, Cite Score Tracker

2020 is 1.0 by the end of April 6th, 2021, but the academic quality of journal is still lagging behind in the same professional field. The quality of the manuscripts still needs to be improved, especially in terms of scientific, advancement, innovation, etc.

3. Unbalanced manuscript professional field. The following table shows the overall publishing situation in 2020. Manuscripts are concentrated in section 6, 1, and 3, and the number of manuscripts in section 2, 5, and 7 is relatively small.

**Publishing Situation in 2020
Vol 22, No.1~No.4, 2020**

Section	No.1	No.2	No.3	No.4	Total
1. LWE: Land and Water Engineering	4	4	8	8	24
2. FBC: Farm Buildings, Equipment, Structures and Environment	1	1	1	1	4
3. EEPP: Equipment Engineering for Plant Production	7	3	3	3	16
4. EA: Energy in Agriculture	2	6	3	1	12
5. MESE: Development Strategy, Ergonomics and System management	1	2	1	1	5
6. PTPE: Postharvest Technology and Process Engineering	10	12	12	13	47
7. IS: Information Systems	0	1	1	1	3
Total	25	29	29	28	111

4. Author group distribution

There is total 111 manuscripts published in 2020. In order to understand which countries our manuscripts mainly come from; we analyzed the distribution of the first authors. They come from 25 countries. We found out that Nigeria occupied the first place. A total of 38 manuscripts published in CIGR came from Nigeria. The second is Iran with

12 manuscripts. The third are Indonesia and India with 10. The specific information is shown in the table below. Through this table, we found our authors concentrated in fewer countries. If possible, it is better to attract more authors from different countries. This could enhance the level or diversity of the manuscripts published in CIGR.

Author group distribution Vol 22, No.1~No.4,

No.	Countries of authors	Number of published manuscripts
1	Nigeria	38
2	Iran	12
3	Indonesia	10
4	India	10
5	Bangladesh	6
6	Egypt	5
7	Brazil	4
8	Uganda	3
9	Thailand	3
10	USA	2
11	Germany	2
12	Philippines	2
13	Iraq	2
14	Costa Rica	1
15	Cameroon,	1

No.	Countries of authors	Number of published manuscripts
16	Brunei	1
17	Serbia	1
18	Algeria	1
19	Ireland	1
20	Czech Republic	1
21	Japan	1
22	Turkey	1
23	Sri Lanka	1
24	Kenya	1
25	Pakistan	1
Total		111

Table 1
Statistics for the CIGR Journal (May 1st, 2020 to April 30th, 2021)

Issues	Published 4 (Vol.22, No.2-4; Vol.23, No.1)
Items (Research papers)	29 in Vol.22, No.2; 29 in Vol.22, No.3; 28 in Vol.22, No.4 and 30 in Vol 23, No.1
Total new submissions	292
Assigned submissions	214
Archived submissions	40(15.4%)
Peer reviewed	93
In review with some review comments	57 (22.1%)
In review without review comments	36 (16.8%)
Papers were not held by Associate Editors	26 (12.1%)

New Workgroup on Artificial Intelligence and Data Science

At the November 2021 Executive Board meeting the CIGR Presidium was tasked with establishing an initiative to address the emerging field of artificial intelligence and data science in agriculture and biosystems. The proposal outlined below was presented to the Executive Board during the February 2021 Board meeting. The proposal of creating a

related workgroup was approved, and the resulting Workgroup on AI and Data Science had its first meeting first meeting in June 2021.

To establish the workgroup the current chair and two former chairs of Technical Section VII, Information Technology, were asked to make the proposal. The proposal is summarized below:



International Commission of Agricultural and Biosystems Engineering AI Work Group Creation Proposal

