



5th World Engineering Conference and Convention

November 29th - December 2nd, 2015

Kyoto Declaration

The participants at the 5th World Engineering Conference and Convention (WECC) on “Engineering: Innovation and Society”, held in Kyoto, Japan, from November 29th to December 2nd, 2015, discussed the current state, future, and expected innovations of the various fields of engineering in regard to the problems facing the world and humanity, and the relationship between these problems and society.

Major topics of discussion were devoted to: Resilient Infrastructure for Society; Energy for a Sustainable Society; Natural Resources for a Sustainable Society; Urban Development and Infrastructure; Mobility and Communication Technology; Industry for Society; Life Innovation; Engineering for Society and Engineering in Society; and Engineering Education and Women and Youth in Engineering.

As a result of the deliberations and discussions held at this 5th WECC the following Declaration was issued.

DECLARATION

1. Substantial technological improvements as well as sound, evidence based policies are needed to assure access to fresh and safe drinking water, energy, sanitation and waste management, communications, shelter, and transport services in communities.
2. By exchanging and applying scientific knowledge, engineering creativity and practice, and up-to-date technology, engineers are able to substantially introduce sustainable solutions into most areas of activity that contribute to a society’s quality life.
3. Engineering is the activity of utilizing the output of science and technology to create safe and prosperous lives for humanity. Engineers must, not only work for the advancement of specialist knowledge in the areas of science, technology, and engineering, but they must also take into account societal concerns.
4. Those engaged in engineering must achieve engineering innovation appropriate to the characteristics of each region and country for the development of food production and industry, in order to solve the problems of poverty and famine.
5. Engineers must not only work for the improvement of food, energy, and industry in order to address the rising global population, but must also contribute to the development of a better life for the people living in a globally aging society expected to occur in the near future.
6. The emission of greenhouse gases such as carbon dioxide is accelerating global warming. Climate change causes effects such as drought, heavy rains, extreme cold, and extreme heat throughout the world, which in turn affects the survival of plants and

animals and has a major impact on food production. Engineering must intensely apply its proficiency to reduce carbon dioxide emissions in numerous fields including development of diversified energy sources, power generation technology, energy usage technology, and energy conservation technology.

7. In order to mitigate the effects of natural disasters, that create problems in the water environment and in food production, Engineering has to implement measures to protect infrastructure with the most resilient technologies.
8. The contamination of the atmosphere, water, and soil has a severe effect on the lives and livelihoods of humanity. Engineering must promote innovations to assure the quality of the air, of drinkable water, and of clean soil.
9. Engineering education is important for enabling people to make good use of up-to-date scientific knowledge and engineering means and processes to advance the state-of-the-art technology to improve the quality of life of citizens of a given region. Engineering education must be introduced into every area of society, as for example "Engineering Liberal Arts", and included at each educational stage in schools.
10. The entry of women, who comprise roughly half of the population, into the realm of engineering is essential for assuring the availability of sufficient engineering professionals to take charge of economic development through implementation of feasible engineering projects. The number of opportunities in engineering education for women must be increased.
11. Engineers as members of society must carry out their work providing for the enhancement of the life conditions of society, focusing their activities on the creation of a prosperous and safe society.
12. There is a need to develop through engineering a sustainable society that leverages both science and technology.

We urge the world's leaders to accept this opportunity to engage the World Engineering Community as a full partner in addressing the complex challenges as we evolve toward a sustainable planet.

The World Engineering Community is ready, willing and able to contribute its expertise, creativity and dedication to achieve the elements of this Declaration.

December 2nd, 2015

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