



# International Commission of Agricultural and Biosystems Engineering

## Newsletter 124

March 2021

*"...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..."*

### International CIGR Conference

May 10-14, 2021

Register at <http://www.cigr2020.ca/en/>

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## Message from the CIGR President



Remigio Berruto  
President, CIGR  
University of Turin  
Italy

Agricultural and biosystems engineering is my passion and is the essence of my professional academic life. It was over 30 years ago when I started to work at the University of Turin (Italy). Over this time CIGR played an important role in my knowledge, professional network, and my education. Through the years, this network of colleagues developed into long term friendships. It was through the confidence and support of the members, and the people currently in the Presidium, that I became a Member of CIGR section V (2010-2014), the chair of CIGR Section V (2014-2018), and was elected as Incoming President of CIGR (2019-2024).

Population, even if is not growing at the expected rate, demands a new lifestyle and more products available on the market. There are drivers and challenges that can be an opportunity or a threat to Agriculture and biosystems, such as greening of products, climate change, food safety, reuse of wastes and by-products, increased use of digital technologies and social media, supply chain globalisation, to cite some.

In addition, this past year we faced something unexpected, the COVID Pandemic, that threatens our lifestyle and our lives too. Some of us experienced it and sadly, some of our colleagues were lost to the virus. We also learned during this period about the resilience of agriculture and the agri-food supply chain, that provided a steady flow of food through the globe. Beside its many negative aspects, there are also opportunities driven by the current pandemic.

First, online education took on an unexpected importance. This points to the need for a strategy to adapt learning materials to online/blended training

for all, including farmers and students. Not all universities and training centers were prepared to change to online activities over a short period of time. Also, the outreach and extension materials were in many cases not adequate or easily adaptable to online delivery. As a result, education programs for agricultural producers and access to advisory services were reduced. This recent experience has brought to forefront that blended learning is very important to the future of our society, and that we need to find ways that engage and satisfy the needs of learners.

To respond to the challenge of engaging stakeholders in online learning we need new tools and materials to create and support effective learning environments beyond those available now. The effort to develop new materials requires greater investment and attention. We need to put in place strategies and systems that allow remote training of farmers, advisors, and students in a way that unexpected events don't hinder the uptake of scientific information and training, which are essential for today and tomorrow's world. We will promote a work group on education, to tackle these issues.

Second, "work smart" trends allowed us to save a great amount of time in travel. However, for this to be effective we require ICT infrastructure and high-performance networks. We need to promote the development of this infrastructure in remote areas to allow people to benefit of this type of work.

Third, the pandemic affected conferences, including those related to agricultural engineering and biosystems. Some events were turned online, and some will be in the future, with less costs for participants, and difficulties for the organizers. I hope in the future to see events that will be organized in a way to allow both participation in presence and online, with different costs and targets. The online opportunity will allow people with time, budget, and traveling constraints to participate in events that can be opened to all the interested stakeholders. The challenge will be to provide a positive conference experience for all types of conveners, especially

without loss of the benefits adjudicated to face to face meetings.

The current situation requires new knowledge, skills, and business models that result in a profitable agriculture. These are articulated unambiguously in the Global Initiative of ASABE in which CIGR has participated as a partner for several years, organizing joint workshops and scientific conferences.

To benefit from advancements in science and technology we need four pillars: innovation, education, entrepreneurship, and communication. There are gaps not covered in agriculture and biosystems in these domains.

For innovation, we must assess the real impact (besides volume of peer reviewed papers), of our professional activity in terms of beneficial outcomes to society. We need not only research and development, but also knowledge transfer and adoption mechanisms at a global scale. Time-savings, money-savings are potentially large, and it could result in transfer and a to local conditions of something proven to be successful elsewhere. More importantly, it would further improve the quality of life of all stakeholders. This not only relates to technology but also business models, strategies, knowledge, and works for both research and education.

Too often we forgot that for innovation to be beneficial it requires education and entrepreneurship. It is common that farmers rely on technology salespersons to acquire information about the technology itself. This approach presents some obvious risks. It is thus important to educate stakeholders on the use of a specific technology/innovation objectively. To achieve this, there is an important role for flexible and blended education that addresses technology, and the necessary skills for entrepreneurs so they can apply business models that derive benefits from the innovation. Moreover, we need to engage all players involved in agricultural outreach in all educational efforts.

With regards to communications, we must consider some other opportunities, such as those related to social media existence. Misinformation (fake news), especially in agriculture, if not managed can destroy years of work dedicated to achieving consensus and building trust among agriculture and consumers. Agriculture and biosystems are in need an improved online reputation. We must preempt the problems facing our stakeholders. This requires unbiased and opportune communication with stakeholders, agencies as national and international level.

In the past two years I participated in the CIGR Presidium. Efforts were made to provide an updated situation on activities, memberships, and conferences. A regularly published quarterly newsletter is now received by about 18,000 members through the world, and the website was redesigned. In addition to history, governance and other content, the website includes updated information on members, conferences, and other activities. You are welcome to send events, news, and other items you feel are of interest of the CIGR members to add to the newsletter.

Engineering also needs young professionals. For this reason, we will continue to formalize the participation of young-professionals and students that are the future of our society.

During my time in the Presidium, I will focus on making CIGR stronger, through work on services, website, newsletter, networking, and by establishing new WGs. I wish to thank particularly Prof. Emeritus Fedro Zazueta, actual CIGR Secretary-General. CIGR relies on people, and I think that all of us fortunate to have committed individuals to bring CIGR forward as a world class organization of agriculture and biosystems.

Thank you everyone, for your continued support to make CIGR a global institution in the agricultural biosystems engineering world.

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## Prof. Zhi Chen Honored for his Leadership and Contributions to CIGR



Zhi Chen  
President  
China Association of  
Agricultural Machinery  
Manufacturers (CAAMM)  
China

Dr. Chen was conferred the title of **Honorary CIGR President** in recognition of his service and leadership to the profession, and for his service and leadership as President and Past President of CIGR. This honor is reserved as an accolade to individuals that provided outstanding service as a member of the CIGR Presidium. In addition, Prof. Chen was inducted as a **Fellow of iAABE**.