Proposed Title:	Artificial Intelligence in Agricultural and Biosystems Engineering.
Short Title:	Artificial Intelligence
Coordination:	Fedro Zazueta Seishi Ninomiya Patrizia Busato
Target Group:	A&BE professionals and professionals in closely related fields working on AI or having an interest in AI and Data Science. Students in A&BE education programs. Industry that is or may become end users of AI and Data Science in agriculture and natural resources.
Goal:	Create an environment for ABE professionals and related disciplines to collaborate in the development and disseminate useful applications of AI and Data Science in agriculture and natural resources that improve the quality of life of all in a sustainable and socially responsible manner.
Objectives:	<ol style="list-style-type: none">1. Identify CIGR professionals working in the field of AI applied to A&BE and create a network for collaboration.2. Create a dynamic online platform for exchange of ideas and information.3. Organize a specialty session on AI during the International Meetings and World Congresses.4. Promote the organization of hands-on workshops by experienced individuals for individuals new to the field (including virtual).5. Collaborate with INFITA to create special activities during WCCA.6. Collaborate with the Intelligent Agricultural Equipment Student Competition (IAESC).7. Write a primer on AI in A&BE (Along the lines of a CIGR Handbook).8. Develop curriculum and educational materials for inclusion in ABE programs.
Membership:	Members of the workgroup would be individuals willing to write and deliver on time a chapter of the AI in A&BE Primer in the objectives, or to organize a workshop on the subject. The initial exclusion of individuals simply having “an interest” will avoid problems with deliverables that often occur with WG. After maturity, the group will be expanded to a community of interest.
Process:	February 2021: Obtain approval for the creation of the WG. March 2021: Announce the formation of the WG and call for interested and capable participants. Recruit individuals know to be working in the field. May 2021: First organizational meeting by Zoom. Review goals and determine specific actions aligned with the objectives: Review call for chapter proposals for the primer; review participation in SICJMAET; identify specific conferences for sessions and workshops; associate tasks to individuals. Define WG governance. June 2021: Publish plan for the WG. Provide progress report and begin to execute planned activities. Ongoing: Revision of goals, opportunities, action plans and their execution, and evaluation of executed activities.

Patrizia Busato
Section 7 Chair

Seishi Ninomiya
Incoming President
Past Section 7 Chair

Fedro Zazueta
Secretary General
Past Section 7 Chair

February 20, 2021

New Process for the Creation and Publishing of CIGR Handbooks

CIGR Handbooks address specific areas of expertise and were compiled at different times to provide an overview of current science and technology at the time that they are written. Previous handbook proposal, development, production and delivery were treated in the past as a print publication. This resulted in issues regarding updating the materials in these handbooks as well as development of new ones.

The Presidium proposed to the CIGR Executive Board that Handbook updates and new handbooks be published as they are produced after appropriate peer review.

Under this new procedure, amendments to current outdated technical subject matter in a handbook will be subject to peer review and if

approved published immediately by electronic means in the CIGR web page.

In addition, prospectus for new handbooks, if approved, will be subject to the same procedure. Furthermore, reception of new chapter proposals for a new or existing handbook will be permanently open.

CALL FOR HANDBOOK CHAPTER PROPOSALS ON NON-FOOD AGRICULTURAL PRODUCTS

Non-Food Agricultural Products (CIGR Handbook VIII) is seeking chapter contributions from members. If interested, please contact Prof. Tadeusz Juliszewski and Prof. Pedro Zazueta at Secretarygeneral@cigr.org

Courtesy CIGR Membership Awarded to Student Organization, ALEIA

During the May meeting of the CIGR Executive Board it was decided to award the Asociación Latinoamericana y del Caribe de Estudiantes de Ingeniería Agrícola, ALEIA, (Latinamerican and the Caribbean Association of Agricultural Engineering Students) with a courtesy membership in CIGR.

ALEIA was introduced to Board Members by Esteban Escobar Ruiz on behalf of President Cristina Porras Zúñiga. ALEIA was founded in 2010 in Lima (Peru) because of common needs and opportunities for Latin American and the Caribbean students.

Amongst its main objectives is the creation of student organizations in every country where there are agricultural and biosystems engineering programs.

The governance of ALEIA consists of seven members of a general council, three prosecutors and a delegate of every country.

ALEIA's most important activity is the organization of an international student conference in different member countries. Conferences organized by the Student membership have taken place in Ecuador (Manabí, 2011); Venezuela (Trujillo, 2012); Colombia (Neiva, 2013); Ecuador (Manabí, 2014); Colombia (Medellin, 2015); México (Texcoco, 2016); Perú (Lambayeque, 2017); Colombia (Bogotá, 2018); México (Texcoco, 2019). Next Conference will be held in Costa Rica once the health emergency allows.

