



CHILD POVERTY AND BRAIN DEVELOPMENT IN GLOBAL CONTEXT

FEBRUARY 14TH, 2019
PERRY WORLD HOUSE
UNIVERSITY OF PENNSYLVANIA



Center for Neuroscience & Society
UNIVERSITY of PENNSYLVANIA

BACKGROUND

Policymakers worldwide are looking to neuroscience for an understanding of child development and, in particular, the effects of poverty on child development. Their interest has been sparked by new research on the neuroscience of poverty, which has revealed neural differences associated with poverty and identified possible environmental causes for them. But, this research has been carried out mainly in affluent societies. How well do their findings generalize to poverty in low and middle income countries (LMICs)?

The overall goal of this conference is to evaluate the relevance of current neuroscience to the problems of global child poverty. We will hear from leaders in child poverty policy from international development organizations as well as from scientists at the forefront of poverty neuroscience, in a day of didactic lectures and panel discussions.

FIND US ONLINE

Web Streaming: <https://upenn.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=44ae3992-cfff-4a76-ab1e-a9ed012168b0>

Video Archive: <https://neuroethics.upenn.edu/video-library/>

OUR THANKS TO THE SUPPORTERS OF THIS PROJECT:

SAS Dean's Global Initiatives Fund

Center for Population Studies

Penn Institute for Economic Research

Perry World House

Center for Neuroscience & Society

AGENDA

MORNING: Didactic talks on child development and poverty in low and middle income countries (LMICs), intervention programs and the neuroscience of socioeconomic status (SES). All talk times include Q&A.

- 8:30-9:00 AM** Breakfast and registration
- 9:00-9:15 AM** Welcome and overview of goals
- 9:15-9:30 AM** Overview of LMIC children at risk of not fulfilling their developmental potential due to undernutrition and poverty - Jere Behrman
- 9:30-10:30 AM** Child poverty and Development in Latin America - Florencia Lopez-Boo
- 10:30-10:45 AM** Break
- 10:45-11:30 AM** Overview of interventions for LMIC child poverty - Nutrition, Early childhood education - Jere Behrman and Sharon Wolf
- 11:30-12:30 PM** Overview of SES neuroscience - Kim Noble
- 12:30-1:45 PM** Lunch and thirty minute panel discussion on SES neuroscience - Allyson Mackey, Margaret Sheridan, Martha Farah, Sebastian Lipina

AFTERNOON: Review and discuss current efforts to combine child poverty alleviation in LMIC and neuroscience. All talk times include Q&A.

- 1:45-2:45 PM** Keynote: Bangladesh Early Adversity Neuroimaging (BEAN) Project - Charles Nelson
- 2:45-3:15 PM** How the Brain Learns to Read in Rural Côte d'Ivoire: Using Portable Neuroimaging to Understand Reading Development in High-Risk Environments - Kaja Jasinska
- 3:15-3:45 PM** Measuring executive function in LMICs and humanitarian contexts - Margaret Sheridan
- 3:45-4:00 PM** Break
- 4:00-4:15 PM** Final discussion opener - Martha Farah, Sebastian Lipina
- 4:15-5:00 PM** Panel discussion on translational opportunities in SES neuroscience, w/ an emphasis on differing global contexts - Allyson Mackey, Charles Nelson, Florencia Lopez-Boo, Kaja Jasinska, Margaret Sheridan, Sharon Wolf
- 5:00-5:30 PM** Wrap up and questions from audience
- 5:30-6:15 PM** Reception

GUEST SPEAKERS

Kaja Jasinska, PhD, Assistant Professor of Linguistics and Cognitive Science at the University of Delaware; Scientific Director of the Brain Organization for Language and Literacy Development (BOLD) Laboratory.



Dr. Jasińska studies the neural mechanisms that support language, cognitive, and reading development across the lifespan using a combination of behavioral, genetic, and neuroimaging research methods. Her research aims to understand how early life experiences (e.g. language exposure) can change the brain's capacity for language and learning, with focus on understanding development in environments with poverty-related risk (i.e. rural communities in Ivory Coast).

