

**\*APPLICATION DEADLINE: Friday, March 13, 2009 at 5:00 pm**

**BROOKLINE EDUCATION FOUNDATION**  
Combined Grant Application for 2009-2010 Academic Year  
Cover Page

**APPLICATION MUST BE TYPED**

**Type of Grant** (check one):  Teacher Grant  Collaborative Grant

**Are you applying for the Charlie Baker Legacy Award?** No

**Project Title:** Learning and the Brain Conference

**Project Leader(s)/Organizer(s):** Diana Beck, ECS Program Coordinator, 617-274-6407  
diana\_beck@brookline.k12.ma.us

Is this person responsible for reporting to the BEF? Yes

**Position/Department/Teaching Area(s):** Enrichment and Challenge Support Program Coordinator

Years teaching in Brookline: 4                      Years teaching: 20

**Additional Participants:** attach sheet with name, school, telephone, e-mail address, grade(s), and department.

Carolyn Miller	Devotion	879-4400	<a href="mailto:carolyn_miller@brookline.k12.ma.us">carolyn_miller@brookline.k12.ma.us</a>	ECS Teacher
Leslie Fagen	Pierce	730-2580	<a href="mailto:leslie_fagen@brookline.k12.ma.us">leslie_fagen@brookline.k12.ma.us</a>	ECS Teacher
Debbie Mercer	Runkle	879-4650	<a href="mailto:debbie_mercer@brookline.k12.ma.us">debbie_mercer@brookline.k12.ma.us</a>	ECS Teacher
Anne Carothers	Driscoll	879-4250	<a href="mailto:anne_carothers@brookline.k12.ma.us">anne_carothers@brookline.k12.ma.us</a>	ECS Teacher
Tanya Gregoire	Lincoln and Heath	879-4600	<a href="mailto:tanya_gregoire@brookline.k12.ma.us">tanya_gregoire@brookline.k12.ma.us</a>	ECS Teacher
Tam Johnson	Lawrence	879-4300	<a href="mailto:tam_johnson@brookline.k12.ma.us">tam_johnson@brookline.k12.ma.us</a>	ECS Teacher

Have any of the applicants ever applied for a Brookline Education Foundation grant?

**Yes:**

Tanya Gregoire – applied for 2 group grants 1 of which was funded about 10 years ago, the other was not funded

Leslie Fagen – applied for 1 group grant that was not funded

Carolyn Miller – applied for 1 group grant that was funded in 2008

**Project Period:** November 20-22, 2009

**Amount Requested** \$ 4221.00

**Acknowledgement of Project Leaders:**

Date: March 11, 2009

I/We understand that, should the Brookline Education Foundation fund my/our grant application, I/we am/are obligated to submit a written evaluation of my/our project at its completion. Evaluations of projects completed during the summer will be due by December 31, 2009. Evaluations of projects completed during the school year will be due by May 31, 2010. I/We further understand that only educators employed by the Brookline Public Schools at the time the project is undertaken are eligible to receive funds.

For online submissions, please acknowledge that you have read and agreed to the above statement.   Diana Beck

**BROOKLINE EDUCATION FOUNDATION**  
Combined Grant Application for 2009-2010 Academic Year  
Project Description Section

**1. Project Summary (1-3 sentences)**

The Enrichment and Challenge Support (ECS) Program Coordinator and Resource Teachers would like to attend the Learning and the Brain Conference being held in Cambridge, MA on November 20-22, 2009. This conference offers participants the chance to learn about and make connections between neuroscience and the classroom, and between the cognitive development of children and their learning.

**2. Goal Statement**

The goal of this project is to increase ECS resource teachers' understanding of the connection between cognitive research and students' learning in the classroom in order to improve upon their instructional practices with students and their collaborative work with classroom teachers, parents and specialists.

**3. Context**

*a. Is this a new project or does it build upon ongoing work that you or others have undertaken? If it is ongoing, what is new in this proposal?*

The ECS teachers have not attended the Learning and the Brain Conference before. However, the insights and learning available at the conference will build upon the ongoing work of the ECS program which strives to better understand high achieving students who often think and learn differently. This new learning will build upon previous professional development initiatives that the ECS staff have engaged in: Critical and Creating Thinking Theory and Practices, Empowering Multicultural Initiatives, and Learning through Inquiry. Each of these professional opportunities has improved the understanding and pedagogy for each ECS teacher while providing a springboard for the development of new curriculum projects and grade level units that have been implemented by the ECS program over the past 3 years. By engaging further in this new professional development opportunity, the ECS teachers will reflect and revise the ECS programs' curriculum projects and grade level units, while increasing their working knowledge of unique learners.