Dr. Chen is the President of China Association of Agricultural Machinery Manufacturers (CAAMM). He also serves as the Professor of China Agricultural University, Jilin University and Jiangsu University, and the Executive Editor in Chief of Transactions of The Chinese Society of

Agricultural Machinery now. Prior to his current appointment, He served as the President of Chinese Academy of Agricultural Mechanization Sciences (CAAMS), President of Chinese Society of Agricultural Machinery (CSAM) and Vice President of Asian Association of Agricultural Engineering (AAAE).

Dr. Chen has long been engaged in the research of corn harvester and potato processing technology. He has deep knowledge in the research of digitalization design of agricultural machinery, harvesting machinery working parts structure and power transmission system. By many of his achievements was widely applied, Dr. Chen is a well-known expert in the field of agricultural engineering S&T in China. He obtained more than 20 authorized patents as well as publishing 13 books and more than 70 papers. He supervised over 40 Ph.D. and Master students. He served as one of the main organizers of the 2004 CIGR International Conference and 2014 CIGR World Congress, both of which were held in Beijing, China, Dr. Chen made a great effort to promote the CIGR work in China and was honored with CIGR Award in 2004.

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## 2020 Class of iAABE Fellows



The International Academy of Agricultural and Biosystems Engineering identifies and recognizes individuals distinguished for their scientific and professional contributions to the profession. This includes fostering international cooperation and exchange of

information, promoting agricultural and biosystems engineering and other sciences and technology of importance for this area, and stimulating international education and training in agricultural and biosystems engineering.

As a learned society, the Academy is composed of elected Fellows from all parts of the world. Elected Fellows are agricultural and biosystems engineers, who have made exceptional contributions in research, education, and industry for advancing agricultural and biosystems engineering. Nominations for each new fellow are made by the CIGR Presidium, the iAABE Executive Council, and existing Fellows. New Fellows are elected by existing Fellows. No more than 20 Fellows are elected every two years. The Academy is a source of scientific personnel and information to support international activities related to agricultural and biosystems engineering.

**The 2020 Class of Elected iAABE Fellows are:**



Yong He  
College of Biosystems  
Engineering & Food Science  
Zhejiang University  
China

Prof. Yong He is a distinguished and leading expert in precision agriculture. He has published over 20 books, 400 journal papers and 140 patents. He was selected as the 2016-2018 Highly Cited Researchers (Clarivate Analytics). He is the key expert of China National 863 Modern Agriculture.

Prof. He as a leading expert in precision agriculture in China, has long been committed to applying information technology to improve the development of intelligent agricultural machinery and agricultural information, and promote the sustainable development of agriculture. He has made several important innovative contributions in multi-scale agricultural information acquisition and management, early detection technology and equipment of crop diseases and insect pests,

agricultural internet-of-things, agricultural UAV and plant phenotyping. His work has been widely recognized in more than 20 provinces and cities in China, which helped to train over 10000 agricultural technicians and applied in more than 1 million acres farmlands. It achieved remarkable economic, social, and ecological benefits. Through cooperation with universities in the United States, Japan, the United Kingdom, Ireland and other countries, his excellent work has greatly contributed to the development of international agricultural biosystem disciplines, engineering technology and equipment. Yong He is also the Director of Agricultural Information Technology Institute of Zhejiang University, Executive Vice Director of Digital Agriculture and Rural Area Informatization Research Centre of Zhejiang University, Ministry of Agriculture Academic leaders of national key disciplines, one of the key experts of "12 Five-Year", National 863 Modern Agriculture "Digital agriculture technology and equipment", chief expert of 863 Project, National "Hundred, Thousand, and Ten-Thousand" Talent, the Ten Outstanding Youth of the fourth Zhejiang Province, and Zhejiang Province outstanding youth fund. He was selected as one of the "Highly Cited Researchers" in agricultural science by Clarivate Analytics for 2016-2018 with "H index" of 50. He hosted the National High-tech R&D Program (863), the National Natural Science Foundation of China (NSFC), National Key Technology Research and Development Program of the Ministry of Science and Technology of China and more than 50 provincial and ministerial level of key scientific research projects. He has published more than 400 papers, SCI included more than 300 articles, 9 of which were selected as most cited agricultural science papers in ESI for the recent 10 years. He has published more than 20 books, selected as the chief editor of textbooks for the national fifteen and 11th Five-Year plan and granted over 140 invention patents and more than 30 software copyrights. He was the first winner of the first youth science and technology award of Chinese Society of Agricultural Engineering. He is the chief editor of Computers and Electronics in Agriculture and Journal of Agriculture and Food Research. He is the executive director of the Institute of Asian international Precision Agriculture. He serves as the member of International Society of Agricultural Engineering (CIGR) the sixth branch, and members

of CIGR, IEEE, ASAE, ADSA. His "Precision Agriculture" course was awarded as National Excellent Course and National Resource Public Course.



Rudolph Michalek  
University of Agriculture in  
Cracow  
Poland

Prof. Rudolf Michalek distinguished himself as one of the most influential individuals in the organization and development of agricultural and biosystem engineering in Poland. He is a member of the Polish Academy of Sciences and Doctor Honoris Causa of the 6 Polish Universities. He is author of over 600 publications, including 220 original scientific papers, textbooks, and other scientific work. Prof. Michalek served as Chairman of the Agricultural Technology Committee of the Polish Academy of Sciences and the Polish Society of Agricultural Engineering.

Prof. Michalek participated and contributed to agricultural and biosystems engineering in the field of science and practical applications both in technical and organizational domains starting after the Second World War and continuing to this day.

During his lifetime manpower and draft horses were replaced by tractors and machines in Poland. He was instrumental in establishing collaborative arrangements between government, universities, and industry to introduce technologies that increased work efficiency. At the same time, he was an influential driver of engineering education to create a competent workforce that could introduce change and provide services. Prof. Michalek, contributed as a researcher at the Agricultural University and an expert of the Ministry of Science and the Ministry of Agriculture, whose work in agriculture and engineering has cast a long shadow,

punctuated by numerous important contributions to the profession and its impact on society.

