

## HEALTHY BRAINS/HEALTHY BODIES- Influencing Neuroplasticity through Health Promotion

Saturday, April 30, 2016 3:00-5:00pm

Location: *Baltimore Convention Center ~ 327-329*



This session will highlight the power of health promotion on changing the arc of a child's brain development, behavior and health outcomes. The first and second presentation will focus on one example of a pediatric family based health promotion approach including the basic science evidence that health promotion strategies can reverse the neural signature of poverty and change the arc of child and family behavioral and health outcomes. The third presentation will focus of the relations between adversity (negative life events) on the epigenome and structure and function of a child's brain and subsequent behavior, including the impact on the epigenome and neuroplasticity of positive life events (music, fitness, meditation, sleep and nutrition). The fourth will focus on promotion of lifelong health and the importance of behavioral health promotion in children (based upon the April 2015 JAMA viewpoint by Tom Boat).

### OBJECTIVES:

1. Describe the science of health promotion on changing the arc of a child's brain development, behavior and health outcomes.
2. Explain how health promotion strategies (music, fitness, meditation, sleep, nutrition) can reverse the neural signature of poverty.
3. Describe future funding and research opportunities for understanding the effects of behavioral health prevention interventions on child and family outcomes.



**Harmony Project performing at the 2016 Super Bowl**

3:00-3:05pm	Introduction and Overview	Judy Shaw
3:05-3:20pm	Harmony Project: promoting healthy growth and development in children and communities through music	Margaret Martin
3:20-3:50pm	Musical experience and neural efficiency: learning-associated brain plasticity	Nina Kraus
3:50-4:20pm	The impact of adversity and health promotion on neuroplasticity and the epigenome	Jim Hudziak
4:20-4:45pm	Improving lifelong health through behavioral health promotion	Tom Boat
4:45-5:00pm	Q&A/Discussion	Moderator: Judy Shaw

### Invited Faculty:

**James Hudziak, MD** is internationally known for his research on the effects of health promotion on the epigenome and neuroplasticity. Dr. Hudziak is Professor, Departments of Psychiatry, Medicine & Pediatrics, Thomas M. Achenbach Chair in Developmental Psychopathology, Director, Vermont Center for Children, Youth & Families, Director of Child and Adolescent Psychiatry, University of Vermont Medical Center and College of Medicine, Professor, Erasmus University, Sophia Children's Hospital, Rotterdam, The Netherlands, Adjunct Professor, Child Psychiatry, Washington University, St. Louis, MO. He is known internationally for his work in the psychiatric genetics and developmental neuroimaging of child and adolescent behavior. His research focuses on the genetic and environmental influences on common child behavioral problems and wellness, researching how gene-environment interactions are manifested in the brain and ultimately in behavior. He holds NIMH, Dutch and National Healthcare Group – Singapore (NHG) grants for his research in genetic epidemiology of childhood disorders. His funded studies include phenotypic, endophenotypic, and molecular genetic studies of child psychopathology.

Dr. Hudziak combines research in the U.S. as well as from his international collaborations with Erasmus MC in Rotterdam, and the Montreal Neurologic Institute in an attempt to explain how environmental factors influence genetic function, and ultimately brain development. Dr. Hudziak is the creator of a health promotion and illness prevention treatment program entitled, The Vermont Family Based Approach. The Approach is the direct result of his 20+ years in genetics and neuroscience and is based on the simple fact that the best way to promote health in children and families is to help the family.

**Nina Kraus, PhD** is a leading expert on the neurobiology underlying speech, music perception and learning associated brain plasticity. Her work is applicable to the pediatric clinical population, including those with dyslexia and autism. Her translational research activities span child development, literacy and learning. She is a collaborator with Dr. Hudziak. Dr. Kraus is Professor of Neurobiology & Physiology, Otolaryngology; Huge Knowles Chair at Northwestern University. Her research investigates the neurobiology underlying speech and music perception and learning-associated brain plasticity. In addition to running a neuroscience lab investigating the neural encoding of sound, Dr. Kraus pioneering work bridges multiple disciplines (development, literacy, music and learning) and is rooted in translational science.

**Margaret Martin, DrPH, MPH**, is a featured speaker nationally, including on NBC Nightly News, CBS Evening News, PBS, The Atlantic and other media outlets. She has won numerous awards for her pioneering work on bringing music to vulnerable children. She herself overcame early challenges of teen pregnancy and parenting, domestic violence and homelessness with her two children and enrolled in UCLA as a freshman at the age of thirty three. Dr. Martin founded the Harmony Project in 2001 which provides instruments and tuition-free group and private music lessons to thousands of the most vulnerable children in Los Angeles. Her awards include the 2011 Presidential Citizens Medal from President Barak Obama. Her research focuses on the neurological, academic and behavioral impact of sustained music learning on disadvantaged youth.



#### PAS Members:

**Thomas F. Boat, M.D.** is Professor of Pediatrics at the Cincinnati Children's Hospital Medical Center. He is the past chair of the Departments of Pediatrics at the University of North Carolina and the University of Cincinnati, as well as past Dean of the College of Medicine and Vice President for Health Affairs of the University of Cincinnati. Early in his career, Dr. Boat worked to define the pathophysiology of airway dysfunction and more effective therapies for chronic lung diseases of childhood, such as cystic fibrosis. He has worked at local and national levels to improve research efforts, subspecialty training and clinical care in pediatrics. He has had a special interest in issues posed by children's behavioral health for pediatric care and training. He is a member of the Institute of Medicine (IOM) and served as co-chair of the IOM Forum on the Science of Health Care Quality Improvement and Implementation, as well the IOM Committee on the Prevention of Mental, Emotional and Behavioral Disorders Among Young People. He most recently chaired the IOM Committees on Mental Disorders and Disabilities Among Low-Income Children, and on Accelerating Research and Product Development for Rare Diseases. Dr. Boat has served as chair of the American Board of Pediatrics, and president of the Society for Pediatric Research, as well as the American Pediatric Society. Among his numerous awards including the St. Geme Award from the Pediatric Academic Societies', the Daniel Drake Medal from the UC College of Medicine—the college's highest academic honor—and the Global Ronald McDonald House Charities Award of Excellence.



**Judy Shaw EdD, MPH, RN, FAAP** is Executive Director of the Vermont Child Health Improvement Program (VCHIP) since its inception in 1999 and is the Director of the National Improvement Partnership Network. In addition, she is principal investigator for several federally funded projects designed to improve delivery of health care to children, and holds the position of Associate Professor of Pediatrics at the University of Vermont College of Medicine and holds a secondary appointment in the College of Nursing and Health Sciences. Dr. Shaw is co-editor of the 2008 AAP publication of *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*, 3<sup>rd</sup> Ed. and the 4<sup>th</sup> Ed to be released in 2016. In 2007 she received the Director's Award from the Health Resources Services Administration's (HRSA) Maternal Child Health Bureau (MCHB). She was a DHHS Secretary's Primary Care Health Policy Fellow in 2002, and is the Secretary for the Academic Pediatric Association from 2015-2021.