*b. How have the education, training, and/or classroom experiences of the applicant(s) or participants prompted the interest or need for this project?*

The K-8 Enrichment and Challenge Support Program supports classroom teachers in providing challenging curriculum and extension opportunities for students who show a capacity for high levels of academic, intellectual, and creative achievement. Through consultation with the classroom teacher and other specialists, the ECS resource teachers observe students, consult with teachers about curriculum and instructional changes, and work with whole class, small group and individual students in need of extension opportunities.

The Enrichment and Challenge Support program is committed on working to identify and eliminate barriers to educational achievement in our schools. The ECS resource teachers purposively consult and plan with classroom teachers, METCO liaisons and Special Education staff to ensure students educational equity and access to all available supports provided by the ECS program. ECS teachers realize the various perspectives that must be considered when consulting about a student who presents with different educational and cognitive needs. ECS resources teachers strive to increase their knowledge of and skill about these students by engaging in various professional development opportunities. By attending the Learning and The Brain Conference, the pedagogical repertoire of the ECS resource teachers will be further enhanced.

#### **4. Project Description**

*Please describe the activities of the project in sufficient detail for the reviewer to understand what will be done, by whom, when (include timeline, if appropriate), how, where, etc. You may include copies of supporting material (e.g., conference brochure, tour itinerary).*

This project will allow six ECS resource teachers and the ECS Program Coordinator to attend the Learning and the Brain Conference being held on November 20-22, 2009 in Cambridge, MA. This nationally renowned conference provides the latest research involving how children learn and how teachers can impact this learning through deeper understanding of neuroscience. As participants, the ECS teachers and coordinator will have a chance to engage with distinguished professors, educators and researchers in this field. The conference begins on Friday afternoon with a featured speaker and then continues with breakout sessions focused on various aspects of neuroscience, learning and the brain. The conference continues on Saturday and Sunday. (*Note: The specific program for the 2009 conference is not available yet; the 2008 program is included as Attachment A*)

In order to provide for collaborative sharing and discourse after the first day of attending the conference, the ECS teachers and coordinator will stay at the conference hotel for one night on Friday, November 20. This will provide the needed time and space for the team to share what each teacher has engaged in and how this can impact the work of the program. This time together will allow for ideas to be shared, new learning to be discussed and deeper collaboration among the team members.

After attending the 3 day conference, the ECS program coordinator will purposely refer to the research and information gained from the conference at the ECS monthly staff meetings and during her school visits with the ECS teachers in order to strengthen the work of the program. It is anticipated that the ECS team would continue to focus on a particular aspect explored at the conference through a collaborative book group.

#### **5. Outcomes**

*Describe the anticipated outcomes of this project. What will be the benefits to you, other participants, and/or students? How do you anticipate this project will transform your teaching and thinking? To what extent does this project offer you renewal as a learner?*

The anticipated outcomes for this project includes: (1) increasing the ECS team's understanding of how high level learners and those who have the potential for high level learning, who present with different educational and cognitive needs, learn; (2) using this new understanding to improve the collaboration and consultation among ECS teachers, classroom teachers, other specialists and parents; (3) using this new understanding to reflect upon and improve the curricular units and extension projects that the ECS program provides for K-8 students; and (4) providing a common understanding among the ECS team of the connection between cognitive research and students' learning in the classroom.

#### **6. Evaluation and Dissemination**

*Describe how you plan to share the results of your project with colleagues and community groups. This might include: sharing materials you create, creating a web page, presenting at a professional meeting, writing an article for the school newsletter or the TAB, displaying student work, photos, or videos at your school.*

The ECS resource teachers will share their learning with classroom teachers, specialists and parents in consultation and collaboration on particular students and classroom needs. The ECS coordinator will share her learning with other coordinators, principals and parents(through the monthly Parent Advisory Committee meetings) in the work that occurs around new curriculum projects and program initiatives.

