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MSEC SEMINAR AND COMMERCIALIZATION FORUM



INVITED SPEAKER:

DR. JESSE KO

**PROJECT MANAGER AND SENIOR STAFF SCIENTIST,
JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY**

“MONOPOLIZING YOUR EXPERIENCES”

March 26th, 2021

1:30 – 2:30 PM (CST)

Biography:

Jesse Ko received his B.S. in chemical engineering from the University of California, Irvine in 2010. He received his M.S. and Ph.D. in materials science and engineering from the University of California, Los Angeles in 2013 and 2016, respectively. His dissertation focused on understanding the correlation between structure and electrochemical properties of 2D layered materials for prospective sodium-ion batteries and supercapacitors. He then went to work as a postdoctoral scholar at the U.S. Naval Research Laboratory from 2016 to 2018 and at Stanford University from 2018 to 2019, before joining the Johns Hopkins University Applied Physics Laboratory in 2019. His current research interests involve electrochemical applications related to batteries, supercapacitors, electrocatalysis, and water treatment.

Abstract:

Professional career paths at the M.S. and Ph.D. level may range anywhere from entrepreneurship, industry, government, and even to academia. With the experiences garnered throughout your academic studies, the key is to ‘monopolize your experiences’ to determine which direction to incline towards. As a scientist at the Johns Hopkins University Applied Physics

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Laboratory, I have come to appreciate the technical questions that arose throughout my experiences as an undergraduate, a graduate student researcher, and a postdoctoral scholar. The questions I asked myself throughout my journey led me to my current position, and in this talk, I will describe my voyage to becoming a staff scientist. My initiation into research began with fuel-cell related projects as an undergraduate, which then led to my Ph.D. advisor convincing me to work on batteries and supercapacitors. Because my Ph.D. thesis was geared towards 2D nanosheet materials and their correlation to sodium-ion insertion, I then conducted my first postdoctoral studies working on three-dimensionally architected materials. With both 2D and 3D materials, questions related to phenomena occurring at interfaces then guided me to my second postdoctoral studies at Stanford University–SLAC National Accelerator Laboratory to perform in situ/operando measurements using synchrotron X-rays. After much deliberation, I accepted a Staff Scientist position at the Johns Hopkins University Applied Physics Laboratory and have since become a project manager. As part of this organization, I also teach a course, “Introduction to Solid State Chemistry” to aid students in understanding crystal structures, synthesis, properties, and characterization for their professional careers.

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