Other activities include field workshops and student networking opportunities in different countries. In addition, collaborating with agricultural and biosystems engineering societies to facilitate the participation on events organized by as well as membership in these societies.

AfroAgEng To Release Report on Agricultural Engineering in Africa

Agriculture is the mainstay in the economy of most countries in sub-Saharan Africa. With the majority of Africa's population dependent on agriculture-related activities for their livelihood, what happens in African agriculture will determine the future of food security in Africa and the world at large. However, African agriculture is characterized by very low productivity and, therefore, offers very limited opportunities for Africa's growing youth population. An analysis of contributing factors shows that Agricultural Engineering in Africa is a key driver for transforming agriculture to deliver food security and to support economic prosperity. In a report on "Agricultural Engineering in Africa: A Key Driver for Transforming Agriculture to Deliver Food Security and to Support Economic Prosperity" produced by the Pan African Society for Agricultural Engineering (PASAE/AfroAgEng), the role of Agricultural Engineering in developing, adapting and applying technology and thus providing critical input in the solution to many of the challenges facing the African continent is considered and highlights the vital role of Agricultural Engineers in contributing to delivering food and nutrition security.

In a unique collaboration, engineers and educationalist involved in agri-food systems from across the continent have come together to agree on a plan of action to improve this critical engineering and technology solution. The Report investigates the challenges facing Africa and highlights the contribution which Agricultural Engineers can make with a particular focus on "Agenda 2063: The Africa We Want" and the United Nations Sustainable Development Goals (SDGs).

INVITATION TO PUBLIC LAUNCH TUESDAY AUGUST 3, 2021.

You are invited to a Zoom meeting on August 3rd, 2021 at 12:00 PM, Johannesburg time (GMT+2)
Please register in advance for this meeting:

<https://ukzn.zoom.us/join/8tE91290xmJvfXvQ-aOKBck5W2>

After registering, you will receive a confirmation email containing information about joining the meeting.

The Report makes 25 recommendations under the broad areas of Raising the Profile of Agricultural Engineering, Reforming and Modernizing the Discipline, Growing the Profession, Creating New Opportunities, and Sustaining the Contribution.

Of great importance is the need to reform technical and academic education for Agricultural Engineering to make it better suited to sustainable agri-food systems, entrepreneurship, and the needs of employers. Added dimensions include the impacts of variable and changing climate and the environmental impact of agricultural production systems and the need for environmental regeneration and sustainability – subjects that resonates with many governments and is of great interest to the next generation of technologists. The Report will be launched publicly on Tuesday 3 August 2021. For more information e-mail event@pasae.org.za or contact Professor Jeff Smithers, e-mail: smithers@ukzn.ac.za. A copy of the Report can be downloaded from: <https://pasae.org.za/publications.html>

New CIGR Web Page



Remigio Berruto
President, CIGR
University of Turin
Italy

Dear CIGR members, I am pleased to announce a new edition of the CIGR website. The URL to access it is the same as before at <https://cigr.org>

With contributions from many of you, Secretary General Prof. Fedro Zazueta, and my collaborator Dr. Alessandro Sopegno, the site was redesigned and implemented using DRUPAL® CMS. On behalf of CIGR, I would like to convey my gratitude to Dr. Alessandro Sopegno for his efforts in making this possible and the time-consuming task of the manual transfer of content into the new website.

The most significant change is that we now have an adaptive website that allows us to dynamically update and change the content. The website has a navigation similar to the old website. More importantly, user accounts with different levels of

access can be granted, making it possible to have governance members update and maintain their own web pages. A flexible data structure is in place to manage membership and their roles as Technical Sections, Executive board, Working Group and Presidium members, to keep not only the status but the history of the association. The Content Management System allows contributions from several individuals to maintain current the web site.

The intent is to continuously update and improve the website. For this purpose, we need your help. We are looking for suggestions on how to improve it.

Ms. Francesca Sanna, Ph.D. from the University of Turin will serve as the webmaster. She will assist with updating content on the web site and can be contacted via the webmaster link in the CIGR web page.