**BROOKLINE EDUCATION FOUNDATION**  
 Combined Grant Application for 2009-2010 Academic Year  
 Budget and Finances Section  
 To Be Completed by All Applicants

**Budget** Please provide a detailed budget. Be as specific as possible.

<b>Expense</b>	<b>Purpose</b>	<b>Cost</b>
E. Conference Fee		
	Group rate is \$475 per person for 7 people	\$ 3325.00
F. Other:		
	One night stay at Boston Marriott Cambridge Hotel – 4 double rooms @ \$199 plus tax per room	\$ 896.00
<b>TOTAL</b>		<b>\$ 4221.00</b>

**Finances**

a. Will there be additional funding from other sources? Please describe.

Participants will pay for their own transportation to and from Cambridge, MA and for food during the 3 day conference.

b. Are resources needed to continue the work of the project after the Foundation funding ends? If yes, please describe how these resources will be obtained. If no, please describe how the work of the project will be funded or continued after completion of funding by the Brookline Education Foundation.

The effects of this project will certainly continue well after the funding ends, however, no additional funding will be needed for this. As mentioned, the ECS team plans to continue their learning through a collaborative book group. This book will be purchased through the ECS program budget. If the ECS teachers would like to continue their professional development in this area, they may choose to seek additional funding from inside and outside the school system.

c. Do you foresee any potential challenges /obstacles and, if so, what is your strategy for dealing with them should they occur?

There are no potential challenges anticipated.

d. Will you be able to complete the project if only partial funding is available?  Yes  No

If only partial funding is available, would you be able to redesign the project?  Yes  No

Please explain:

The Learning and the Brain Conference, while being a very valuable and informative conference, is considered to be rather costly. Without funding through the BEF, the ECS team would not be able to attend. In order to make the most of the experience of attending a conference as a team, it is important to provide the time and space for collaborative conversations. This will be provided through the funding of one night's stay in the hotel.

# Attachment A



# LEARNING & *the* BRAIN

Using Emotions Research to  
Enhance Learning & Achievement

The 21st National Conference on  
Learning & the Brain for Parents, Teachers,  
Administrators, Clinicians & Adult Trainers

.....  
November 21–23, 2008  
Marriott Hotel & MIT Faculty Club  
Cambridge, MA



Boston's Historic Faneuil Hall



"Boston Light"



Bunker Hill Monument



Waterfront

The Mind, Brain &  
Education Program  
HARVARD  
GRADUATE

**This conference has passed. Please check the homepage for future conferenc**

**PROGRAM**

SCHOOL OF  
EDUCATION

The Comer School  
Development Program  
YALE UNIVERSITY

The Neuroscience  
Research Institute  
UNIVERSITY OF  
CALIFORNIA,  
SANTA BARBARA

Athinoula A. Martinos  
Center for Biomedical  
Imaging  
The McGovern Institute  
for Brain Research  
MASSACHUSETTS  
INSTITUTE OF  
TECHNOLOGY

The School of  
Education  
BOSTON  
UNIVERSITY

The School of  
Education  
THE JOHNS  
HOPKINS  
UNIVERSITY

The School of  
Education  
STANFORD  
UNIVERSITY

The Dana Alliance  
for Brain Initiative  
THE DANA  
FOUNDATION

THE NATIONAL  
ASSOCIATION OF  
SECONDARY  
SCHOOL  
PRINCIPALS

Presented by Public  
Information Resources,  
Inc.

**Distinguished  
Speakers**

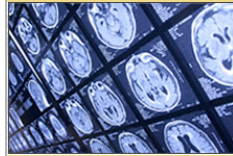
Scroll down for conference program topics

[>>Download Conference Brochure \(pdf\)](#)

[>>Download Conference Brochure for Speech-Language Pathologists \(pdf\)](#)

[>>Download Conference Post-Card \(pdf\)](#)

**Save \$75 if you register prior to August 15.**



### MIT “Brain Scan” Tour: See The Brain in Action

Tours available on Thurs., Nov. 20, and Fri., Nov. 21, as part of November Conference.

Sponsored by the Athinoula A. Martinos Center for Biomedical

Imaging, **Massachusetts Institute of Technology (MIT)**

Take this unique opportunity to tour the Athinoula A. Martinos Center for Biomedical Imaging at the McGovern Institute for Brain Research at MIT, where you will see a brain scan in action.

[>>More details](#)

### Present Poster Session at November Conference

Are you applying brain research in your school? Propose a poster session for the Ld Conference!

