

2021 KWSE-AKCSE 여성과학자 Webinar

Profile		
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	Position	선임연구원 (Senior Researcher)
	Title	Recovery of valuable metals and hazardous materials cleanup by extractive metallurgical processes
Abstract		
<p>Extractive metallurgy is a method for extracting metals from primary and secondary resources and purifying the extracted metals into a higher grade. The extractive metallurgical process generally consists of two steps, physical separation (or mineral processing) and chemical metallurgy. The resources are first physically treated to remove impurities from the target metals (physical separation), then the metals are chemically extracted by hydrometallurgical or pyrometallurgical process (chemical metallurgy). The metallic species are dissolved into an aqueous solution and recovered through the hydrometallurgical process, while the pyrometallurgical process includes high-temperature chemical reactions. Furthermore, extractive metallurgical techniques can be even applied to clean up hazardous materials such as heavy metals and microplastics. In this talk, I will introduce several examples of conventional extractive metallurgical processes regarding rare earth elements (REEs), precious metals (Au) and battery metals (Li and V), and cleanup of As-polluted water by hydrometallurgical process.</p>		
Biosketch		
<p>Dr. Rina Kim is a Senior Researcher at the Korea Institute of Geoscience and Mineral Resources (KIGAM). She received her B.Sc. from the Department of Civil, Urban and Geosystem Engineering at Seoul National University (SNU) in 2011, and M.Sc and Ph.D. from the Department of Energy Systems Engineering, SNU in 2014 and 2016, respectively. Dr. Kim continued her research career at the Robert M. Buchan Department of Mining, Queen's University, Canada, as a Postdoctoral Fellow from 2016 to 2019. She has earned extensive experience in the field of extractive metallurgy, dedicating herself to research projects related to the recovery of rare metals, precious metals, and base metals from primary and secondary resources. Recently, Dr. Kim is expanding her research interest to biometallurgy that utilizes bacterial activity to extract metals from resources. Combining biometallurgy with conventional extractive metallurgical techniques, developing environmentally-friendly metal extraction and treatment processes is her long-term research goal.</p>		