



이름: 정의현 / Euiheon CHUNG

직위: 교수 / Professor

소속: 지스트/ GIST

기타소속: 의생명공학과 / Dept. Biomedical Science and Engineering

## 강연제목: 중개 뉴로포토닉스 / Translational Neurophotonics

**Abstract** Groundbreaking advances in biomedical imaging and related technology have greatly accelerated the understanding of mechanistic underpinnings in brain science. This tutorial introduces key optical imaging techniques to reveal structure, function, and modulation of the nervous system at the cellular level, and in brain slices, as well as whole brains in vivo, with the overview of brain disorders such as stroke. Recently, neurophotonics, a branch of biophotonics emerged as to develop new optical methods for imaging and manipulating the nervous system. In translational medicine, such new approaches and findings obtained by neurophotonics have been particularly useful to decipher neural mechanisms underlying neurological disorders and in the development of therapeutic neuromodulations. Recent progresses in this rapidly expanding field of neurophotonics and associated techniques will be introduced.

### Brief Biosketch

Dr. Euiheon Chung is a professor in the biomedical science and engineering department at Gwangju Institute of Science and Technology (GIST) and the director of the Gliopathic Pain Research Center (GPRC). He graduated from KAIST with M.S. and B.S. degrees in aerospace engineering with a minor in physics in 1998 and 1996. He received his Ph.D. from the Harvard-MIT Division of Health Sciences and Technology (HST) in 2007 at MIT, followed by postdoctoral training at the Massachusetts General Hospital and Harvard Medical School in the Steele Laboratory for tumor vascular biology. His research aims to create translational neurophotonics technologies to satisfy unmet clinical needs based on biomedical engineering approaches. With functional optical imaging and neuromodulation, Dr. Chung's current research focuses on neurovascular diseases and neuropathic pain.