



Brain/Neurosciences & Education SIG Newsletter/Annual Meeting

American Educational Research Association

San Diego, California

April 12-16, 2004

Sessions

33.049 Invited Paper Session

Controlling Thought, Action, and Emotion in the Brain: Executive Functions and Neuroscience Research Implications for Education

Session Chair: Read Diket, William Carey College

Tuesday, April 13, 4:05-6:05 pm

Hyatt, Elizabeth Ballroom C, Second Level



Todd Braver

Dr. Braver is assistant professor of psychology at Washington University, St. Louis. Dr. Braver studies the cognitive and neural mechanisms underlying memory, attention, and controlled processing. His research approach combines computational modeling (using connectionist frameworks), functional neuroimaging (using fMRI and PET methods), and behavioral studies (in normal and clinical populations, and under pharmacological challenge). His ongoing projects include testing predictions regarding how the prefrontal cortex represents and maintains information in working memory and how the dopamine neurotransmitter system regulates control over these processes. He is co-director of Washington University's Cognitive Control and Psychopathology Laboratory in Psychology.

John D. E. Gabrieli

John D.E. Gabrieli is Associate Professor at Department of Psychology and Neurosciences Program at Stanford University. His research interests are in the neuroanatomical and neurochemical organization of human learning and memory capacities as revealed by their dissociation in patients with brain lesions and in healthy people and by brain imaging (PET, SPECT, MRI, CAT); implications of that organization for treatment of neurodegenerative diseases including Alzheimer's disease, Parkinson's disease, Huntington's disease, and epilepsy; brain basis of cognitive and affective development in children and disorders of development including dyslexia and attention deficit hyperactivity disorder (ADHD); and pharmacological treatment of memory disorders.



Monica Luciana

Dr. Luciana is an associate professor in the psychology department at the University of Minnesota. Her primary affiliation is in the clinical psychology area, but she holds adjunct status in the department's cognitive and biological area as well as in the Institute of Child Development. She is also a founding member of the Center for the Neurobehavioral Development there. Her research program employs experimental neuropsychological assessment, structural neuroimaging, and genetics to examine the neurocognitive development of working memory and executive control functions mediated by the prefrontal cortex in children and adolescents. She also investigates the neurochemical (dopaminergic and serotonergic) modulation of prefrontal functions in healthy and clinical populations using pharmacological challenge techniques.

Bruce McCandliss

Dr. McCandliss is an Assistant Professor of Psychology in Psychiatry at the Sackler Institute for Developmental Psychobiology, within the Weill Medical College of Cornell University. His research on children and adults brings together cognitive and brain imaging research on basic mental processes involved in attention, language, and learning to read. His research also examines changes which occur as children develop skills in reading and attention within school settings. Dr. McCandliss is also serving as the Main Scientific Advisor for the Organization for Economic Co-operation and Development's (OECD) Brain and Learning Sciences project on Literacy Development.



Discussant: Kurt Fischer

Dr. Fischer is the Charles Bigelow Professor of Education at Harvard University and is also the Director of Harvard's Mind, Brain, and Education Program. His work focuses on the organization of behavior and the ways it changes, especially cognitive development, social behavior, emotions, and brain bases. His research analyzes change and variation in diverse domains, including problem solving and co-construction in school settings, concepts of self in relationships, cultural contributions to social-cognitive development, early reading skills, emotions, child abuse, and brain development. Primary research directions include dynamic growth modeling, analysis of microdevelopmental change in real-life learning situations, emotional pathways to psychopathology, brain bases of cognitive change, and pedagogical implications of knowledge about development of cognition, emotion, and brain.

69.044 Submitted Paper Session

Language and Reading: New Research Directions in Neuroscience

Friday, April 16, 2004 from 12:25-1:55pm
Marriott, Pacific, South Tower, First Level
Session Chair: Michael Atherton,
University of Minnesota

Discussant: Bruce McCandliss, Sackler Institute

A Tale of Two Cases: Emotion and Affective Prosody after Right and Left Hemispherectomy

Mary Helen Immordino-Yang—Harvard University Graduate School of Education

Heterogeneity of Dyslexia: Behavioral and Anatomical Differences In Dyslexia Subtypes