He was one of the initiators of introducing changes in mechanization services in agriculture after the political changes that took place in Poland after 1990.

He is widely regarded as the top expert in in the field of agricultural engineering research and education in Poland.



Claus Grøn Sørensen  
Department of Engineering  
Faculty of Technical  
Sciences  
University of Aarhus  
Denmark

Prof. Claus Sørensen is an outstanding senior scientist with over thirty years of experience in research, education and outreach in production and operations management, and information technology in Agricultural Engineering/Biosystems Engineering. He made numerous contributions, including breakthrough research in operations analysis and optimization, research advancement for public service consultancy, improvement of educational outcomes, and leadership to organizations, peers, and students to advance engineering.

Prof Sørensen conducted breakthrough research on operations analysis and optimisation (including high-level planning and control of autonomous systems), embedded intelligence, and design and development of management information and decision support systems in multiple research projects collaborating with national/international partners and high-tech industry (multinational companies like Claas,

AGCO, JohnDeere, CNH, and SME's like AgroIntelli, Conpleks, Applicate IT, FieldSense. Involved in EU PPP (Public-Private-Partnerships) mentoring start-ups, incubators, and other innovative SMEs. As examples, industry collaboration that led to the marketing of tools like optimised route planning systems (Claas, AgroIntelli), optimized harvesting systems (AGCO), and operational task simulator (SEGES). New modelling methods facilitating the data acquisition and data processing enabling the modelling of enhanced systems are introduced. This includes interactive operations models, dynamic route and logistic optimization and the introduction of probabilistic modelling into the domain and drawing on principles from the field of Artificial Intelligence and decision analysis. The latter involve the linking of advanced information/technology with high-level control of automation and smart processes moving current state-of-the-art autonomy level towards smarter systems (e.g. Smart Farming).

Prof. Sørensen advanced research and public service anchored in the operations research disciplines and working together with different engineering disciplines (e.g. signal processing, computer software) as well as biological/agronomic disciplines (e.g. agro-ecology, animal welfare) for addressing assignments like precision farming technologies (e.g. spraying, fertilising), technology assessments (e.g. technologies for organic farming), IT-tools (e.g. mapping of fields for operational planning). Specialised assignments have included animal friendly harvesting methods, logistics of green biomasses, energy consumption in arable farming, etc.

Prof. Sørensen improved educational outcomes by providing the scientific advancement and basis for educational course development (e.g. supply chain management, operations management, system engineering), training and supervision of master students, post-docs/researchers, and PhD students.

Prof. Sørensen collaborated and provided leadership to organizations, peers, and student to advance engineering. He has extensive experience from coaching, supervision, and motivational

efforts when working with individual students and fellow researchers. Proficient at staying organized and on top of important deadlines. He has comprehensive experience in research management and team management gained as head of an Operations Management unit, as well as in national and international project management in roles as partner and coordinator. He promoted international research and networking relations and knowledge exchange. He served as a member of international professional bodies, scientific committees and organizing committees of international conferences such as EurAgEng, CIGR, and others.



Ajit Srivastava  
Department of Biosystems  
and Agricultural Engineering  
Michigan State University  
USA

Prof. Ajit Srivastava's career is highlighted by effective teaching, translational research, dedicated service, and transformational leadership. Prof. Srivastava's research program has resulted in several innovations. His service to ASABE has led to the development of a blueprint for ASABE global engagement and a series of global conferences. He provided transformational leadership as department chair at MSU.

He is the lead author of a textbook entitled, "Engineering Principles of Agricultural Machines" published by ASABE, St. Joseph, MI (5). For his teaching he was awarded the Withrow Excellence in Teaching award by the MSU College of Engineering in 1996.

Prof. Srivastava's research program encompasses machinery systems for agricultural production and food processing. His doctoral research on centrifugal grain-straw separation led to

the development of rotary combines. This concept revolutionized combine design and significantly added to the capacity of combine operations. He has two U.S. patents. His multi-state research project has resulted in the development of a non-destructive method for determining apple firmness for better quality control of fresh market apples. His project was given the USDA CSREES Group Honor Award for Excellence in the Northeast Multistate Project, NE 179 in 2003. Throughout his career Prof. Srivastava has received over \$30MM in grants as PI or Co-PI. He has published/presented over 60 technical papers in his career.

In addition to serving and chairing multiple departments, college, and university committee during his 40+ year career at Michigan State University, he has served and chaired several technical committees within ASABE as well as a member of the Board of Trustees of the ASABE Foundation. Most notably, he served as the Chair of an ad hoc Global Engagement Taskforce that led to developing a white paper, “Global Partnerships for Global Solutions” which has become a blueprint for ASBE global engagement. These efforts have resulted in creating an executive level committee, E-2050: Global Engagement Committee and a series of global conferences global food (2016), water (2018) and energy (2021) conferences. Prof. Srivastava served as the chair of the organizing committee of the global energy security conference. He is presently serving as the co-chair of the global energy security conference. Prof. Srivastava, working with ASABE leadership, has been instrumental in helping create global engagement as a clear focus of the ASABE to engage and energize sister societies to address global challenges.

Prof Srivastava has provided transformational leadership as department chair for over 18 years (1997-2015). During his tenure as department chair he created new BS, MS, and PhD degree program in Biosystems Engineering (BE) with concentrations in food engineering, ecosystems engineering, bioenergy systems engineering and biomedical engineering, replacing the old agricultural engineering major. The enrolment in the new program tripled with nearly 100% job placement with highly competitive salaries. The department name also was changed to Biosystems and

Agricultural Engineering. Prof. Srivastava also hired 18 new faculty members resulting in significantly increased research productivity of the department. The department ranking significantly improved during his leadership – MSU BAE UG program is ranked #7 and the graduate program #11 nationally.



Yibin Ying  
College of Biosystems  
Engineering & Food  
Science, Zhejiang University  
China

Prof. Yibin Ying made outstanding contributions and provided leadership in advancing agricultural sensing technology and equipment for quality and safety evaluation of agricultural products, founding Biosystems Engineering discipline and curriculum, enhancing agricultural and biosystems engineering education in China, and promoting international collaboration between CIGR and Chinese CSAE, CSAM, and universities.