The screenshot shows the CIGR website homepage. At the top left is the CIGR logo (a globe with 'CIGR' text) and the full name 'CIGR International Commission of Agricultural and Biosystems Engineering'. A search bar is located at the top right. On the left side, there is a 'NAVIGATION' menu with links: Home, Who We Are, Governance, Academy, News & Events, Resources, Contact/FAQ, and Add content. Below that is a 'USER MENU' with links: My account and Log out. The main content area features a 'WELCOME TO CIGR' heading, followed by the tagline 'A global network of ABE Societies'. A quote in a yellow box reads: "...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...". Below this, the 'The main aims of CIGR are to:' section lists several bullet points: stimulate science and technology development, encourage education and mobility, encourage interregional mobility, facilitate research exchange, represent the profession globally, work towards new associations, and perform other activities. A link 'Read the President's Message' is provided. On the right side, there are three widget boxes: 'LATEST NEWSLETTERS' (Newsletter N° 124, March, 2021, Download it (English), links 1 2 3 4 5), 'LATEST EVENTS' (XX CIGR World Congress: Sustainable Agricultural..., 1 year 5 months hence, Kyoto, Japan, links 1 2 3 4 5), and 'TECHNICAL SECTIONS' (Section I: Land and Water, image of a field, links 1 2 3 4 5 6 7).

BDS Widely Used in Agricultural Mechanization in China



Chen Zhi
Honorary President, CIGR
President, CAAMM
China

In recent years, with the large-scale promotion of China's BeiDou Navigation Satellite System (BDS) and the growing maturity of BDS ground receiving equipment, BDS is gradually replacing GPS in many industries in China. The application of BDS in the field of agriculture has developed from simply providing positioning information to combining satellite positioning with hydraulic control, sensor technology and tractor electronic control, to realize the whole process automation of agricultural operation.

Since 2013, some Sci-tech enterprises have combined the BDS with agricultural machinery, developed several BDS agricultural automatic navigation products, and realized the unmanned and precision operation functions of a variety of agricultural machinery, which are gradually

recognized and welcomed by farmers. Domestic agricultural machinery automatic navigation products based on BDS have occupied a dominant position in the market. In 2020, the market of automatic navigation equipment for agricultural machinery exploded, with the sales volume of 34028 sets, which is five times of that in 2019. The total sales of 2020 reached 1.739 billion yuan, an increase of 1.332 billion yuan over the same period last year.

At present, the large-scale application of BDS in the field of agricultural mechanization is not only used for automatic driving and navigation of agricultural machinery, but also used in many fields, such as agricultural machinery operation supervision, agricultural machinery management and scheduling, intelligent agriculture fine management and so on. Domestic BDS chips, modules and other key technologies have made great breakthroughs, and the performance indicators are equivalent to those of similar international products. With the increase of "BDS +" promotion examples and the advantages of BDS, the development of BDS industry in the agricultural mechanization area will be promoted extensively.

CIOSTA 2021 Held in Krakow



Karolina Trzyniec
CIOSTA 2021 President
University of Agriculture in
Krakow
Poland

The XXXIX International Conference CIOSTA and CIGR Section V, titled *Agricultural Systems Management in Times of Globalization* was held on June 28. Initially, it was planned to organize a presential conference in Krakow, Poland. However,



due to the pandemic, it was decided that the meeting would be held in a virtual form, on the MS Teams platform.

The main patronage of the conference was the University of Agriculture in Krakow, but the

conference was also promoted by the President of CIGR - Prof Remigio Berruto and the Chairs of the V technical section of CIGR - Dr Dionysis Bochtis and Dr Elisabeth Quendler.

The conference was attended by listeners and speakers from Poland, Austria, Italy, Germany, Switzerland, Portugal, Nigeria and Brazil. The

topics discussed in the papers were addressed to scientists, entrepreneurs, farmers, politicians, members and representatives of business associations and students.

The next CIOSTA 2023 conference will be held in Evora, Portugal, and its President will be Prof. Vasco Cruz from the University of Evora.

