

**HIGH PERFORMANCE THERMOELECTRIC POLYMERS BY ENERGY FILTERING****By Guan Xin****Date: 13 September 2019 (Friday)****Time: 4 pm to 7 pm****Venue: EA-02-15****Abstract**

Thermoelectric (TE) materials are important for sustainable development because they can be used to directly convert heat into electricity. Compared with inorganic TE materials, polymers have advantages of low cost, high abundance, high mechanical flexibility and low or no toxicity. However, the Seebeck coefficient of polymers are much lower than their inorganic counterparts. In this work, the Seebeck coefficient of poly(3,4-ethylenedioxythiophene): poly(styrenesulfonate) (PEDOT:PSS) can be enhanced by energy filtering induced by the internal effect between PEDOT:PSS and the second materials, such as 2D materials, polyelectrolytes and polar molecules. These works open a new avenue for the development of high-performance thermoelectric polymers.

**Speaker Guan Xin****Biography**

Miss Guan Xin is currently a Ph.D. student in Materials Science and Engineering under A/P Ouyang Jianyong. She received the Bachelor's and Master's degree from National University of Defense Technology, China. Her research interest is focused on the thermoelectric polymers.