

Preface

At present, the COVID-19 pandemic is still unstable. Due to COVID-19 pandemic across the world, almost all countries have travel restrictions. Most countries are still fighting the COVID-19 pandemic, so the technical committee decided to switch the 2021 12th International Conference on Environmental Science and Development (ICESD 2021) to a virtual conference. We used Zoom application which makes virtual format conference come true.

The virtual conference 2021 12th International Conference on Environmental Science and Development (ICESD 2021) dates were March 26-28, 2021. There were more than 60 participants in virtual format conference who come from China, Thailand, South Korea, Philippines, Japan, Latvia, Perú, Serbia, Singapore, Portugal, Saudi Arabia, Russia, Turkey, Czech, Indonesia, Lebanon, United States, Sri Lanka, Bulgaria, etc. ICESD 2021 was supported by the Hong Kong Chemical, Biological & Environmental Engineering Society (HKCBEES) and the Environment and Agriculture Society (EAS).

ICESD 2021 is dedicated to issues related to Environmental Science and Development, which provides a scientific platform for international scientists, engineers and technologists who work in all aspects of Environmental Science and Development.

Internationally known experts from several countries were also invited to deliver keynote speeches at ICESD 2021. Each keynote speech contained 35 Minutes of Presentation and 5 Minutes of Question and Answer. The first keynote speaker was Prof. Yongping Li from Beijing Normal University, China with speech entitled “Synergetic Management of Energy-water Nexus under Multiple Uncertainties”; The second keynote speaker was Prof. James T. Anderson from West Virginia University, USA, with speech entitled “If We Build it, Will They Come? Wetland Mitigation in the Built Environment for Promotion of Wildlife Diversity”; The third keynote speaker was Prof. Hee-Je Kim from Pusan National University, South Korea with speech entitled “Solar Power Generation and ESS (Energy Storage System) Applications”.

Each regular oral presenter had about 12 Minutes of Presentation and 3 Minutes of Question and Answer. There were eight sub-sessions with different topics: UNDP Specialty Symposium on Energy, Water and Environment; Environmental Systems Analysis I; Environmental Systems Analysis II; Renewable Energy Development; Advances in Environmental Technologies I, Sustainable Regional Development I, Advances in Environmental Technologies II, Sustainable Regional Development II.

This volume of the proceedings presents a selection of papers submitted to the conference. ICESD 2021 received 46 full paper submissions and only 26 full papers were accepted to be included in this conference proceedings. All papers were subjected to peer-review by conference committee members and international reviewers. The papers were selected based on the criteria of high quality and relevance to the conference theme. We envision that the volume will provide an opportunity for readers to engage with a selection of refereed papers that were presented during the ICESD 2021 conference.

Virtual format conference can also provide ideal platform for people to share views and experiences in Environmental Science and Development. All participants enjoyed the virtual conference and it was highly successful.

We also express our sincere gratitude to the organizing committee, keynote speakers, session chairs, all participants and the volunteers who had dedicated their time and efforts in planning, promoting, organizing and helping the conference.

Conference Chair

Prof. James T. Anderson

West Virginia University, USA