Modernizing the African Agri-Food System

A Business Case for Investment in Agri-Food System Technologies in Africa



Africa's population is expected to exceed 2 billion by 2050, nearly a 100% increase over the current level with up to 60% living in cities. It is estimated that the combined

spending power of Africa's top 18 cities could top \$1.3 trillion. While African agriculture employs as much as 70% of the labor force, it contributes an average of only 15% to the continent's GDP with only 10% of Africa's farms being mechanized. Given the potential for significant growth, agriculture can be the engine of Africa's economic transformation for the next 20 years or more.

The Modernizing African Agri-food System initiative (MAA) takes a holistic approach in exploring the adoption of modern technologies to accelerate improvements in the food value chain in Sub-Saharan Africa.

The Role of ASABE

The MAA initiative is a part of the ASABE global engagement initiative and is organized as E-2050/MAA.

Why ASABE: Agricultural engineers have played a significant role in transforming American agriculture from subsistence farming to the mega industry it is

Planning Committee: Ajit Srivastava (Co-Lead); Klein Ileleji (Co-Lead); Margaret Gitau (Co-Lead); Akindele Folarin Alonge; Kifle Gebremedhin; Kumar Mallikarjunan; Umezuruike Linus Opara; Michael Ngadi; Nicholas Kiggundu; Noble Banadda; Senorpe Asem-Hiablie



today. ASABE, representing the profession, is uniquely positioned, in partnership with sister societies, to play a pivotal role in modernizing African agriculture. The society provides consistent and reliable access to a network of professionals with

a wide range of expertise that can be harnessed in this effort. ASABE’s leadership in standards development, professional meetings, etc. will be especially valuable in the long-term success of the MAA initiative.

Alignment: The MAA initiative is well-aligned with ASABE’s goal to advance ASABE as the leading source of expertise in agricultural, food, and biological systems engineering (Goal 2). This initiative will also help position ASABE as the preferred engineering society for technical professionals in African agri-food systems (Goal 3) and, in general, raise the prominence of the profession in Africa and beyond (Goal 1).

Structure: The subcommittee will facilitate a variety of transformational activities towards modernizing the African agri-food system,

culminating in the establishment of a network of MAA Innovation Hubs in Sub-Saharan Africa. This outlook will necessitate engagement with stakeholders and partners outside ASABE and the U.S. and, thus, the structure that is needed for the success of the initiative is more complex than that of other ASABE committees. The proposed structure of E-2050/MAA is provided in the attached document.

Financial: Funding will be pursued from a variety of funding partners as identified in the Strategic Plan. The MAA funding model includes: 1) Planning (\$125K); 2) Recurring (\$250K/yr); 3) Project-based (case-by-case); and 4) Innovation Hub (50 M for 5 yrs) funding. Some of this funding will be retained by ASABE to offset administrative costs.

Timeline: This is a long-term initiative as outlined in the following activities and milestones chart.

2019

ASABE AIM, Boston, MA
MAA initiative discussed at ANGASABE
Planning committee formed

2020

Special Session at ASABE AIM
Made contacts and connections
Clearly defined MAA activities/outcomes