Proposal deadline: October 15, 2008

Propose a poster session to show how your school, classroom or practice is applying research findings to improve learning. Those whose poster submissions are accepted register and attend the Conference. Note that Conference registration is separate from submission.

[>>More details](#)

**Conference Begins: 1:30 PM on Friday, Nov. 21**

### Featured Speaker



Aaron Nelson PhD, ABPP  
Clinical Neuropsychologist  
Harvard Medical School



Angela L. Duckworth, PhD  
Assistant Professor  
Department of Psychology  
University of Pennsylvania



Bernard S. Chang, MD, MMSc  
Assistant Professor of Neurology  
Harvard Medical School



Robert B. Brooks, PhD  
Assistant Clinical Professor of  
Psychology  
Harvard Medical School



Life (1999)

Update:

**Paul Ekman, PhD**, Director, Paul Ekman Group; Professor of Psychology, **University of California, San Francisco**, will now be presenting at the February 18-21, 2009 San Francisco Learning & the Brain Conference.

### Emotional Learning and Memory

Cognitive neuroscience has found that emotions and cognition are interconnected in the learning process. They influence memory, motivation, self-discipline, academic performance, and learning disorders. At this conference, you will discover what research is revealing about the emotional brain and how these new findings can be used to improve learning, memory and academic performance.

## CONFERENCE PROGRAM TOPICS WITH A DISTINGUISHED FACULTY

### EMOTIONAL SKILLS, REGULATION & ACHIEVEMENT

#### *How Social-emotional Learning Promotes Cognitive and Academic Achievement. Teaching, Learning & Neuroscience*

New research convincingly demonstrates that social emotional learning programs not only improve children's behavioral functioning, but also can lead to improvements in cognitive and academic outcomes. Yet, we have little knowledge of how these effects occur. This talk will discuss how teaching of fundamental social and emotional skills can impact executive cognitive abilities and influence brain organization and development. Illustrations will be drawn from 28 years of research on the PATHS Curriculum.

**Mark T. Greenberg, PhD**, Bennett Endowed Chair of Prevention Research; Director, Prevention Research Center for the Promotion of Human Development; Professor, Department of Development and Family Studies; College of Health and Human Development, **Pennsylvania State University**; Member, Collaborative for Academic, Social and Emotional Learning; co-editor, *Enhancing Early Attachment* (2007)

Diane L. Williams, PhD, CCC-SLP  
Assistant Professor, Department of  
Speech-Language Pathology  
Duquesne University



Edward M. Hallowell, MD  
Child and Adult Psychiatrist



Ellen Winner, PhD  
Professor of Psychology  
Boston College



John D.E. Gabrieli, PhD  
Grover Hermann Professor in Health  
Sciences and Technology  
MIT

Jill Stamm, PhD

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### ***\*Emotions, Biology, Context and Regulation***

This talk on emotion will cover the historical changes in the meaning of this concept, its current definitions, and the dependence of meaning on the source of evidence. Dr. Jerome Kagan also will discuss the contribution of brain processes to emotions as well as the role of emotions in self-regulation and temperament.

**Jerome Kagan, PhD**, Daniel and Amy Starch Professor of Psychology Emeritus, **Harvard University**; renowned expert in child development; author of *What Is Emotions? How We Measure and Meaning* (2007); co-author of *An Argument for Mind* (2006), *A Young Child in A Growing Brain* (2005) and *The Long Shadow of Temperament* (2004)

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### ***\*Intelligent Emotion Regulation: The Wisdom of Feelings***

This talk will review how the brain creates emotional states, and how those states can be regulated.

**Lisa Feldman Barrett, PhD**, Professor of Psychology; Director, Interdisciplinary Affective Science Laboratory; **Boston College**; Co-Director, Laboratory of Aging Emotions; Associate in Research, Dept. of Psychiatry, Massachusetts General Hospital; **Harvard Medical School**; co-editor of *Handbook of Emotions* (3rd edition, 2008), *Emotions and Consciousness* (2005) and *The Wisdom of Feelings: Psychological Perspectives on Emotional Intelligence* (2002)

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### ***\*Self-Discipline, IQ and Academic Performance***

This talk examines the causal role of self-discipline in determining academic achievement, gender differences in self-discipline and achievement, and the relationship between self-discipline and academic performance.