Dr. Ying’s research is outstanding. He has published more than 292 peer-reviewed articles. His articles have been highly cited with an H index of 49 (*Web of Science Core Collection*). He has been granted 73 patents. In 2016, Dr. Ying’s team transferred 20 core patents on the “Intelligent detection and classification technology and equipment for spherical fruit and vegetable quality” valued at RMB 20 million. He was selected as a Member of European Academy of Sciences and Arts in 2018.

Dr. Ying has obtained approximately US\$14 million as lead PI from national competitive programs, provincial government, and the industry to support his research projects. He received the

Second Prize of the National Award for Technological Invention in 2008 and First Prize of Award for Technological Invention from Ministry of Education, China, in 2018, respectively. He and his co-investigators also worked on technology transfer with industry and successfully commercialized the first large-scale fruit sorting and inspection processing equipment in China.

Dr. Ying is passionate on education and has promoted the development of Agricultural and Biosystems Engineering discipline in China. He worked tirelessly to identify national and international issues of importance to agricultural and biosystems engineering. His team established the first undergraduate program in Biosystems Engineering in China in 2001. This effort has resulted in the First Prize of National Teaching Achievement Award in 2009. Dr. Ying's team also established the first doctoral program in Biosystems Engineering in China in 2002 and developed a model of multi-disciplinary and comprehensive training for graduate students. This effort won the First Prize of National Teaching Achievement Award in 2014. Dr. Ying's team developed the course "Robotics for bioproduction systems" in 2001 to systematically introduce the developments of bioproduction robotics nationally and internationally. This effort has resulted in the Second Prize of National Teaching Achievement Award in 2018.

Dr. Ying provided outstanding leadership to serve professional societies. He served as Vice President of CSAE, Vice President of CSAM, Director of the International Exchange Working Committee of the CSAE, and an Executive Member of Technical Section VII of CIGR. He has consistently served in these professional capacities for over two decades. He established key academic connections between CIGR and Chinese CSAE, CSAM, and universities. He successfully promoted international collaborations among institutions, that resulted in international opportunities for students and enhanced the global stature of CIGR.

Dr. Ying continues to play a key administrative leadership role in two universities in China. He has served as Vice President of Zhejiang University (among the Top 3 universities in China,

and President of Zhejiang A&F University. Under his leadership, both universities have experienced substantial growth. He has made significant contributions to the higher education in China.



Xiwen Luo  
Key Laboratory of the  
Ministry of Education of  
China for Key Technologies  
for Agricultural Machinery  
and Equipment for Southern  
China, South China  
Agricultural University  
China

Academician Xiwen Luo is amongst the most senior and respected professionals in China. He is a most distinguished contributor to the agricultural and biosystems profession nationally and internationally. His impact on the development of agricultural machinery resulted in significant rice production improvements that contributed to food security in China and other countries.

Prof. Luo served in high level positions in higher education in addition to providing leadership to research institutions and the profession. Starting in 1982 he served as a Professor, Dean of the College of Engineering, and Vice-president at the South China Agricultural University. In 2009 he was elected as the Academician of the Chinese Academy of Engineering, an honor reserved for few individuals that made outstanding contributions in their field. In addition to his academic work, he served in the governance of numerous professional associations as member of the board of directors, Vice-president, and President, including CSAE and CSAM. Prof. Luo received many awards and recognitions for his research and teaching programs.

Amongst his most important contributions is the development of technology and equipment for precision direct seeding of rice. He was the first in successfully conducting research and development on rice precision drill direct seeding technology and

equipment in China. Amongst important innovations is the rice precision drill direct seeding technology of "three synchronization". Fifteen different types of machines were developed for rice precision drill direct seeding in paddy fields and dry land were successfully developed using his research. These were promoted and applied in 26 provinces in China and 7 counties of Thailand. The maximum yield reached 16048.5kg/ha, the technology and machines are leading the direction of China's precision rice precision drill direct seeding. This work was recognized by receiving the second prize of the National Technology Invention Award in 2017.

A second area where Prof. Luo made important contributions is that of agricultural machinery navigation and auto operation. He was the first in China to successfully research, develop and implement navigation technology for agricultural machinery. This work produced key breakthrough technologies for agricultural machinery navigation and automatic operation that resulted in innovative achievements of precise positioning, navigation control and automatic operation. In addition, he developed a successful navigation system and an automatic operation system that is applicable to the machines for cultivation, planting, management and harvesting in dry land and paddy fields. The system has been adopted and applied in 7 provinces in China. This work was recognized by being awarded the first prize of the China Machinery Industry Federation in 2019.

A third area where important contributions were made by Prof. Luo is that of technology and equipment for farmland precision levelling. Prof. Luo developed technology and equipment for farmland precise levelling widely used in China. Based on laser and satellite signals, the synchronous control of the elevation and level of the flat shovel was realized. This work resulted in the development of precision levelers for paddy field and dry land. Levelling machines have been widely adopted in 20 provinces in China. This work was recognized by the Chinese Agricultural Science and Technology Award in 2008.

In addition, Prof. Luo made important contributions in agricultural aviation technology. He has made considerable progress in the areas of using agricultural UAV to acquire agricultural information, spray pesticide and herbicide, sow rice, assist the hybrid rice pollination, and other activities. Prof. Luo led the establishment of China Agricultural Aviation Science and Technology Innovation Strategic Alliance and made important contributions to the advancement of agricultural aviation technology in China.



Quin Zhang  
Center for Precision and  
Automated Agricultural  
Systems  
Washington State  
University  
USA

Prof Quin Zhang conducted outstanding research and development on automation, robotic, and power technologies for machines used to produce horticultural and agricultural crops, and for building international networks of agricultural machinery engineers through which knowledge is shared and transferred worldwide.

