



何鴻榮博士醫療拓展基金會
Dr. Stanley Ho Medical Development Foundation



聯合主辦
Jointly organized by
香港中文大學
The Chinese University of Hong Kong



大腦與認知研究所
Brain and Mind Institute

2025
BMI Symposium

THE NEUROSCIENCE
OF ATTACHMENT:
CAREGIVER AND CHILD

BIOGRAPHY AND ABSTRACT



Professor Annie BERNIER

Department of Psychology, University of Montreal, Canada

Biography

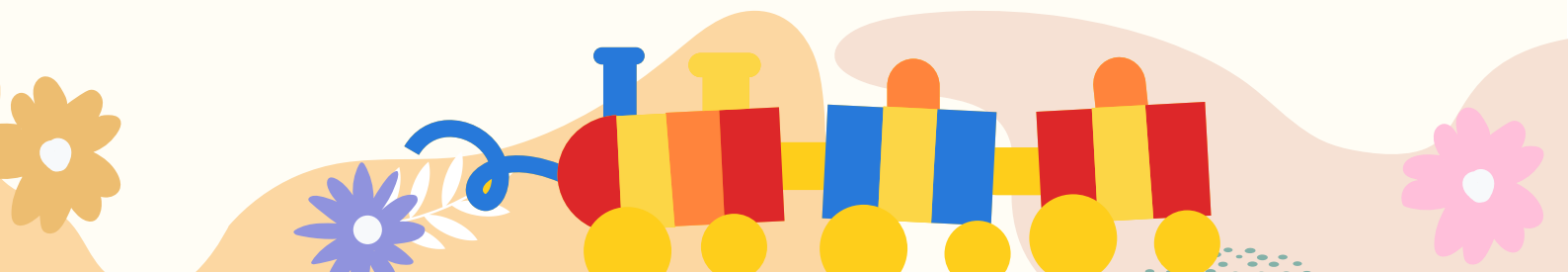
Annie Bernier joined the faculty of the University of Montreal, Canada, in 2002, where she is currently a professor at the Department of Psychology and a member of the Center for Interdisciplinary Research on Learning and the Brain. She is the recipient of the 2009 Bowlby-Ainsworth award for contributions of

lasting importance to attachment research. She is currently serving on the editorial boards of the *Development and Psychopathology* and *American Psychologist* journals. Bernier and her team have been running for the last 20 years a longitudinal study investigating the prospective relations between quality of the early caregiving environment (e.g., mother-child and father-child relationship quality, child attachment) and several spheres of child and adolescent developmental trajectories, with particular interest in sleep, executive functioning, behavioral and emotional adjustment, as well as brain anatomy and connectivity.

Title and Abstract

The neuroscience of attachment: How our first relationships shape our brains

Inspired by Greenough, Black, and Wallace's (1987) influential propositions pertaining to the experience-dependent nature of brain development, many scientists have been intrigued by the possibility that early relational experiences could contribute to shaping children's brains. As one of the earliest, most intense, and most enduring experiences of childhood, the parent-child caregiving relationship appears to be a prime candidate to account for individual differences in children's brain development. In this talk, I will review my lab's work that examines how different facets of the family environment, particularly parenting behavior and parent-child attachment, relate to indicators of neural development in children, notably brain morphology and connectivity. I will also discuss how the developing brain may act as a bridge linking parent-child relationships to their numerous documented outcomes in child development, and consider the possibility of mutual influences between children's brains and their social relationships.





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BIOGRAPHY AND ABSTRACT



Dr. Pascal VRTICKA

Centre for Brain Science, Department of Psychology,
University of Essex, Colchester, UK

Biography

Dr Pascal Vrticka is an Associate Professor (Senior Lecturer) at the Centre for Brain Science, Department of Psychology, University of Essex (Colchester, UK), where he leads the Social Neuroscience of Human

Attachment (SoNeAt) Lab as Principal Investigator. The SoNeAt Lab currently consists of 10 PhD students and numerous MSc and BSc students (co-)supervised by Dr Pascal Vrticka.