**Angela L. Duckworth, PhD**, Assistant Professor, Department of Psychology; Research Associate, Positive Psychology Center, **University of Pennsylvania**; co-author with Psychologist Martin Seligman of "Self-discipline gives girls the edge" (2006, *Journal of Educational Psychology*) and "Self-discipline outdoes IQ predicting academic performance in adolescents" (2005, *Psychological Science*)

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Joseph E. LeDoux, PhD  
 Director, Center for the Neuroscience  
 of Fear and Anxiety  
 New York University



John J. Ratey, MD  
 Associate Clinical Professor of  
 Psychiatry, Harvard Medical School



Judy Willis, MD, EdM  
 Board-Certified Neurologist  
 Santa Barbara, CA



Jerome Kagan, PhD  
 Daniel and Amy Starch Professor of  
 Psychology Emeritus  
 Harvard University

### ***Bright From The Start: Born Ready to Connect***

In this talk, the presenter will discuss a simple, yet comprehensive, way to look at what neurosc confirms about early brain development using the ABC's of early brain development: Attention and Communication, with an in-depth look at bonding with a child. She will emphasize that the of a child's first relationships has broader and longer-lasting effects than previously understood. Emotional communication with a child creates demonstrable changes in the brain and nervous s and influences the way the brain adapts to future learning situations. Emotions affect attention ability to focus and attend) and attention, in turn, affects memory. The Speaker will explain co information in easy-to-understand ways and will explore fundamentals of early learning and so development.

**Jill Stamm, PhD**, President, New Directions Institute for Infant Brain Developmer  
 Clinical Associate Professor, Psychology in Education, Mary Lou Fulton College o  
 Education, **Arizona State University**; co-author, *Bright From The Start: The Simp  
 Science-Backed Way to Nurture Your Child's Developing Mind from Birth to Age 1  
 (2007)*

### ***Teens: Emotions and Self Development***

This talk will examine the role of emotions in the development of the self among adolescents. 1  
 this exploration, we will look at the ways in which adolescents construct their self -concepts, w  
 special focus on the neurology and psychology of resilience and self-reflection.

**Thomas J. Cottle, PhD**, Professor of Education, School of Education, **Boston Uni**  
 Sociologist and licensed clinical psychologist; Author, *When The Music Stopped (2  
 Sense of Self: A Work of Affirmation (2003)* and *Mind Fields: Adolescent Consciou  
 a Culture of Distraction (2001)*

## **EMOTIONS, EDUCATION & LEARNING**

### ***\*The Emotional Brain: The Neurobiology of Memory and Emotional Life***

Dr. Joseph LeDoux will explore his fascinating findings about understanding emotions and its  
 evolutionary origins, as well as its influence on memory. Learn how emotional responses are ha  
 into our brain circuitry, but how the things that make us emotional are learned through experien  
 Understanding emotions has important consequences for how we view ourselves and how we tr  
 emotional disorders.

**Joseph E. LeDoux, PhD**, Director, Center for the Neuroscience of Fear and Anxie  
 Professor, Center for Neural Science and Department of Psychology, **New York  
 University**; author of the award-winning books, *Synaptic Self: How Our Brains Be  
 Who We Are (2003)*, and *The Emotional Brain: The Mysterious Underpinnings of  
 Emotional Life (1999)*

### ***\*Brain Lies: How To Overcome Your Students' False Beliefs - And Your Own***

We are prone to forming false beliefs because of quirks in how our brains operate. In addition,  
 prefrontal cortex's ability to exert cognitive control does not reach peak function until after adol  
 and then declines. Dr. Wang will discuss research-based strategies on how to prevent false belie



Karen Levine, PhD  
Psychologist  
Harvard Medical School



Kenneth S. Kosik, MD  
Co-Director, Neuroscience Research  
Institute  
University of California, Santa  
Barbara



Kurt W. Fischer, PhD  
Charles Bigelow Professor  
Harvard Graduate School of  
Education



Lisa Feldman Barrett, PhD  
Professor of Psychology  
Boston College

Mariale M. Hardiman, Ed.D.  
Assistant Dean of Urban School  
Partnerships  
The Johns Hopkins University

formation in learning by students and educators alike.