Janet N. Zadina—Tulane University School of Medicine
Tracey A. Knaus—Tulane University Health Sciences Center
David M. Corey—Tulane University Health Sciences Center
Renee M. Casbergue—University of New Orleans
Lisa C. Lemen—Louisiana State University Health Sciences Center
Anne L. Foundas—Tulane University Health Sciences Center

An Investigation of Subtypes of Developmental Dyslexia using Taxometric Classification

Beth A. O'Brien—Tufts University, Dept. Child Development
Maureen W. Lovett—Toronto Hospital for Sick Children
Robin Morris—Georgia State University, Psychology Dept.
Maryanne Wolf—Tufts University, Dept. Child Development

Multilevel Neuroscience – Education Research: The Case of Fast ForWord

Juliana Pare-Blagoev—Harvard Graduate School of Education

58.051 Submitted Paper Session

Educational Neuroscience: Building Bridges from Research to Educational Practice

Thursday, April 15, 2004 from 2:15 – 3:45pm
Marriott, Torrey 1, North Tower, Lobby Level
Session Co-Chair: Michael Atherton,
University of Minnesota

Session Co-Chair: Gopakumar Venugopalan,
The University of Alabama

Discussant: Stephen R. Campbell,
Simon Fraser University

A Response to John Bruer's "Bridge Too Far": Linking Neuroscience to Education via Computational Neuroscience

Michael W. Connell—Harvard University Graduate School of Education

Challenges of Conducting In-School Psychophysiological Research

Barbara K. Given—George Mason University

Research Synthesis of Neuroscience Contributions to Learning and Developmental Theory: Five Years after Bruer's Challenge

Terry L. Fogg—Minnesota State University Mankato

12.013 Paper Discussion

Educational Neuroscience: Basic Research and Processes

Monday, April 12, 2004 from 1:00 - 1:40pm
Hyatt, Elizabeth Ballroom D, Second Level

Applying Neuroscience Research to Teaching and Learning: Bridging Scientists and Educators

Cynthia L. Phelps—University of Texas Health Science Center at Houston
Andrea M. Zardetto-Smith—University of Nebraska at Omaha

Learning strategies and closure on account of post-diction versus prediction: An ERP Study

Gopakumar Venugopalan, The University of Alabama

Concurrent Validity of Three Hemispheric Style Instruments

Jeremy E. Genovese—Cleveland State University

11.078 Paper Discussion

Educational Neuroscience: Practical Applications

Monday, April 12, 2004 from 12:00 - 12:40 pm
Hyatt, Elizabeth Ballroom E, Second Level

The Neuroscientific Basis of Music: Applications to the Development of Talent and Education

William M. Bart—University of Minnesota
Michael Atherton—University of Minnesota

63.019 SIG Business Meeting

Thursday, April 15, 2004
6:15 pm - 7:45 pm
Hyatt, Edward A, Second Level

Newly Elected SIG Officers

Michael Atherton, President
athe0007@umn.edu

Cynthia L. Phelps, Program Chair
cynthia.l.phelps@uth.tmc.edu

Colleen Willard-Holt, Secretary/Treasurer
cxw20@psu.edu

There were no write-in candidates.

The email vote from members of the SIG Brain, Neurosciences, and Education was exceptionally robust. We heard from so many of our members—thank you if you took time to vote in the election. Some of the mail was misdirected to Spam folders due to the multiple addressees; several late voters indicated that they retrieved the ballot from among the garbage. Members supported our officer slate enthusiastically, many attaching notes that the email contact and web information was important to them professionally.

SIG Website

<http://www.umn.edu/~athe0007/BNEsig/>

A Message from the President...

During my watch as president of BNE, inquiry into matters of physiology, chemistry, and genetics associated with mental functioning broached broadly into areas so crucial to those of us in educational research. As educational researchers, we have a vested interest in enhancing human learning, promoting adaptation, effecting mental development, and increasing motivation. As have many of our membership, I have increased the sophistication of my understanding of these areas as a result of the direct infusion of information shared by speakers from various communities engaged in neuroscience research. The generosity of mind and financial commitment of the BNE invited speakers and their supporting institutions is unparalleled in my experience. As I have remarked before, cognitive psychologists and neuroscientists appear to be eager to share important findings resulting from their investigations.

The invited session for this year is no exception. Michael Atherton, the incoming president of the BNE and current program chair, focused the session on

Controlling Thought, Action, and Emotion in the Brain: Executive Functions and Neuroscience Research Implications for Education. Charles Nelson of the University of Minnesota, Institute of Child Development, and the session discussant, Kirk Fisher, offered valuable suggestions during the formation of the panel. Members, do not miss this session!