Prof. Zhang is one of the world's top experts on robotics and automation in crop production machinery. His published research has transformed the field, especially for fruit crops. He has made other significant contributions to various aspects of crop production machinery, including alternative fuels. These achievements are documented in six books, eleven book chapters, eleven U.S. patents, and very many journal, conference, and invited publications and presentations. This includes seventy-eight peer-reviewed journal articles in the last ten years. His over 10,000 Google Scholar citations are increasing at a rate of over 1000 annually. His achievements have also been widely recognized by professional leaders and societies,

such as by being named the sole 2017 recipient of the John Deere Gold Medal from ASABE. Dr. Zhang is a Fellow of ASABE and a full member of the Club of Bologna.

Prof. Zhang is also well-known for his exemplary teaching and advising of undergraduate and postgraduate students, postdoctoral researchers, and young faculty. He has guided successful students at the University of Illinois and Washington State University and has co-advised Ph.D. students at China Agricultural University and Zhejiang University. Through his technical and managerial leadership of the faculty, students, and staff of the Center for Precision and Automated Agricultural System (CPAAS) at Washington State University, he has built it into the leading such center in the United States. His help extends beyond his university as he has shown leadership in being an editor-in-chief of *Computers and Electronics in Agriculture*, a member of the editorial board of *Information Processing in Agriculture*, and guest editor of the Springer *Agricultural Automation* book

Prof. Zhang is one of the most internationally engaged engineers in the agricultural machinery area. He served two full terms as Chair of Section III of CIGR. He was a co-organizer and co-leader of Section III's Next Leader programs which brought worldwide public sector machinery experts together for events in Germany and the United States. He is an active participant in the Club of Bologna and the agricultural aspects of IFAC

(International Federation of Automatic Control). In the last five years he has given invited talks in Asia, Europe, Latin America, North America, and Oceania.



Zhi Chen  
President of China  
Association of Agricultural  
Machinery Manufacturers  
China

Prof. Zhi Chen is being inducted into iAABE for outstanding contributions to the international promotion of agricultural and biosystems engineering and for his leadership to CIGR as a member of the CIGR Presidium. During his tenure Prof. Chen promoted collaboration amongst agricultural and biological engineering institutions and professionals worldwide.

Prof. Chen was recently recognized as an Honorary President of CIGR. Please refer to the article above in this newsletter to peruse some of his many contributions to the profession.

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## Prof. Seishi Ninomiya Elected as CIGR Incoming President



Prof. Seishi Ninomiya  
University of Tokyo  
Japan

Prof. Seishi Ninomiya has a sustained record of contributions to CIGR spanning the past 20 years. He was conferred the title of Honorary CIGR Vice-president in 2018. He has a continuous record of participation in CIGR Governance having served as a member and Chair of Technical Section VII, Technical Sections Chair, and CIGR Executive Board Member. As a result, Prof. Ninomiya is thoroughly familiar with the inner workings of the CIGR mission, governance, resources, and operations.

Prof. Ninomiya demonstrated strong leadership capabilities during his tenure in the CIGR Governance. As a member of the Executive Board, he participated in the direction of CIGR. Under his leadership Section VII developed a strategic plan that furthered the use of IT in agriculture and the CIGR Mission. During his tenure, section VII co-organized world and international conferences on the subject.

Prof. Ninomiya participated in numerous technical events organized by CIGR in roles such as speaker, session chair, and organization and scientific committee member.

Prof. Ninomiya, as a member of CIGR, represented the profession in outstanding ways. He is a founding member of the Asian Federation of IT in Agriculture, and the International Network of IT in Agriculture, responsible for organizing the World Conference of IT in Agriculture. He held the position of President and Chair respectively, in both organizations. Also, he is an Honorary President of

the Japanese Society of Agricultural Informatics and an Honorary President Asian Federation of IT in Agriculture.

### Results of 2020 Election<sup>1</sup>

Total Number of Possible Votes	143	
Votes in favor	102	71.33%
Votes against	0	0.00%
Abstentions	0	0.00%
No reply	33	23.08%
Undeliverable	8	5.59%
		100.00%

Prof. Ninomiya led a successful and productive career in his field of expertise, as is evidenced by his academic and research activity. He is a respected professional in the field of IT in agriculture and is considered by many to be a pioneer in the field.

Prof. Ninomiya has received honors and awards for his contributions to agriculture. He is a Fellow of the Japan Association of the International Commission of Agricultural and Biosystems Engineering; a Fellow of the Japanese Society of Agricultural Informatics; and was granted the title of Emeritus Researcher by the Rural Development Administration of the Republic of Korea 2000. In addition, he has received awards for his contributions to agriculture in Asia and the quality of his research.

The election of Prof. Ninomiya follows the CIGR statutes requiring that there be broad geographical representation in the elected presidents.

<sup>1</sup>Two candidates were nominated. However, the second candidate failed to meet the requirements of the nomination on time.

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## CIGR Journal Management System Update

After April 20th the CIGR Journal will be undergoing a major upgrade to the underlying Journal Management System (Open Journal System). This upgrade will provide major enhancements and improvements to the user interface and workflow of the journal.

Those involved in the management of the journal or that are interested in the changes please review the following resources to learn more about OJS 3 in preparation for the upgrade:

- A [short video](#) about the differences between OJS 2 and OJS 3.
- “[Editorial Workflow](#)” video tutorials in the PKP School.
- [Learning OJS 3](#) user guide.

Further information will be provided to those in the role of section editors and reviewers.