Sebastián J. Lipina, PhD, Director of the Unit of Applied Neurobiology (UNA,CEMIC-CONICET); Professor of Social Vulnerability and Cognitive Development, National University of San Martin; Researcher of the National Council of Scientific and Technological Research (CONICET) (Argentina)



Dr. Lipina is a developmental psychologist and neuroscientist working in the field of environmental influences on cognitive and emotional development at different levels of organization. The current research projects under his direction focus on the analysis of poverty associations with cognitive development, the design of interventions aimed at optimizing children's cognitive performance through exercising and training in laboratory, school and community settings, and the development of methods with science-policy transfer value. As part of his work in the area of poverty and child development, he works as consultant for PAHO, UNDP, UNICEF and several Ministries of Health, Education and Social Development in different Latin American countries. He is a member of his institutional IRB, and Volunteer Researcher of the American Association for the Advancement in Science (AAAS).

Florencia Lopez-Boo, PhD, Lead Economist, Division of Social Protection and Health, Inter-American Development Bank (IBD); Associate Researcher of Young Lives, Department of International Development, University of Oxford and IZA



Dr Florencia Lopez Boo holds a PhD in Economics from the University of Oxford (UK). Her work focuses on the design, implementation, monitoring and evaluation of public policies on child development and social protection in Latin America. She currently leads an initiative on behavioral economics and social policies and is the chair of the LACEA-BRAIN network. She has been the main advisor in child development issues for the G20 meetings under the presidency of Argentina, achieving the historical inclusion of ECD in the final presidential communique. She has published numerous articles in specialized journals such as the Lancet, Journal of Human Resources, Pediatrics, Economic Letters, and the New York Academy of Sciences. She is also the author and co-author of several books on education and child development in Latin America and the Caribbean. She is also a member of various global boards, including the Investing in Young Children Forum of the National Academy of Sciences, the UNESCO's Measuring Early Learning Quality and Outcomes technical consortium and the Brookings Institution's Costing ECD group, among others.

KEYNOTE SPEAKER

Charles A. Nelson III, PhD, Professor of Pediatrics and Neuroscience and Professor of Psychology, Department of Psychiatry, Harvard Medical School; Professor of Education, Harvard Graduate School of Education; Richard David Scott Chair in Pediatric Developmental Medicine Research, Boston Children's Hospital



Dr. Nelson's research interests center on a variety of problems in developmental cognitive neuroscience, including: the development of social perception; developmental trajectories to autism; and the effects of early adversity on brain and behavioral development. He chaired the John D. and Catherine T. MacArthur Foundation Research Network on Early Experience and Brain Development and served on the National Academy of Sciences (NAS) panels that wrote *From Neurons to Neighborhoods*, and more recently, *New Directions in Child Abuse and Neglect Research*. Among his many honors he has received the Leon Eisenberg award from Harvard Medical School, an honorary Doctorate from Bucharest University (Romania), was a resident fellow at the Rockefeller Foundation Bellagio Center (Italy), has been elected to the American Academy of Arts and Sciences, the National Academy of Medicine, and received the Ruane Prize for Child and Adolescent Psychiatric Research from the Brain & Behavior Research Foundation.

Kimberly Noble, MD, PhD, Associate Professor of Neuroscience and Education, Teachers College, Columbia University.



As a neuroscientist and board-certified pediatrician, she directs the Neurocognition, Early Experience and Development (NEED) lab where she and her team study how socioeconomic inequality relates to in children's cognitive and brain development. Her work examines socioeconomic disparities in cognitive development, as well as brain structure and function, across infancy, childhood and adolescence. She is particularly interested in understanding how early in infancy or toddlerhood such disparities develop; the modifiable environmental differences that account for these disparities; and the ways we might harness this research to inform the design of interventions. In collaboration with a multidisciplinary team from around the country, with funding from NIH and a consortium of foundations, she is currently leading the first clinical trial of poverty reduction to assess the causal impact of income on children's cognitive, emotional and brain development in the first three years of life. Dr. Noble received her undergraduate, graduate and medical degrees at the University of Pennsylvania, completed postdoctoral training at the Sackler Institute of Developmental Psychobiology of Weill Cornell Medical College, and completed her residency in pediatrics at Columbia University Medical Center / Morgan Stanley Children's Hospital of New York - Presbyterian. She is a Fellow of the Association for Psychological Science, and was awarded the 2017 APS Janet Taylor Spence Award for Transformative Early Career Contributions. Her work linking family income to brain structure across childhood and adolescence has received worldwide attention in the popular press.