With membership strength at a new high (approximately 163), we were able to schedule more member-proposed paper sessions, roundtables, and posters than in previous years. Our hope is that these presentations will generate further within field research influenced directly by the issues and controversies connecting the fields.

Read M. Diket, Ph.D.
William Carey College
498 Tuscan Avenue
Hattiesburg, MS 39401
(601) 310-6205

SIG Bylaws — Ratified March 2004

NEUROSCIENCES, AND EDUCATION (BNE)

Article I: Name

The name of the organization is Brain, Neurosciences, and Education. (SIG/BNE).

Article II: Affiliation

The organization, Brain, Neurosciences, and Education. (SIG/BNE), is a Special Interest Group (SIG) of the American Educational Research Association (AERA) and, as such, pays annual dues to AERA and participates in the AERA annual meeting.

Article III: Governing Authority

The Special Interest Group (SIG), Brain, Neurosciences, and Education. (SIG/BNE), shall be governed by the bylaws and articles of incorporation of the American Educational Research Association (AERA). SIG/BNE bylaws shall not conflict with the bylaws and articles of incorporation of AERA.

Article IV: Purpose

The purpose of the Special Interest Group (SIG), Brain, Neurosciences, and Education. (SIG/BNE), is to promote an understanding of neuroscience research within the educational community. The hope is to achieve this goal by promoting neuroscience research that has implications for educational practice and by providing a forum for the issues and controversies connecting these two fields. Pursuant to these purposes SIG/BNE may elect to publish its own journal, or hold occasional conferences supplementing AERA meetings.

Article V: Membership

Section 1—Eligibility. Membership in SIG/BNE shall be open to any dues-paid AERA member who supports the purpose of the organization and who pays the specified SIG dues.

Section 2—Duration. AERA members may join SIG/BNE by paying SIG/BNE dues through the AERA Central Office¹ using the appropriate AERA form². AERA members may join SIG/BNE at any time, but

SIG/BNE membership expires coterminously with a given AERA membership. SIG/BNE membership may be for either 1 or 2 years, but members joining SIG/BNE for 2 years must coterminously be members of AERA for 2 years.

Section 3—Voting Rights. All SIG/BNE members in good standing, fully paid in SIG dues, shall be entitled to vote for SIG/BNE officers.

Section 4—Dues. The amount of SIG/BNE dues may be modified by a majority of the SIG/BNE members voting by e-mail or at the annual SIG/BNE business meeting held during the AERA annual meeting.

Article VI: Officers

Section 1—General. Officers of SIG/BNE shall be elected by a majority of SIG members voting in a year in which the term of office expires and prior to the AERA annual meeting by postal or e-mail balloting. In the event that an officer resigns during their term of office, an election for that position shall follow normal election procedures in that year. If an officer fails to attend the duly called annual business meeting a replacement can be nominated and elected by the SIG/BNE members in attendance at the duly called annual business meeting. The elected officers shall comprise the Executive Committee of SIG/BNE and shall conduct all business of the SIG in the interim between the annual business meetings.

Section 2—Eligibility. All members in good standing of both AERA and SIG/BNE shall be eligible for election as officers.

Section 3—Offices. The following offices shall compose the executive committee of SIG/BNE: (1) President; (2) Program Chair; (3) Secretary/Treasurer. Persons to assist these officers or to carry out other work of the SIG may be appointed by the President.

Section 4—Terms. The term of office shall be for normally be two years, unless extenuating circumstances related to the succession of officers require that an officer hold the position for an additional year; in that case

officers must be elected for the additional year. Terms of office of the President, Program Chair and Secretary Treasurer shall expire after two years at the end of the final year's annual AERA meeting. No person may serve in any single office for more than 3 consecutive years. The Program Chair will ascend to the office of President without a vote, unless a majority of SIG/BNE members object. If any officer resigns or fails to attend the SIG Business Meeting at the annual meeting, candidates can be nominated and elected to replace them.

