

Brain/Neurosciences & Education SIG Newsletter/Annual Meeting

American Educational Research Association

Montreal, Canada

April 11-15, 2005

Sessions

63.050 Invited Paper Session

Developmental Neuroscience: Directions and Implications for Educational Research

Session Chair: George Hruby, Utah State University

Thursday, April 14, 4:05 pm - 6:05 pm

Le Centre Sheraton Montreal, Salle de Bal Est

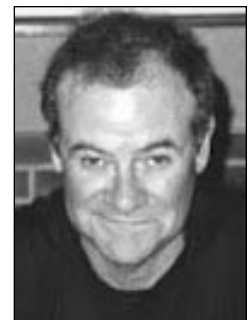


Lisa Freund – *The neurobiology of social interaction and its affect on early learning.*

Dr. Freund is a developmental psychologist and cognitive neuroscientist who is known for her neuroimaging studies with children from different clinical populations and was a National Institute of Child Health and Human Development (NICHD) supported scientist for several years. She has extensive training and experience in the fields of developmental neuroscience, developmental psychology, learning disorders, and behavioral and molecular genetics. Dr. Freund received her Ph.D. from the University of Maryland in applied developmental psychology and was previously an associate professor of psychiatry at the Johns Hopkins University School of Medicine and Kennedy Krieger Institute. As part of the Child Development and Behavior Branch of the NICHD, Dr. Freund is responsible for a multifaceted research and training program to promote investigations, both basic and applied, to gain a deeper understanding of the linkages between genes, developing brain, and behavior.

William Greenough – *How brains acquire information in development and learning.*

Dr. Greenough is the Swanlund professor of psychology, psychiatry and cell and structural biology at the University of Illinois, Urbana-Champaign. His pioneering work in the 1970s and 1980s helped change our perception of the adult brain as an anatomically static structure and recognize the dynamic influences of development and environment. "It is fair to say that he deserves the major credit for establishing the current view of dynamic, life-long synapse formation in the mammalian brain" (APS). Dr. Greenough has also investigated the neurological foundations of the fragile X mental retardation syndrome. His current research involves the mechanisms that mediate the synaptic changes caused by neural activity and non-neuronal physiological responses to learning.



Elizabeth Spelke – *Core knowledge and conceptual change: number and arithmetic.*

Dr. Spelke is a professor of psychology at Harvard University and co-director of the Mind, Brain, and Behavior Initiative. Dr. Spelke is renowned for her work on perceptual and cognitive development, particularly infants' representations of hidden objects, infants' reasoning about inanimate object motion and human action, and children's understanding of numbers and geometry. Her honors include the Distinguished Scientific Contribution Award (APA), the William James Fellow Award (APS), and election to the American Academy of Arts and Sciences, the National Academy of Sciences, and the Fellows of the American Association for the Advancement of Science.

Usha Goswami – *Phonological awareness and reading: Can we use ERP to predict literacy?*

Usha Goswami is professor of education at the University of Cambridge and a fellow of St. John's College, Cambridge. She is also director of the faculty's new Centre for Neuroscience in Education, which will focus its initial research on how neuroscience can inform the teaching of literacy and mathematics. Her current research examines relations between phonology and reading. A major focus of the research is on dyslexic and deaf children's reading. She has received the British Psychology Society Spearman Medal, the Norman Geschwind-Rodin Prize for Dyslexia research, and fellowships from the National Academy of Education (USA) and the Alexander von Humboldt Foundation (Germany). She advised on the National Curriculum and the National Literacy Project, and was one of the three UK members of the managing committee of the European Concerted Action on Learning Disorders as a Barrier to Human Development: Dyslexia (COST-A8). She is also part of the Literacy Network of the OECD Initiative on Learning Sciences and Brain Research.



Discussant: John Geake

Dr. Geake is professor of education at the Westminster Institute of Education, Oxford Brookes University, Oxford, UK. His post includes leading the Institute's research developments in gifted education, and the implications of cognitive neuroscience for education. In 2001 he co-founded the Oxford Cognitive Neuroscience—Education Forum under the auspices of the McDonell-Pew Centre for Cognitive Neuroscience, Department of Physiology, University of Oxford. Dr. Geake conducts neuroscientific research into high intelligence and creativity at the University of Oxford's Centre for Functional Magnetic Resonance Imaging of the Brain, Department of Neurology, John Radcliffe Hospital.

