Department of Network and Data Science | CENTRAL EUROPEAN UNIVERSITY

SEARCHING FOR THE SECRETS OF LONGEVITY OF LIVING SYSTEMS

A TALK BY

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ABSTRACT | Studying living systems provides a striking advantage to those who seek to understand evolutionary principle underlying various complex systems including biological ones. Their long evolutionary trajectories, possibly over several billions of years, have been imprinted within their structure and dynamical processes which are easily reproducible compared to other complex systems. Therefore, characterizing structure and dynamics of biological networks is important to understanding how living systems evolve to be robust yet flexible to environmental fluctuations as individuals and group. In this talk, I will discuss my recent attempt at identifying these characteristics focused on organization of biochemical reactions within hierarchical structures emerging at planetary scale and the dynamical characteristics of gene regulatory processes.

BIO | Hyunju Kim is an Assistant Research Scientist in the School of Earth and Space Exploration at Arizona State University. She received her PhD in Physics from the University of Notre Dame in 2011. She then spent 2 years as a postdoc in the Department of Physics and the Department of Computer Science at Virginia Tech. After this, she worked as a postdoc in the Beyond Center for Fundamental Concepts in Science at Arizona State University from 2013 to 2017. She is a Co-Investigator for several grants awarded by NASA, NSF and Templeton World Charity Foundation. She has been actively involved in outreach programs geared towards mentorship and guidance of young minds being introduced to the environment of research in science.