**Samuel S.H. Wang, PhD**, Associate Professor of Neuroscience and Molecular Bio  
**Princeton University**; W.M. Keck Foundation Distinguished Young Investigator;  
of the National Science Foundation Young Investigator Award; co-author of the ne  
*Welcome to Your Brain* (2008)

### ***\*Connecting the Brain, Emotions & Cognition to Education***

Recent advances in neuroscience are highlighting connections between emotion, social function  
decision-making that have the potential to revolutionize our understanding of the role of affect  
education. In particular, the neurobiological evidence suggests that the aspects of cognition that  
recruit most heavily in schools, namely learning, attention, memory, decision-making and socia  
functioning, are both profoundly affected by and subsumed within the processes of emotion. M  
the evidence suggests that emotion-related processes are required for skills and knowledge to b  
transferred from school environments to real-world decision-making. The hope is that a better  
understanding of the neurobiological relationships between these constructs will provide a new  
innovation in the design of learning environments.

**Mary Helen Immordino-Yang, EdD**, Assistant Professor, Rossier School of Educ  
Research Assistant Professor, Brain and Creativity Institute for the Neurological St  
Emotion, Decision-Making, and Creativity, **University of Southern California**; a  
"Making Sense of Brain Research in the Classroom" (2001, *Council for Basic Educ  
Journal*)

### ***How Your Student Learns Best: Using Emotions & Brain-friendly Strategies to Ig Learning and Increase School Success***

After reviewing current research about how emotions and information are processed by the brai  
become knowledge, Dr. Willis will describe the teaching strategies that reduce stressors and bu  
positive emotions, motivation, engagement, and long-term memory. There will be description o  
techniques to use to facilitate the passage of information through the brain's filters into neural n  
to improve students' higher thinking and concept building far beyond their successful test-takin

**Judy Willis, MD, EdM**, Board-Certified Neurologist, middle school teacher in Sar  
Barbara, CA; author, *How Your Child Learns Best* (2008); *Brain-Friendly Strategi  
Inclusion Classroom* (2007) and *Research-Based Strategies to Ignite Student Learn  
(2006)*

### ***Connecting Emotions Research with Effective Teaching***

Emerging research in the neurological and cognitive sciences has shed light on the relationship  
emotions, cognition and learning. This presentation will focus on the influences of social-emoti  
experiences on student performance and how teachers can foster productive environments to pr  
learning. Practical application of research will be linked with the Brain-Targeted Teaching Moc  
instructional model based on the tenets of research-based effective instruction and meaningful i  
of the arts into content instruction.

**Mariale M. Hardiman, Ed.D.**, Assistant Dean of Urban School Partnerships, **The  
Hopkins University**; former public school principal; author of *Connecting Brain K*



Mark T. Greenberg, PhD  
Bennett Endowed Chair of Prevention  
Research  
Pennsylvania State University



Maryanne Wolf  
Director, Center for Reading and  
Language Research, Tufts University



Nadine Gaab, PhD  
Director, Gaab Lab  
Harvard Medical School



Rosalind W. Picard, PhD  
Professor, Media Arts and Sciences  
MIT

**Hopkins University**; former public school principal; author of *Connecting Brain & Learning with Effective Teaching* (2003)

***\*Using Emotional 'Hooks' to Super-charge Meaning-making in the Classroom***

Whether or not students learn is impacted by many factors, but one of the most crucial of these is how emotionally invested students are in the learning. Unfortunately, most teachers are not trained in methods for eliciting the enthusiastic buy-in that is so important for optimal learning. In this session, Willy Wood will take you through a quick review of the relevant research supporting the use of emotional "hooks" and then will engage you in several example lessons so you can see how to put the research into practice in your classroom. Spend a few minutes in this exciting session and you'll be "hooked"!

**Willy Wood, MA**, President, Open Mind Technologies; former high school and university teacher; national speaker on brain-based teaching

**BEHAVIOR, MOOD & LEARNING DISORDERS**

***Lost at School: The Imperative to Transform School Discipline***

Relying on research from the neurosciences, Dr. Greene offers a new conceptual framework -- presented in his latest book, *Lost at School* -- for understanding the difficulties of kids with behavioral challenges and explains why traditional discipline often isn't effective at addressing these difficulties. Emphasizing the revolutionarily simple and positive notion that kids do well if they can, he persuasively argues that kids with behavioral challenges are not attention-seeking, manipulative, limit-testing, coercive, unmotivated, but that they lack the skills to behave adaptively. And when adults recognize the true factors underlying difficult behavior and teach kids the skills in increments they can handle, the results are astounding: The kids overcome their obstacles; the frustration of teachers, parents, and classmates diminishes; and the well-being and learning of all students are enhanced.