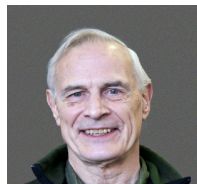
Magaret Sheridan, PhD, Assistant Professor, Clinical Psychology Program, University of North Carolina at Chapel Hill; Director, Child Imaging Research on Cognition and Life Experiences Lab (CIRCLE Lab).



Dr. Sheridan's research examines typical and atypical neurodevelopment of the prefrontal cortex and related systems supporting development of executive function across age. In particular the CIRCLE lab examines how early life experiences ranging from maltreatment to poverty or institutionalization impact neural development leading to risk for externalizing psychopathology. Her work has demonstrated that exposure to a variety of early life adversities are related to deficits in function of the prefrontal cortex and that different exposures may impact neural development in specific ways. In particular exposures to threat or violence may impact neural development and thus risk for externalizing psychopathology differently than exposures characterized by a lack of social interaction, cognitive enrichment, and complex linguistic experience. The CIRCLE lab uses multiple neuroimaging methods (e.g., EEG/ERP, fMRI, structural MRI) and multiple behavioral methods (e.g., cognitive testing, structured clinical interview, in home observation) to achieve these goals.

PENN FACULTY

Jere R. Behrman, PhD, William R. Kenan, Jr. Professor of Economics, University of Pennsylvania



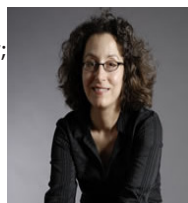
Dr. Behrman is a leading international researcher in empirical microeconomics, with emphasis on developing economies. He is also a Research Associate at Penn's Population Studies Center. His research interests include empirical microeconomics, labor economics, human resources (early childhood development, education, health, nutrition), project evaluation, economic demography, incentive systems and household behaviors. He has published over 435 professional articles and 35 books. He has been a researcher with the World Bank, Asian Development Bank, Inter-American Development Bank, United Nations Development Program, UNICEF, other international organizations and various governments

Petra Todd, PhD, Edmund J. and Louise W. Kahn Term Professor of Economics, University of Pennsylvania



Dr. Todd is also a Research Associate of Penn's Population Studies Center. She serves as an Associate Editor for the American Economic Review and the Journal of Human Capital. Her main fields of research are social program evaluation, labor economics, and microeconometrics. She has published on the determinants of cognitive achievement, testing for discrimination in motor vehicle searches, sources of racial wage disparities, and methods for evaluating and optimally designing conditional cash transfer programs. She is currently working on implementing a large-scale randomized school incentive program in Mexican high schools, on analyzing the effects of school vouchers in Chile and on assessing the effects of government regulation on the operation of the privatized pension market in Chile.

Martha J. Farah, PhD, Director, Penn Center for Neuroscience & Society; Walter H. Annenberg Professor of Natural Sciences, Department of Psychology, University of Pennsylvania



Dr. Farah is a cognitive neuroscientist who works on problems at the interface of neuroscience and society, and directs Penn's Center for Neuroscience and Society. She studies the effects of childhood poverty on brain development and the ethical, legal and social impact of neuroscience.

Allyson Mackey, PhD, Assistant Professor, Psychology, University of Pennsylvania



Dr. Mackey is using neuroscience as means to understanding and reducing the socioeconomic achievement gap. She is the founder and director of The Changing Brain Lab, where she studies the basic mechanisms of brain plasticity. Her lab focuses its studies on the mechanisms by which environmental factors shorten or shift windows of peak plasticity. Through her research, she is working to develop strategies to support optimal brain development and learning. Her experience in inner city public schools, both as a student and as a researcher, has led her to concentrate her translational work on reducing the income achievement gap.

Sharon Wolf, PhD, Assistant Professor, Human Development and Quantitative Methods Division, Graduate School of Education, University of Pennsylvania



Dr. Wolf is an applied developmental psychologist who studies how children's family and educational environments shape their development, focusing on disadvantaged populations in the United States and in low-income countries. Dr. Wolf's research informs interventions and tests the effectiveness of theoretically informed policy solutions designed to promote childhood development and learning through randomized field experiments. Dr. Wolf's current work focuses on three primary areas: developing and evaluating school-based interventions to improve educational quality and child learning outcomes; the measurement of educational settings and children's learning outcomes; and understanding the links between poverty, education, and child development.
