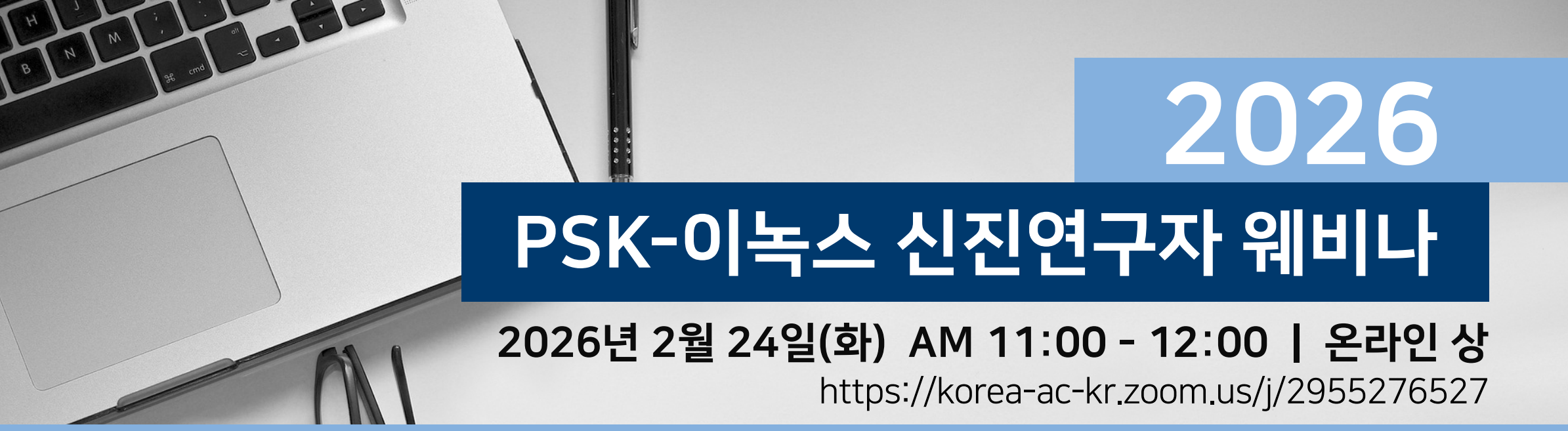

2026 PSK-이녹스 신진연구자 웨비나

2026년 2월 24일(화) AM 11:00 - 12:00 | 온라인 상

https://korea-ac-kr.zoom.us/j/2955276527

주최 한국고분자학회 주관 에너지 부문위원회 후원 INNOX

○ 초대의 글

'PSK-이녹스 신진연구자 웨비나'는 우수한 연구역량을 가진 신진연구자를 발굴하여 교류의 장을 넓히고자 (주)이녹스의 후원과 한국고분자학회 주최로 마련한 온라인 세미나입니다. 이번 세미나에서는 고분자 분야 중에서도 특히 차세대 에너지 기술인 에너지 저장 분야에서 선도연구를 수행하는 신진연구자의 우수한 연구성과를 공유하는 자리를 마련하였으니 관심있는 분들의 많은 참여 부탁드립니다.

○ 일정

AM 11:00 - 12:00	Sustainable Separation Technologies: Electrochemical Lithium Extraction and Carbon Capture Hwajoo Joo (주화주), hwaju20@mit.edu Postdoctoral Associate, Department of Chemical Engineering, Massachusetts Institute of Technology

ABSTRACT: Due to the upcoming climate crisis, carbon neutrality becomes the most urgent thing for mankind. For the future, two main elements are essential to be captured; these are carbon dioxide and lithium. Carbon dioxide is a material that mainly contributed to the global warming and it needs to be removed from atmosphere. Meanwhile, due to the electrification and uneven generated power from renewable energy source, lithium, the main resource of the battery system is getting attention. One of the common things between these two elements is they are scarce in nature. In other words, their concentration in nature is extremely low. For example, concentration of atmospheric carbon dioxide and lithium in the brine are 400 ppm and few hundreds ppm, respectively. This means that it takes a lot of energy to separate them from the feed. Therefore, electrochemical methods for separating carbon dioxide and lithium are getting interest. In this study, we developed the battery-like systems which has silver (silver chloride) electrode as a counter electrode to achieve this goal. For these systems, we used bismuth electrode as a working electrode for carbon dioxide removal and manganese electrode as a working electrode for the selective lithium extraction. These systems shows good reversibility and low voltage operations, which along with the low energy consumptions.