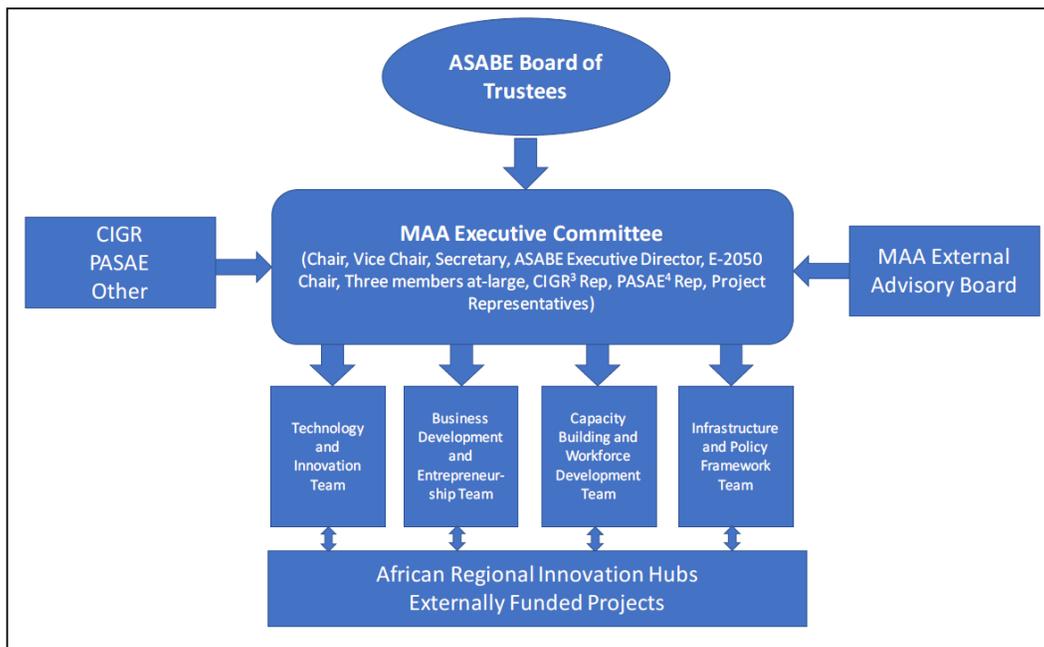
2021

ASABE AIM, Anaheim, CA
Day-long special events
Present strategic plan, identify stakeholders
Seek funding, engage partners

2023 +

Bi-annual event rotating in different countries in Africa
Continuous assessment, improvement of MAA Initiative

MAA Proposed Structure



MAA External Advisory Board:

The advisory board will serve to advise the executive team on the MAA strategic plan and the implementation of its initiatives. It will have 15 to 18 members consisting of leaders from industry,

government, and academic/research institutions each serving for a 2 to 3-year term. A current/outgoing member of ASABE BOT will be included on the MAA advisory board. MAA advisory board will include members residing in the various regions of

Sub-Saharan Africa. The advisory board will seek input from ASABE members, ASABE president, immediate past-president, and president elect, and ASABE BOT.

MAA Executive Committee: The executive committee will provide leadership of the MAA effort by setting goals, developing strategy, ensuring that the appropriate human and capital resources are invested to execute the project, and keeping MAA efforts aligned with ASABE strategic plan. Upon the formation of the executive team, the planning committee would be dissolved. The executive team will consist of a *Chair, Vice Chair, Secretary, three members-at-large, PASAE Rep, ASABE rep to CIGR, ASABE Executive Director, E-2050 Chair, and project representatives* (Project Directors as per current MAA project initiatives). At least one person from the chair, vice-chair and secretary on the executive team must be from industry and familiar with African agriculture, and at least two members must be persons engaged in efforts in Sub-Saharan Africa.

Innovation Hub Leadership: This would be based on the agreement discussed with various funding

partners. The Executive Team of E-2050/MAA will provide leadership in concept ideation, operations, and partnerships. The hubs will be encouraged to have a local advisory board, which will advise the management team of the hub.

Leadership of Project Based Funding:

The structure would be based on the traditional competitive grant structures for managing projects, which would consist of a project director (PD) or principal investigator (PI); co-PIs; staff; and students as required by the project. The project-based funding

Join us during the virtual ASABE International Meeting (AIM) for a special session on Modernizing the African Agri-Food System.

For information and registration for AIM please go to: <https://www.asabemeetings.org/>

would have an advisory board and an executive team, with the advisory board reporting to the executive team. Members to a project-based advisory board could be added based on project and funding requirements.

Positions Available



Assistant Professor position at McGill University - Bioresource Engineering in **Sustainable Food Systems**

Engineering. Research focus on food/bioprocess, nutrition, sustainable production of food, and energy/economic models. To further understanding of food value chains and optimize food supply chains particularly in resource-limited settings of developing countries across Africa and/or Caribbean.

https://mcgill.wd3.myworkdayjobs.com/en-US/mcgill_careers/job/MacdonaldStewart-Bld/Assistant-Professor_JR0000012114



Full Professorship (W3) for **Digital Bioeconomy & Lead of new department “Data Science”** at University of Potsdam & Leibniz Institute for

Agricultural Engineering and Bioeconomy.