Dr Pascal Vrticka studied biochemistry and neurobiology at the Swiss Federal Institute of Technology (ETH) in Zurich (Switzerland) to earn a BSc & MSc in Science - Biology (1999-2005). He then moved to the Swiss Center for Affective Sciences hosted by the University of Geneva (Switzerland) where he obtained a PhD in Neuroscience under the Supervision of Prof Patrik Vuilleumier (2006-2009). After two years as a postdoctoral researcher at the Swiss Center for Affective Sciences in association with the Faculty of Psychology, University of Geneva (Switzerland) led by Prof David Sander (2010-2011), Dr Pascal Vrticka moved to Stanford School of Medicine (California, USA). Thanks to a Fellowship for Advanced Researchers from the Swiss National Research Foundation, he was able to secure a position as Postdoctoral Scholar with Prof Allan Reiss at the Department of Psychiatry and Behavioural Sciences (2012-2014). Moving back to Europe, Dr Pascal Vrticka further advanced his research programme at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig (Germany), where he held several positions as a Research Scientist, Group Leader and Senior Scientist. During this time, he actively collaborated with the University of Leipzig (Faculty of Life Sciences, University Clinic and Leipzig Research Center for Early Child Development) in both teaching and student supervision and obtained extensive funding by the Max Planck Society for several large-scale multidisciplinary research projects (2014-2020).

Title and Abstract

Attachment and Child Development: From Myths to Modern Neuroscience

These days, attachment is literally everywhere. From psychotherapists to teachers and parenting books to Netflix shows, it seems everyone is talking about it. But with such widespread and diverse use, it is easy to get confused. In my talk, I will cut through the noise, debunk the most common myths and present the latest research. Based on modern neuroscience carried out in my Social Neuroscience of Human Attachment (SoNeAt) Lab, I will show how early attachment experiences shape children's social, emotional, and cognitive development. And I will discuss what role caregiver-infant communication and brain-to-brain synchrony play in this process. I will also offer practical advice derived from my collaboration with Babygro, a UK charity that supports families with young children and people working with them. Join me as we explore the fascinating world of attachment neuroscience and discover how to build healthy and lasting caregiver-child bonds.



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BIOGRAPHY AND ABSTRACT



Dr. CHAN Ying Ting, Purdy

M.B.B.S(HKU), FHKCPaed, FHKAM(Paediatrics)
Specialist in Developmental-Behavioural Paediatrics

Biography

Dr. Purdy Chan is a developmental-behavioral pediatrician with nearly 20 years of experience in the public sector. Her interest in attachment and children's behavior developed during her early training in various wards at Queen Mary Hospital in Hong Kong. She furthered her expertise with training in Infant Mental Health at the Royal Children's Hospital in Melbourne. Dr. Chan specializes in attention deficit hyperactivity disorder, disruptive behaviors, mental health in neuroatypical children, and child protection. She is particularly committed to advocating for vulnerable children, including those born to substance-using mothers and those in out-of-home care. Over the years, she has worked with many professional societies, non-governmental organizations, and parent associations to promote education and advocacy in developmental-behavioral pediatrics. Currently, she serves as an honorary clinical associate professor at the Chinese University of Hong Kong and is a council member of the Developmental-behavioral Paediatrics Subspecialty Board of the Hong Kong College of Paediatricians. Dr. Chan is also a core member of the Task Group on Parenting Capacity Assessment Framework for children aged 0-6 in Hong Kong.

Title and Abstract

Beyond the Surface: Illuminating the Silent Gaps in Parent-Child Bonds

Strained parent-child relationships significantly impact brain development and long-term health. Understanding attachment theory and neuroscience helps clinicians navigate family dynamics and implement effective interventions for nurturing bonds.

Aberrant attachment patterns can appear in various clinical scenarios, with both caregivers and children unintentionally contributing to the difficult connection. This includes children from disadvantaged backgrounds or those neurologically atypical. Recognizing attachment issues early can lead to timely interventions to strengthen bonds.

Insecure or disorganized attachment signals the need for screening developmental trauma and initiating early interventions. Building strong bonds early is more effective than repairing damaged ones later.