

EDITORIAL

Recent Development in Hydro Science

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Hydro Science (HS) is a branch of science associated with engineering and technologies in hydraulics, hydrology, and water management. Its development is closely linked to the progress of human being civilization. Traditional HS has made a significant contribution to human living standard and health. The water treatment and supplying system and the city sewage system enabled people to have clean water to drink and have their wastewater removed. In addition, the irrigation hydraulic structures like channels and dams increased the product of agriculture to eliminate starvation in the world. In agriculture, understanding soil moisture and nutrient through hydraulic and hydrology research is crucial to develop strategies for product improvement^[1].

The industrial revolution has transformed the sociology from traditional, agrarian into urban and industrial society. The role of HS expanded accordingly. The most significant change is the increase development of hydropower technologies. The kinetic energy of water, which has been used in the form of water wheels for centuries before BC, was utilised to generate hydropower in modern society. Hydropower as a type of clean energy has made

significant contribution to mitigate climate change^[2]. Research communities in maritime engineering are currently exploring the technology for harvesting energy from ocean waves, which would be a great contribution to the goal Net Zero greenhouse gas emissions target by 2050^[3].

The scope of HS also covers the science and engineering projects in ocean, especially on aquaculture, offshore oil and gas and offshore renewable energy. In terms of energy, the focus of offshore HS shifted from fossil fuel exploration and extraction to renewable energy (wind, tidal and waves) harvesting from ocean^[4]. Consider that 70% of earth's surface is covered by ocean, HS research on maritime will continuously play an important role in humankind evolution.

HS also involves the research on the protection of human lives and infrastructures from natural disasters, including floods, droughts, hurricanes, tsunamis etc^[5]. Without advanced HS, it is impossible to establish accurate disaster warning systems, and design and construct effective infrastructures such as riverbanks, seawalls, breakwaters, irrigation systems, and so on, to withstand natural disasters. With the help of development of the

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communication system and computer power, HS reduces the loss caused by natural disaster significantly.

HS plays an important role in sustainable development globally. The United Nation's 17 Sustainable Development Goals (SDGs) urge all countries to form a global partnership to tackle sustainable development issues. Among these issues, water, energy, oceans must be solved through HS and engineering.

Great number of scientists and engineers are working at the frontier of HS and Hydro Science & Marine Engineering provides an excellent platform for the publication of most updated research outcomes. The Journal focuses on innovative research methods at all stages and is committed to providing theoretical and practical experience for all those who are involved in HS.

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