**Ross W. Greene, PhD**, Director of the Collaborative Problem Solving Institute, Department of Psychiatry, Massachusetts General Hospital; Associate Professor, Department of Psychiatry, **Harvard Medical School**; author of *Lost at School: Why Behaviorally Challenging Kids Are Falling Through the Cracks and How We Can Help Them* (2008)

***\*The Revolutionary New Science of Exercise & the Brain: Implications for Stress and Achievement***

You will learn how exercise operates to optimize the person to be a better learner. Explore how exercise helps to keep the learner actively engaged in dealing with new information. This talk will also explore how the movements in the body affect the nerve cells themselves to make them more prone to connect one to another. Also you will be introduced to the whole concept of how exercise aids stress reduction, behavior, ADHD and learning.

**John J. Ratey, MD**, Associate Clinical Professor of Psychiatry, **Harvard Medical School**; author of the best selling books, *Spark: The Revolutionary New Science of Exercise and the Brain* (2008) and *A User's Guide to the Brain* (2002); co-author of *Delivered from Distraction: Getting the Most Out of Life with ADD* (2005)



Rosemary S. Caffarella, PhD  
Professor and International Professor  
of Education  
Cornell University



Ross W. Greene, PhD  
Director, Collaborative Problem  
Solving Institute  
Massachusetts General Hospital



Samuel S.-H. Wang, PhD  
Associate Professor of Neuroscience  
and Molecular Biology  
Princeton University



Stephen M. Shore, EdD  
Adjunct Instructor  
Antioch College

### ***\*Working with Angry and Resistant Students: Strategies to Nurture Motivation, S discipline, and Resilience***

Angry, resistant students pose special challenges for educators. In his presentation Dr. Brooks highlight a strength-based approach for working with these youngsters and he will describe spe strategies for increasing motivation, responsibility, and resilience while lessening anger and counterproductive behaviors in students. To learn factors that contribute to a student displaying and resistance in the learning environment. To learn the characteristics of the mindset of educat subscribe to a strength-based approach and are more successful in working with challenging stu learn specific strategies for managing resistant behaviors in students while reinforcing their mo self-discipline, hope, and resilience.

**Robert B. Brooks, PhD**, Assistant Clinical Professor of Psychology, **Harvard Med School**; co-author of *Raising a Self-Disciplined Child* (2007), *The Power of Resilie* (2004), and *Raising Resilient Children: Fostering Strength, Hope, and Optimism in Child* (2001); author of *The Self-Esteem Teacher* (1991)

### ***Collaborative Problem Solving: Helping Kids with Social, Emotional, and Beha Challenges***

Based on the ground-breaking approach popularized in his acclaimed parenting guide, *The Exp Child*, Dr. Greene will provide a detailed framework for effective, individualized intervention v highly oppositional children and their families. He will also share examples to show how to ide specific cognitive factors that contribute to explosive and noncompliant behavior, remediate the factors, and teach children and their adult caregivers how to solve problems collaboratively. Dr will also describe challenges that may arise when implementing the model and provide clear an practical solutions.

**Ross W. Greene, PhD**, Director of the Collaborative Problem Solving Institute, Department of Psychiatry, Massachusetts General Hospital; Associate Professor, Department of Psychiatry, **Harvard Medical School**; author of *Lost at School* (200), *The Explosive Child* (2005); co-author of *Treating Explosive Kids: The Collaborati Problem Solving Approach* (2005)

### ***\*Super-teaching and Super-parenting for ADHD***

This talk will draw upon Dr. Hallowell's new book, "Super Parenting for ADD" subtitled "An I Approach to Raising Your Distraught Child." Dr. Hallowell will discuss new interventions suc cerebral stimulation, the Kolbe strength-based assessment, the LENS Neuro Feedback Treatme of Omega 3 fatty acids, meditation and mindfulness training. Most importantly, he will stress th and forgotten interventions like connecting with the real person and providing love and support