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## 48<sup>th</sup>ATAE Proceedings available for Download



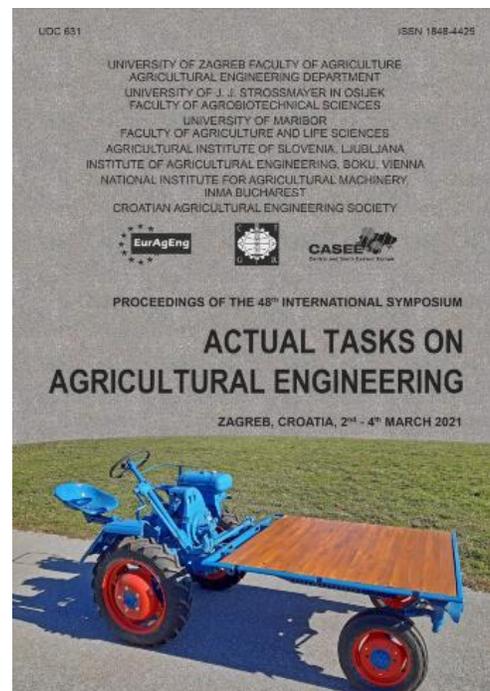
Igor Kovačev  
ATAEE Proceedings Editor  
Croatia

Download available at:

[http://atae.agr.hr/48th\\_ATAE\\_proceedings.pdf](http://atae.agr.hr/48th_ATAE_proceedings.pdf)

The 48th edition of Actual Tasks on Agricultural Engineering is unique in the long tradition of this Symposium. Due to the worldwide Corona pandemic, this year's symposium was organized exclusively online. This deprived it of an important component, because in addition to the scientific aspect, such gatherings provide an opportunity to establish contacts with researchers from different scientific fields, as well as to make friends. From the very beginning, in the early 70s of the last century, the ATAEE symposium focused on actual and future trends in the development of agricultural engineering in the function of increasing the quality and efficiency of agricultural

production. Thus, the main theme of this year's symposium, Agriculture 4.0, focuses on new technologies brought by informatization and automation in all branches of Agricultural and Biosystems engineering. It is the modern technologies that enable us to work in these difficult and restrictive times. We the hope that this online format will meet the criteria of the scientific community that gathers around the ATAEE



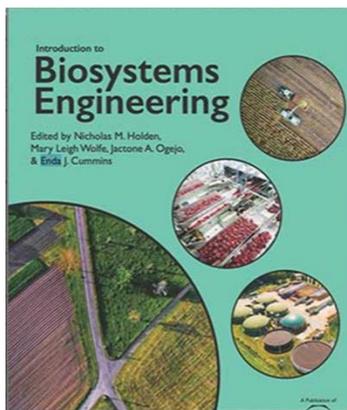
symposium. And for the quality of the content of the Proceedings, the authors of 56 papers from 10 countries are acknowledged, including: Bulgaria 1, Croatia 10, Czech Republic 1, Germany 11, Italy 2, Lithuania 3, Romania 17, Serbia 3, Slovenia 7, and Thailand 1. The scientific importance of the ATAE symposium is assessed by the fact that papers from the Proceedings have been indexed since 1997 into databases: Clarivate Analytics: Web of Science Core Collection - Conference Proceedings Citation Index and CAB International - Agricultural Engineering Abstracts. I would like to thank all authors, reviewers and especially the members of the Organizing and Scientific Committees for their

efforts in making this conference possible. A special gratitude for the support we express to the international professional associations, CIGR (International Commission of Agricultural and Biosystems Engineering) and EurAgEng (European Society for Agricultural Engineers), as well as the other co-organizers of the symposium. I hope that at the next ATAE symposium in 2023, we will gather again in person and make a toast with a glass of wine from the cellars of the Faculty of Agriculture in Zagreb.

*(from the Preface of the 48th ATAE Proceedings)*

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## Biosystems Engineering Open-Access Textbook Now Available From ASABE



The new Introduction to Biosystems Engineering textbook is now available online or as a print edition. This open-access text is targeted at first- and second-year university-level students and is available for

download as individual chapters or, including EPUB format. You may also propose a new chapter or contribute to updates.

ASABE is pleased to announce the launch, with Virginia Tech Publishing, Introduction to Biosystems Engineering, an open textbook for university-level introductory courses in biosystems engineering.

Written by an international team of authors, [Introduction to Biosystems Engineering](#) is

released under a Creative Commons Attribution license (CC BY) and is available both in print and online. The online version is freely downloadable either as a complete work or as stand-alone chapters. In addition, a parallel resource in development, The Biosystems Engineering [Digital Library](#) (BEDL), will provide more teaching and learning resources instructors can use in the classroom.

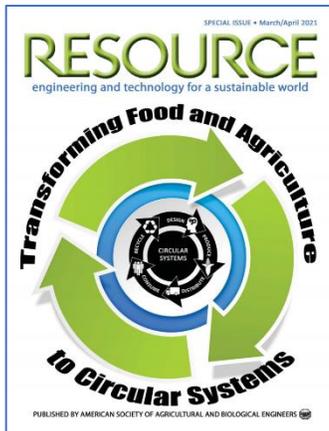
The project received support from ASABE's Initiative Fund and Harold Pinches and Glenn Schwab Teaching Materials Fund, as well as from the editorial contributions of ASABE members across the globe. The organizational structure of the textbook follows the ASABE structure, with chapters based on the scope of ASABE's technical communities.

See <https://www.asabe.org/BEdetails>

*(Article from Inside ASABE - Member News for February 2021)*

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## ASABE Circular Economies Initiative, the Focus of New Resource Magazine



The March/April issue of ASABE's Resource magazine is now available online, with a special focus on circular economies.

To meet the world's growing demand for food, given the reality of climate change and resource depletion, we

must do more than increase production. We must re-imagine our production systems. The new issue of Resource introduces a newly established society priority, transforming food and agriculture to circular systems, to which the Board of Trustees has committed resources and is recruiting partners.

This extra-length special issue explores the transition from traditional linear production to efficient circular production, and it presents the findings of an expert ASABE Roundtable on how to achieve circularity in open-field production, controlled-environment production, and livestock production.

You are encouraged to join the discussion, #getinvolved, and add your expertise to this bold new initiative as it develops. Watch for news on special sessions at the 2021 annual meeting, a special collection to be published in Transactions of the ASABE, and more.

*(Article from Inside ASABE - Member News for February 2021)*

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## Last Reminder: CIGR 5th CIGR International Conference



### Prof. Stephane Goodbout

Chair, CIGR 5<sup>th</sup> International Conference  
IRDA, Canada

**For detailed program information please go to:**  
<https://cigr2020.ca/en/program/general-program>

Come join us this May 11 through 14 in this virtual conference! Registration is now open!

CSBE is very excited to host the CIGR International meeting and the professional meetings of CSBE, INFITA's WCCA, EMILI and the 9<sup>th</sup> International Symposium on Cement Based Materials for a Sustainable Agriculture.