Interested in data science and machine learning? Would you like to work with an interdisciplinary team on bioeconomy and sustainable agriculture? We invite applications for a joint professorship at:

https://www.uni-potsdam.de/fileadmin/projects/verwaltung/docs/Dezernat3/Ausschreibungen/1_Professuren/W3_Digital_Bioeconomy_ATB_eng.pdf

Upcoming Conferences

EurAgEng Conference. 4-8 July 2021. Evora, Portugal.



<https://ageng2020.com/>

In consideration of the current situation regarding the Covid-19 outbreak, the AgEng2020 Organizing Committee and the EurAgEng society

decided to postpone AgEng2020 that will become AgEng2021! The new date is 4 to 8 July 2021. Save the date! Take care and stay safe!

As you all know AgEng2020 is now the AgEng2021, scheduled for 4 to 8 July. It was our goal to organize AgEng2021 in the University of Évora and in the beautiful city of Évora! However, due to the COVID-19 pandemic, that is expected to still have a big impact on travelling during 2021, we had to accept that it will not be possible and so **AgEng2021** will be an **ONLINE conference**.

The **ONLINE conference** will include invited speakers, oral and poster presentations, special sessions, workshops, industry exhibition and real time discussions. Oral presentations will be pre-recorded, with our technical assistance, and will be available via live-streaming. In each session, following the presentations, we will have a period in real time for questions, answers and discussion.

The pandemic situation brought to all of us into an unusual, unexpected situation, that changed our lives, showed the importance of health systems, but also the science, the technology and the agriculture. As agricultural engineers, scientists, technicians, academics and industry it is our obligation to not stop and to contribute to improve food and feed production systems as also the distribution channels in sustainable and safety conditions. We are doing our best to

organize a very interesting conference where the participants will be able to exchange knowledge, ideas, and to present innovations and to discuss the state of the art and future perspectives for agricultural engineering as a motor for the sustainable future of agriculture. More than ever the AgEng2021 conference focus on **New Challenges for Agricultural Engineering towards a Digital World** makes all the sense and it is a great pleasure to host this conference and we want to invite all of you to participate.

Due to the situation and format modification, we decided to slightly reduce the registration fees. This reduction combined with no-costs for traveling and accommodation make the attendance of the **AgEng2021 ONLINE conference** a great opportunity! We are looking forward to connect with delegates from Europe and from all over the world.

We hope to digitally see you all during the next conference of the European Society for Agricultural Engineers.

Take care and stay safe!

The AgEng2020 Organizing Committee.

DOWNLOAD/VIEW PROGRAM



ASABE 2021 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.

ASABE 2021 Highlights

- Networking Opportunities
- More than 1,000 Technical and Poster Presentations
- Professional Development Sessions
- Specialty Sessions which include invited speakers, panel discussions and round-table discussions

- Technical and Cultural Tours
- Professional Development Hours/Credits
- Career Fair

Presenting Author Registration Deadline
May 18

[Click here](#) to register

Take a look at what the [AIM Program](#) has to offer this year!



26 al 30 Julio

EJES TEMÁTICOS

- Biotecnología
- Ambientes controlados
- Economía y administración agrícola
- Geo-informática en la agricultura
- Manejo integral del agua
- Maquinaria y mecanización agrícola
- Energías renovables
- Mitigación y adaptación del cambio climático
- Agricultura de precisión
- Poscosecha
- Uso y conservación de suelos

XI CLEIA
Costa Rica 2021

POSTULE SU PONENCIA
Fecha límite recepción de documento extenso:
1 DE NOVIEMBRE DEL 2020

Información:
info.xicleia@gmail.com

ORGANIZA



AUSPICIA



Tecnológico de Costa Rica



UNIVERSIDAD DE COSTA RICA



CIEMI
Colegio de Ingenieros Electricistas, Mecánicos e Industriales

www.facebook.com/XICLEIA2021/



We are pleased to announce the call for abstracts for participating in the VI International Conference on Safety, Health and Welfare in Agriculture and Agro-food Systems " SHWA 2021".

