



INSTITUTE LECTURE SERIES

December 04, 2023 (Monday) | 5 pm | L - 16

Talk Title: Transformative Imaging 21st Century Science Combined with Diagnosis of Brain Pathology – a focus area for India science excellence and meeting a national need

Speaker: Professor Walter Schneider

Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA, United States
Psychology, University of Pittsburgh, Pittsburgh, PA, United States
Bioengineering, University of Pittsburgh, Pittsburgh, PA, United States
Neurosurgery, University of Pittsburgh, Pittsburgh, PA, United States
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About the Speaker



Walter Schneider, a distinguished scholar in the field of psychology, has an impressive educational background and a prolific professional history. With a Ph.D. in Psychology from Indiana University in 1975, he delved into neurophysiology during his post-doctoral work at the University of California, Berkeley. Throughout his career, Schneider held various roles, from Research Assistant at Indiana University to a Miller Research Fellow at the University of California, Berkeley, and ultimately a Professor of Psychology at the University of Pittsburgh. His contributions to the field have earned him numerous honors, including being a Phi Beta Kappa member, a Fellow of the American Psychological Society, and an EDUCOM/NCRIPTAL Higher Education Software Award recipient. He has more than 190 publications in reputed journals to his credit. Schneider's impact extends beyond academia, with notable achievements such as serving as the President of the Society for Computers in Psychology in 1986 and receiving the prestigious Editors' Choice award in Methods and Modeling for 2010 from NeuroImage.

His dedication to research is evident in his role as Co-Director of the Education Program at the Center for the Neural Basis of Cognition (CNBC) and as Program Chair of the Cognitive Program at the University of Pittsburgh. Schneider's multidisciplinary approach is reflected in his multiple secondary appointments in Psychiatry, Neurosurgery & Radiology, and Bioengineering, highlighting his diverse expertise and lasting influence on the field of psychology.

<https://www.lrdc.pitt.edu/schneiderlab/>

<https://www.lrdc.pitt.edu/people/researcher-detail.cshtml?id=42>

<https://psychology.pitt.edu/people/walter-schneider-phd>

Abstract of the Talk

The speaker will discuss how they developed their interdisciplinary team of research scientists and clinicians in the areas of mapping the human imaging, mapping the human Connectome, and applying that in clinical contexts of Traumatic Brain injury (TBI), neurosurgery, Autism and Alzheimer's. India has outstanding computer and mathematical talent and developing talent in biomedical engineering. He will discuss how linking it with a network of imaging centers and clinical treatment centers could be a focus area for science excellence for India and describe some lessons learned from setting up the Center for Neural Basis of Cognition: CNBC and two national networks in TBI research Track TBI and Limbic networks.

The talk will detail their efforts to produce an accurate input-output map of the human connectome. Their imaging innovations have delivered a 125,000 improvement in spatial resolution that allow for the first time fasciculus scale mapping of the brain at viable cost. They are developing full-brain 20- micron MRI, full brain 2 micron Micro CT and selectively chosen 4 mm tract segments with 1 micron light sheet and 2D slices with Magnify with 0.2 micron resolution to provide full axon counts within each fasciculus from eye to LGN. The synergistic combination of these cost viable technologies can across sites map the human connectome within five years. India can be a major contributor to brain mapping and brain treatment.

All are cordially invited to attend
Office of Dean Research & Development