



Real
Academia
de Ingeniería

CAETS
MADRID 2017
NOVEMBER 14 - 15

OPENING SESSION

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President CAETS &
Royal Academy of Engineering of Spain

The International Council of Academies of Engineering and Technological Sciences (CAETS), is a global network of 26 national engineering academies. CAETS is an independent, non-governmental international organization of engineering and technological sciences academies, with one member academy per country.

CAETS is prepared to advise governments and international organizations on technical and policy issues related to its areas of expertise. It provides an international forum for discussion and communication of engineering issues of common concern, and it establishes more effective partnerships among member academies.

Also, CAETS foster cooperative international engineering and technological efforts through meaningful contacts for development of programs of bilateral and multilateral interest, and it encourages improvement of engineering education and practice internationally. Finally, CAETS assists in the establishment of additional engineering academies in countries where none exist.

Each year, the CAETS conference brings together national engineering academies from across the globe. Last year, the Royal Academy of Engineering of the United Kingdom who organized the last CAETS convocation, proposed the motto: Engineering a Better World, which fits very well the goals of our Conference today. The focus this year is on the Bioeconomy, a concept which integrates all sectors of the economy that are based on Biology, as it will be discussed in the opening talk.

The huge scientific and technical advances made in recent decades in the field of Biology have paved the way to innumerable new opportunities for innovation and for improvement of the quality of life. Here, the role of engineering is as crucial as it has been in the past for the successful applications of new knowledge coming from the physical sciences.

This Conference starts with a session on an essential pillar of the Bioeconomy: the food sector, a sector of very high importance to the Spanish economy. We are addressing food security because past successes in food production to meet global needs, do not



guarantee the production and equitable distribution of sufficient, nutritious food in the future. We look forward to hear new ideas about food in the future, and on how to meet the challenge of supplying sufficient healthy and safe food for a growing and diverse world population in a sustainable and resilient fashion.

The second session will present new genetic engineering techniques that offer vast possibilities for adapting organisms to variable environments, rendering them resistant to diseases, increasing product yields, modifying product composition, and establishing new processes and products for many applications in all sectors of the Bioeconomy.

The new opportunities offered by the exploitation of the water bodies around the planet are now called the Blue Bioeconomy which will be the subject of the third session of today. There, given that most major wild fisheries are already fully exploited, overfished or exhausted, new options must be developed to meet demand. The many challenges to the sustainable future of many ocean zones require a concerted action by governments and society at large.

Finally, young professionals who met yesterday to discuss issues of the first two sessions, will debate with some of speakers of those two sessions.

Climate change not only threatens the terrestrial and aquatic ecosystems that will be discussed today but is a major driver of the shift towards the development of renewable energy systems in many world areas. Energy is the subject matter of the fourth session tomorrow, where it will be shown that renewable energy will improve energy independence of many countries, with important strategic implications for the current energy industry and for society.

Innovation is at the roots of all engineering and this is why we are ending the conference with a last session focused on exploring new models to promote innovation and to analyze the role of engineering in the whole innovation process.

Engineers are the people with creativity, skills, inventiveness, and persistence that went on to develop solutions that changed the world. When I graduated many years ago, I felt proud to belong to the body of Spanish engineers who excelled in improving the quality of life on this land during very difficult times. By turning many dreams into reality, Spanish engineering transformed this country and was highly prestigious in our society until recently. It is our duty to ensure that the future generations of engineers reach the same level of excellence in their work to deserve equal recognition by our society in the future.



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CAETS aims to contribute to the strengthening of engineering and technological activities that promote sustainable economic growth and social welfare throughout the world; I hope that in this convocation we will work towards building a stronger CAETS network, thus supporting the growth of institutions and academies globally.

Thank you

Madrid, November 14th 2017