The 5th International Conference on “Safety, Health and Welfare in Agriculture and Agro-food Systems - RAGUSA SHWA 2021”, jointly organised with CIGR section V – System management and ergonomics, is postponed to 15th–18th September 2021, and will be held in Sicily, Italy. If the pandemic remains an issue, **the conference will be online**, adjusting the conference fee.

RAGUSA SHWA regards various environment and areas of interest as Greenhouse, Open Field, Orchard, Vineyard, Forestry, Landscape, Livestock, Building, Private and Public Green Areas, Irrigation and Sewage Treatment and everything you can think about SHWA.

Topics of the conference are the following:

- Assistive Technologies
- WMSDs - Work related to Musculo-Skeletal Disorders
- Machine Milking, Animal Welfare, Sustainable livestock farming
- Work Organisation, Logistic in agro-food supply – chains

- Instrumentation, Equipment, Periodic Procedures and Tests
- Safety Health and Welfare in Building
- Agriculture 4.0, Automation, Remote Control, Robot and Innovative Vehicle
- Noise, vibration, dust, endotoxin, microorganism
- Occupational Health
- Impacts of crops and livestock productions
- Precision farming and traceability
- Effect of landscapes on human health and welfare
- Environment Safety, People Health Protection and Welfare
- ROPS and Stability Research
- 15 SHWA & Augmented reality, Gamification, IoT
- 16 Cyber security: Big data, Trust computing protocols, Blockchain systems
- 17 Food Safety

RAGUSA SHWA encourages Authors to submit papers concerning all areas connected with SHW in Agriculture and Agri-food Systems, including animal welfare, with particular attention to integrated and interdisciplinary aspects. Paper will be published on Book of abstracts, and **accepted papers in the “Proceedings SPRINGER book” (indexed in SCOPUS) with ISBN number. Submit your abstract – the deadline is postponed to February 28, 2021.**

For the latest news visit the International Conference Ragusa SHWA 2021 website: <http://www.ragusashwa.it/2021>. You could also send an email: info@ragusashwa.it

International Exposition of Machinery for Agriculture and Gardening, 19-23 October 2021, Bologna, Italy.



A GREAT EIMA, AS USUAL

EIMA International is the International Exposition of Machinery for Agriculture and Gardening, a biennial event created in 1969 by FederUnacoma, the Italian Agricultural Machinery Manufacturers Federation, and organized by the federation's service division, FederUnacoma Surl, in collaboration with BolognaFiere. The Covid-19 emergency has defined a new economic and social geography with global restrictions. The international trade show calendar

The Digital Preview (EDP)

November 11/15, 2020

The Event

October 19/23, 2021 **New Date**

has been completely revised and many events have been cancelled or postponed. EIMA International also had to revise its schedule by moving the Bologna exhibition to February 2021 and planning an important and detailed digital preview of the event for November 2020. In 2022, EIMA will return to its traditional November rendezvous.

<https://www.eima.it/en/index.php>

XI CONGRESO IBÉRICO DE AGROINGENIERÍA XI CONGRESSO IBÉRICO DE AGROENGENHARIA

11 Y 12 DE NOVIEMBRE 2021

VIRTUAL



Los mejores trabajos serán publicados en el Special Issue de las revistas indexadas:



applied sciences



agronomy



sensors

ORGANIZADO POR:



Más información:

www.agroing2021.com
agroing2021@uva.es
(+34) 979 108 360

Sustainable Energy for Sustainable Future. 16-19 May 2022. San Jose, Costa Rica.



An ASABE Global Initiative Conference

Sustainable Energy for a Sustainable Future

May 16-19, 2022 • San Jose, Costa Rica



This conference was postponed to May 16-22, 2022. The planned venue for the meeting is the Intercontinental Hotel, Escazu, San Jose, Costa Rica. Details of the conference are available at <https://energy.asabe.org/>

Program Highlights

- Novel renewable energy production technologies
- Distributed renewable energy production systems and their economic feasibility security and food security linkages
 - Regional energy solutions and their impacts on global climate change
 - Regulation and policy for regional and global energy security

XX CIGR World Congress. 5-9 December 2022. Kyoto, Japan.



The XX CIGR World Congress 2022



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>.