



Department of
Mechanical Engineering
The University of Hong Kong



SEMINAR

Single-ion polymer based hygroelectric energy generator for sustainable electric power generation

- Date:** 21 April, 2023 (Friday)
Time: 11:00 a.m.
Venue: Room 7-34, Haking Wong Building, HKU
- Speaker:** Mr. Eunjong Kim (PhD candidate)
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Abstract:

The deterioration of electronic gadgets' performances in humid environments is inevitable because usual external energy suppliers such as batteries are vulnerable to high humidity. Thus, hygroelectric generator is one of the outstanding candidates not only to overcome this mortal trouble but also to produce electrical power with infinite resources, which is moisture, and without pollution. The driving force of the device is a potential gradient induced by absorbing water molecules in air and simultaneously moving ionized free-charge carriers in electrolytes. However, hygroelectric generators have been still challenged in feasibility because of low electrical output and short energy generation duration. Therefore, in recent research progress, I first focused on these two key points for the real applicability of a fabricated generator. To further improve the electrical performance of the generator, two kinds of electrodes with large potential differences were used. In addition, to surmount the short operating time of the film-type devices, a gel-type one was fabricated, and its activation time was dramatically enhanced by at least a few hrs.

ALL INTERESTED ARE WELCOME

For further information, please contact Dr. D.M. Shin at 3917 8061.