With the help of many of our peers and staff we have assembled an excellent program that includes:

**Keynote Addresses** by six experts and leaders in the profession.

**Technical Program** including presentations by professionals and experts in the field. Join in reviewing the latest research and developments in agricultural and biological engineering.

**Expert Panel Discussions** by experts in the field on current topics, including:

- Rural Development and the Preservation of Cultural Heritages (CIGR working group 11)
- Issues of the cannabis industry in Quebec

**Special Sessions** on:

- Biogas in Agriculture
- Hydrological Modelling: A Tool for Resilient and Sustainable Agriculture
- Biochar in Agriculture: Engineering and Environmental Prospects

In addition to the technical program the following **Workshops** will be offered to participants:

- Using StaldVent Software for Ventilation Design, Troubleshooting, and Energy-Use Modeling for Livestock Barns

- Applications of Machine Learning techniques in Agricultural Engineering
- QSWAT Beginner’s Workshop
- Cannabis: science, processing, and product development

**Awards and Recognition Program** of outstanding professionals. Join us in recognizing the outstanding work of our members:

- CSBE awards
- CIGR Awards
- iAABE Awards
- Armand Blanc Prize

**Professional meetings** held in conjunction with CIGR:

- CSBE Annual General Meeting
- World Congress on Computers in Agriculture and Natural Resources, INFITA
- 4th international Symposium on Gas Emissions and Dust from Livestock (EMILI)
- 9th International Symposium on Cement Based Materials for a Sustainable Agriculture

**Virtual tours on:**

- Farm Buildings
- Agri-food
- Machinery and biochar

For detailed information please go to:

<https://cigr2020.ca/en/program/general-program>

## Online Security: Phishing attempts directed at CIGR members

Recently it was brought to the Presidium's attention that CIGR members are targets of phishing scams. These are attempted via email using legitimate email addresses from members.

Phishing is a scam where criminals impersonate legitimate individuals or organizations via email, text message, advertisement, or other means with an aim to steal sensitive information. This is often done by including a link that takes the victim to a legitimate looking, but fake, company's website to fill in personal information – However, the information provided goes straight to the criminals behind the scam.

“The term “phishing” is a spin on the word fishing, because criminals are dangling a fake “lure” (the legitimate-looking email, website or ad) hoping users will “bite” by providing the information the criminals have requested – such as credit card

numbers, account numbers, passwords, usernames or other valuable information.”

Phishing by email is often used by criminals as emails are easy to obtain and spoof. Usually, these emails come from what appears to be a legitimate email (spoofed) and appeals to the target by creating some sense of urgency.

To avoid phishing scams make it your policy not to provide personal information via internet, phone, or any other means unless you have initiated the communication to a trusted source. Be distrustful. Phishing attempts can look very legitimate.

Resources:

<https://www.ftc.gov/news-events/media-resources/identity-theft-and-data-security/phishing-scams>

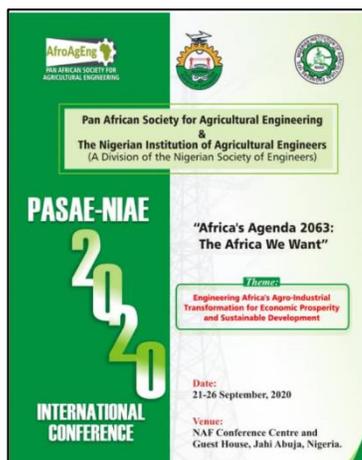
<https://www.webroot.com/us/en/resources/tips-articles/what-is-phishing>

## Upcoming CIGR Conferences

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Virtual PASAE-NIAE 2021, April 20-21. Abuja, Nigeria.

### **THE JOINT VIRTUAL INTERNATIONAL CONFERENCE OF THE PAN AFRICAN SOCIETY FOR AGRICULTURAL ENGINEERING (PASAE) AND NIGERIAN INSTITUTION OF AGRICULTURAL ENGINEERS (NIAE), WILL BE HELD FROM APRIL 20-21, 2021.**



We pleased to inform you that the joint International conference of the Pan African Society for Agricultural Engineering (PASAE) and the Nigerian Institution of Agricultural Engineers' (NIAE) will now hold from April 20-21, 2021, having been postponed from the original date of

September 21-26, 2020 on account of the COVID-19 Pandemic. The Conference **Theme is "Engineering Africa's Agro-Industrial Transformation for Economic Prosperity and Sustainable Development"**

**Dr Akinwumi Adesina**, President of the African Development Bank (AfDB) will give the Conference Keynote at the opening on 20<sup>th</sup> April. This will be followed by the AfDB-supported Special Plenary Session on Special Agro-Industrial Processing Zones (SAPZ) in Africa. This is part of the Bank's High-5 Goals of "Powering and lighting up Africa, Feeding Africa,

Industrializing Africa, Integrating Africa and overall, Improving the quality of life of Africans". These goals are in tandem with the theme of the conference.

There will also be a Special Plenary Session on the **African Continental Free Trade Agreement (AfCFTA)** on 21<sup>st</sup> April, at which the President of the AFREXIM Bank, Prof. Benedict Oramah, will make some remarks.

The PASAE-NIAE 2021 (2020) International Conference aims to harness an emerging global movement for Africa's renaissance through knowledge and practice-driven agriculture and agriculture-led industrialization. Africa's potentials in human, agricultural and natural resources are huge but underexploited and underutilized. The conference thus aims to contribute to the goals of attaining a vibrant, productive, and industrial Africa with thriving intra-continental trade and markets.

Conference participants shall include civil servants, captains of industries, students, lecturers from tertiary institutions, private investors/equipment fabricators and other stakeholders in the agricultural sector within and outside the shores of Africa.

**For registration and program details see:**

<https://pasae-niae2020conference.com/>

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5th CIGR International Conference, 10-14 May 2021. Quebec, Canada

5<sup>th</sup> CIGR International Conference 2021  
May 11-14, 2021, Virtual  
**INTEGRATING AGRICULTURE  
AND SOCIETY  
THROUGH ENGINEERING**



The  
CIGR2020  
conference  
will be held

from May 10-14, 2021. 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 the latest information and news please visit

<http://www.cigr2020.ca/en/>

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ASABE Global Sustainable Energy for Sustainable Future. 17-20 May 2021. San Jose, Costa Rica.