Sessions

45.059 Submitted Paper Session

Issues and Controversies in Educational Neuroscience

Thursday, April 14, 2:15 - 3:45 pm

Hilton Montreal Bonaventure, Montreal Ballroom, Section Lachine

Session Chair: William Bart, University of Minnesota

Discussant: Kurt Fischer, Harvard Graduate School of Education

New Directions for the Discourse of Neuropedagogy: Respecting Emotion

Kathryn Patten, Simon Fraser University

Stephen Campbell, Simon Fraser University

Neuroethics and Education

Kimberly Sheridan, Harvard Graduate School of Education

Elena Zinchenko, Harvard Graduate School of Education

Howard Gardner, Harvard Graduate School of Education

Applying the Neurosciences to Educational Research: Can Cognitive Neuroscience Bridge the Gap?

Michael Atherton, University of Minnesota

Read Diket, William Carey College

17.041 Paper Session

Educational Neuroscience: Research and Applications

Monday, April 11, 4:05 pm - 5:35 pm

Le Centre Sheraton Montreal, Salon 3

Session Chair: Read Diket, William Carey College

Volumetric Analysis of the Corpus Callosum in RD and Able Readers

Jodene Fine, University of Texas at Austin

Margaret Semrud-Clikeman, University of Texas at Austin

Timothy Keith, University of Texas

Laura Stapleton, University of Texas

George Hynd, Purdue University

Specification and Rationale for Establishing an Educational Neuroscience Laboratory

Stephen Campbell, Simon Fraser University

Meeting the Challenge of Individual Differences: the Neuropsychology and Technology of Universal Design

David Rose, Harvard Graduate School of Education

36.044 Submitted Symposium

Peril and Promise in Educational Neuroscience

Tuesday, April 12, 4:05 - 5:35 pm

Le Centre Sheraton Montreal, Salle de Bal Est

Session Chair: George Hruby, Utah State University

Minds, Brains, and the Category Mistakes They Entertain

George Hruby, Utah State University

Towards a "Bio-logic" for Education

Lynette Schaverien, University of Technology, Sydney

Educational Neuroscience: Keeping Learners in Mind

Stephen Campbell, Simon Fraser University

34.076 Paper Discussion

Discussions in Educational Neuroscience

Tuesday, April 12, 2:15 - 2:55 pm

Marriott Montreal Chateau Champlain, Salle de Bal Ballroom & Foyer

The Stress of Online Learning: Continuous Biophysical Measurement Using Wearable Computers

Deana Molinari, Washington State University

Snakes and Ladders: A Reappraisal of the Triune Brain Hypothesis

Jeremy E. Genovese, Cleveland State University

13.012 Paper Discussion

Educational Neuroscience Topics

Monday, April 11, 12:50 pm

Marriott Montreal Chateau Champlain, Salle de Bal
Ballroom & Foyer

*Exploration of the Role of Physiological Responses in
Instructional Decision-Making*
Deborah Jensen, Rice University

37.024 SIG Business Meeting

Tuesday, April 12, 6:15 pm - 7:45 pm
Le Centre Sheraton Montreal, Garcia Lorca

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A Message from the President...

We have an extensive array of sessions for this year's meeting, with a wide range of important topics and research. Session participants include representatives from major universities and foreign countries. Educational neuroscience is now experiencing a period of rapid growth and influence, and we are all proud to be a part of it. Our membership has more than doubled in the last three years and now includes many international scholars and policy makers. Within the last year our officers have been invited to two important conferences: The Mind, Brain, and Education Conference, sponsored by the Harvard Graduate School of Education, and the Centers of Learning Awardees Meeting, sponsored by the National Science Foundation. A symposium proposed by me and two of the SIG's former presidents titled, "Educational Research and the Neurosciences," has been accepted for the 2005 Meeting of the Society for Neuroscience.

Needless to say, this has been a great year for our SIG. We are looking forward to making further progress with the election of a new program chair, Dr. David Wodrich, who will start his term of office in April. This year's sessions will be facilitated by the acquisition of our own LCD projector and wireless technology. This year will also mark the initiation of what we hope will be an annual SIG dinner for members and others interested in educational neuroscience (for more information email: athe0007@umn.edu), and please consider attending our business meeting Tuesday evening.

Thank you for your interest and support. If you are not already a member, we hope you will consider joining. Membership information is available on our website.

Michael Atherton
SIG President