



UConn BIRC Speaker Series

Tuesday, June 8th from 12-1:30 pm ET via Zoom

Developmental Population Neuroscience and The ABCD Study

Terry Jernigan, PhD, UC San Diego



Abstract: In the last decade, increasingly large-scale studies with a focus on the developing mind and brain have been launched in an effort to expand and update the data resources available to the research community. These high-dimensional longitudinal studies aim to meet epidemiological standards for participant accrual, use a wide array of biomedical and behavioral phenotyping methods, such as genome sequencing and multimodal neuroimaging, and are lately referred to as population neuroscience. One of the largest of these is the Adolescent Brain and Cognitive Development (ABCD) Study; which as the name suggests focuses on the adolescent brain, enrolling children at ages 9 and 10 for a ten-year study. I will describe this study, its rationale and aims, structure, and protocols; and will highlight its open science model. I will focus on attempts in ABCD to identify and assess relevant genetic, environmental, and experiential factors that are likely to impact important health, mental health, and intellectual outcomes – and on the contributions that are likely to emerge during this early stage in the study. Finally, I will highlight some further advances in the structure of human developmental science needed to improve models of the developing human mind, and to translate this knowledge into better education, healthcare, and public policy.

Bio: Terry Jernigan is Professor of Cognitive Science, Psychiatry, and Radiology, and Director, Center for Human Development at the University of California, San Diego. For over 30 years, she has studied the human brain using noninvasive imaging. This work has focused on brain development and aging, neurodevelopmental disorders, neuropsychiatric and substance use disorders, and neurodegenerative disorders. For the last decade her central research interest has been the developing human mind and brain, with a focus on the dynamic neurodevelopmental processes that give rise to human individuality—and on how these processes are affected by experience, substance exposure, genetic variation, and other factors. She is Co-Director of the Coordinating Center for the ABCD Study. She has served on the National Advisory Council on Drug Abuse and the Council of Councils of the National Institutes of Health. She currently serves on the NIH Helping End Addiction Long-term (HEAL) Multidisciplinary Workgroup, and on scientific advisory boards of several research organizations in the United States and Europe.

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