The conference will enable cross-disciplinary dialogues among multi-national scientists, engineers, business owners, and government agents to discuss regional renewable energy innovations and solutions.

Key themes of the conference:

- Novel renewable energy production technologies

- Distributed renewable energy production systems and their economic feasibility
- Energy security and food security
- Regional energy solutions and global climate change
- Regulation and policy for regional and global energy security

Details of the conference will be available at <https://asabe.org/Events>

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European Federation of IT in Agriculture Web Conference, 25-26 May.



**Prof. Claus Grøn Sørensen**  
EFITA Conference Chairman

The European Federation for Information Technology in Agriculture, Food, and the Environment (EFITA) would like to invite you at the first EFITA International online Conference in 2021. To keep the momentum and engagement of our society, while maintaining the plans for the

2022 physical EFITA conference, this conference and its format are planned as a response to the unpredictable situation created by the COVID-19. This event is an opportunity to bring together engineers, scientists, technicians, academics, and industry people in a new way to exchange knowledge, ideas, to present innovations and to discuss the state-of-the-art and future use of ICT in the agri-food sector and bio-resources production sectors. Important dates:

- 01.11.2020 Opening of online registration
- 10.11.2020 Deadline for abstract submission
- 10.02.2021 Deadline for early bird registration
- 28.04.2021 Deadline for e-poster submission
- 17.05.2021 Conference program announcement
- 25.05.2021 Starting date of conference
- 26.05.2021 Ending date of conference
- 20.06.2021 Deadline for full paper submission

For more and updated information see: <https://efita2021.com>

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**Agricultural systems management in times of globalization**



**Dr Karolina Trzyniec**  
CIOSTA 2021 President

We are pleased to remind that the XXXIX CIOSTA / CIGR V conference “Agricultural systems management in times of globalization”, will take place in just a few months (June 21-22, 2021). As we mentioned in the newsletter N° 122,

the conference will be held via the Internet. We intend to organize this meeting using the ZOOM communication platform.

All information about the registration method (including the online registration form), instructions for using the ZOOM platform and later - the conference program, can be found on the website: <https://ciosta2021.urk.edu.pl> (access from the second half of January 2021).

We also inform you that the conference will be free of charge. The cost of publishing a chapter in a monograph will be around 70 €.

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EurAgEng Conference. 4-8 July 2021. Evora, Portugal (Submission deadline Extended).



<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 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.

This event is an opportunity to bring together engineers, scientists, technicians, academics and industry people to exchange knowledge, ideas, 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.

Évora is a beautiful city, classified by UNESCO as World Heritage, located in the Alentejo region, essentially a rural landscape, with extensive plains where cereals, vineyards, olive



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

groves and cork trees (montado system) are predominant.

The gastronomic offer of this region is excellent and diverse, the wine a must, and people are extremely friendly and known by their hospitality.

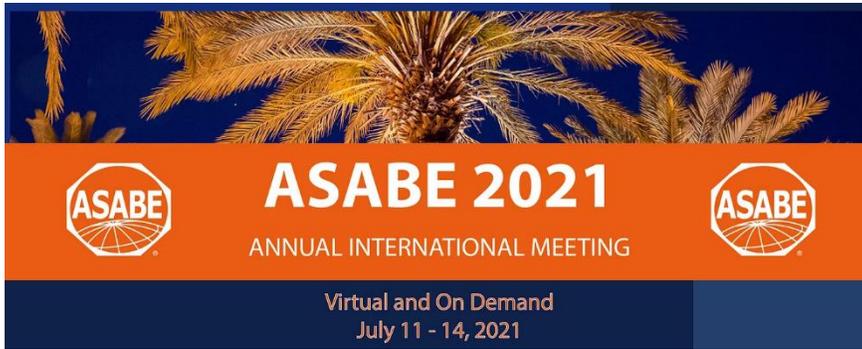
We believe that you will make the most of your stay in Évora, from the scientific sessions to the technical, cultural and touristic programs that we are preparing for you.

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

*The AgEng2020 Organizing Committee.*

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## ASABE 2021 Annual International Meeting



**ASABE 2021  
Annual International Meeting  
July 11 - 14, 2021  
Virtual and On Demand  
#ASABE21**

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

Mark Your Calendars to Take Advantage of the Early Registration Discount!

Early Bird Registration  
Opens Soon – May 3

General Registration  
May 4 – June 10

[Click here](#) to register



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



Colegio de Ingeniería Electrónica, Mecánica e Industriales

[www.facebook.com/XICLEIA2021/](http://www.facebook.com/XICLEIA2021/)



We are pleased to announce that the VI International Conference on **Safety, Health and Welfare in Agriculture and Agri-food Systems**" SHWA 2021" will be held online from 15<sup>th</sup>–18<sup>th</sup> September 2021.

The conference fee is 100 EUR for participant (no papers presented), 150 EUR for presenter (up to 2 papers), with additional 50 EUR for 3<sup>rd</sup> paper.

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, jointly organised with CIGR section V – System management and ergonomics, 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
- SHWA & Augmented reality, Gamification, IoT
- Cyber security: Big data, Trust computing protocols, Blockchain systems
- 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 July 10, 2021.**

For the latest news visit the International Conference Ragusa SHWA 2021 website: <http://www.ragusashwa.it/2021>. You can also send an email: [info@ragusashwa.it](mailto:info@ragusashwa.it)

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



The Digital Preview (EDP)

November 11/15, 2020

The Event

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

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

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>

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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



## The XX CIGR World Congress 2022

[HOME](#) [COMMITTEES](#) [ORGANIZATION](#) [REGISTRATION & ACCOMMODATION](#) [GENERAL INFORMATION](#)

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

**December 5 (Mon)-9 (Fri), 2022**

Venue: **Kyoto International Conference Center, Japan**

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

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