Section 5—Election Procedures. Each year prior to the annual AERA meeting the President, in consultation with the Executive Committee, shall appoint a Nominating Committee of no less than 2 and no more than 4 persons. The Nominating Committee shall present the slate of candidates to the SIG/BNE members, and the designated Chair of the Nominating Committee shall specify a ballot due date as part of dissemination of ballots and shall receive ballots by postal and/or e-mail. Candidates are entitled to include with the ballot a statement not exceeding 400 words. The Chair of the Nominating Committee shall announce the outcomes of the elections to the Executive Committee and all candidates at least 1 week prior to beginning of the AERA annual meeting. Election shall require a majority of votes cast; a tie vote shall be broken by a coin flip conducted at the AERA annual meeting by the Chair of the Nominating Committee or in the Chair's absence a designee of the outgoing Executive Committee.

Article VII: Duties of Officers

Section 1—President. The President shall be responsible for the general administration of the SIG/BNE and act as liaison between the SIG and AERA. The President shall preside at all meetings of the Executive Committee and at the annual business meeting. The President shall appoint ad hoc committees as needed. The President shall determine how sessions at the annual meeting will be allocated by type of session. The President shall be responsible for organizing all invited sessions for the AERA annual meetings during their term of office. The President may, at their discretion, delegate all responsibilities for organizing sessions to the Program Chair. The President shall compile and disseminate a newsletter by e-mail or other means at least once a year. The President shall be responsible for any official correspondence.

Section 2—Program Chair. The Program Chair shall organize all submitted paper sessions for the AERA annual meetings during their term of office..

Section 3—Secretary/Treasurer. The secretary/treasurer shall be responsible for the safe keeping of all financial documents and meeting minutes of SIG/BNE.

Article VIII: Meetings

Section 1—Annual Meetings. There shall be a SIG/BNE business meeting held each year in conjunction with the AERA annual meeting. Arrangements for the time and place of this meeting are the responsibility of the Program Chair.

Section 2—Governing Procedures. Issues of procedure not covered by these bylaws shall be governed by Roberts Rules of Order (Revised).

Article IX: Ratification and Amendments

Section 1—Ratification. These bylaws shall take effect upon a two-thirds vote of those members voting at

a duly called business meeting or a two-thirds of the membership by postal or e-mail voting.

Section 2—Amendments. These bylaws may be amended by two-thirds of those members voting at either the annual business meeting or by e-mail. All proposed amendments must be submitted for review by the Executive Committee at least 7 days prior to the annual business meeting.

Article X: Discontinuation

In the event that the purpose of SIG/BNE is fulfilled by another organization or it is unable to maintain membership in AERA, the organization may be discontinued by a vote requiring approval of at least two-thirds of the members of the SIG. Should SIG/BNE discontinue, its assets shall be used to pay all outstanding debts and obligations. Any remaining funds shall be donated to the American Educational Research Association.

Footnotes

¹(Attn: SIG Liaison; AERA; 1230 17th Street; Washington, DC 20036-3078)

²The "SIG Renewal Form" is distributed with AERA membership renewal forms, or may be downloaded from Web URL: <http://www.aera.net/member>

HISTORICAL NOTES by David Andrews

Marlin Languis, professor of education at Ohio State, had begun a research program exploring brain and education relations (specifically EEG related research), along with a loose collaboration of colleagues at Ohio State. He, perhaps with the collaboration or assistance of one of his graduate students (if so, it was most likely Mike Torello, who is now at Capital University) had circulated a petition for the creation of the "Psychophysiology and Education SIG" at the 1984 (I think) AERA convention. Nothing was done with it. I was on sabbatical and doing some other things at Ohio State when (by a long, convoluted, and actually fairly bizarre set of circumstances) I found out about his interest and lab. I had been teaching physiological psychology (then renamed "brain and behavior") for about 15 years at Keene State (New Hampshire) at that point.

As things worked out, I spent the rest of my sabbatical year working in his lab and stayed another year. At some point he showed me the list of signatures for the creation of a SIG. I then went ahead with getting the appropriate number of member signatures, creation of constitution, completion of all the paperwork, etc. to become a SIG.

From then until Bruce Dunn assumed the leadership, I was president, program chair, and everything else (e.g., moderator and/or discussant for nearly all the sessions, etc.). After Bruce became president, I continued on as program chair for quite awhile. Merle Wittrock was a speaker at one of the early sessions, but he never had any leadership role in the SIG or any involvement in its creation. (He and Marlin Languis collaborated on a paper, and he presented it at a symposium, but I don't know of any other involvement).

I became less involved when my institution made me an offer I couldn't refuse to assume some administrative roles and transition in to retirement.