**Edward M. Hallowell, MD**, Child and Adult Psychiatrist; Founder of The Hallow Center for Cognitive and Emotional Health; former faculty member, **Harvard Med School**; renowned expert on ADHD; author of *CrazyBusy: Overstretched, Overbooked, and A Snap!* (2006), *Childhood Roots of Adult Happiness* (2003) and *Worry* (1998); co-author of *Posi ADD* (2006) and *Delivered from Distraction: Getting the Most out of Life with Attention Defici* (2005)

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### ***\*Coaching Your AD/HD Brain To Take Control***

This talk will discuss how coaching can help pave the way for learning to occur. By working with an ADHD coach, individuals with ADHD can develop new ways to compensate for ADHD symptoms by developing positive habits to replace negative, self-defeating behavior patterns. Rehearsing activities with a coach can help to forge new neural pathways in the brain so it can develop competencies in areas that historically have been deficient. Essentially, individuals can learn, through coaching, to self-organize and change so they can function successfully in their personal and professional lives.

**Nancy Ratey, EdM, MCC**, Master Certified Coach; Past President, Attention Deficit Disorder Association (ADDA); author of *The Disorganized Mind: Coaching Your ADHD Brain to Take Control of Your Time, Tasks, and Talents* (2008)

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## **READING, LANGUAGE & MUSIC**

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### ***\*Reading, Dyslexia and the Disorganized Brain***

This talk will introduce what is known about the process of cerebral cortex development and how abnormalities in cortical development may teach us something about how the brain performs complex cognitive tasks, such as reading. In particular, the talk will focus on our recent studies of individuals with a developmental brain malformation called periventricular nodular heterotopia - a disorder in which there are multiple misplaced regions of gray matter within the brain. Individuals with this malformation have a singular form of reading disability characterized by an isolated deficit in fluency, and our neuroimaging research has shown that defects in white matter organization may be the structural basis for this reading problem.

**Bernard S. Chang, MD, MMSc**, Assistant Professor of Neurology, **Harvard Medical School**, Fellow, Comprehensive Epilepsy Center, Beth Israel Deaconess Medical Center; co-author of a study on the correlation between disorganized white-matter tracts and difficulty in reading

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## ***The Relationship Between Music and Phonological Processing in Children with Dyslexia***

This talk will present results from two studies will be discussed demonstrating a relationship between auditory processing in music and language-related skills. In children without any reading difficulties, music discrimination ability predicted phonological and reading skills. In children with dyslexia, music discrimination ability predicted phonological skills, which in turn predicted reading ability. I will conclude by suggesting that music intervention might help to remediate the phonological deficit underlying dyslexia.

**Ellen Winner, PhD**, Professor of Psychology, College of Arts and Sciences, **Boston College**; Senior Research Associate at Project Zero, **Harvard Graduate School of Education**; author of *The Point of Words: Children's Understanding of Metaphor and Idioms* (1988); co-author of "The relation between music and phonological processing in normally reading children and children with dyslexia" (2008, *Music Perception*)

## ***\*Learning and the Brain for Developmental Language Disorders***

Diane L. Williams, PhD, CCC-SLP will describe what is known about the neurobiological basis of language impairments associated with developmental disorders, including specific language impairment, dyslexia, autism, Fragile X, Williams Syndrome and Down Syndrome. Principles of brain-based intervention in consideration of the biological constraints resulting from these developmental disorders will be discussed.

**Diane L. Williams, PhD, CCC-SLP**, Assistant Professor, Department of Speech-Language Pathology, **Duquesne University**; Post Doctoral Research Fellow, Division of Child and Adolescent Psychiatry, **University of Pittsburgh**; author, *Learning and the Brain in Developmental Language Disorders* (2008)

## ***Connecting Musical Experience, Auditory Processing and Language Development***

Are musical training and reading skills connected? Can auditory-based or even music-based interventions help struggling readers to improve their reading skills? Various studies have shown a relationship between auditory and musical training and improved language and reading skills in children and adults. Understanding the brain networks involved in reading development and reading impairment such as developmental dyslexia has important implications for students, parents, and educators. I will discuss the relationship between musical training, auditory-based intervention programs and language and reading development.

**Nadine Gaab, PhD**, Director, Gaab Lab.; Assistant Professor of Pediatrics, Division of Developmental Medicine, Laboratories of Cognitive Neuroscience, Children's Hospital Boston, **Harvard Medical School**; Faculty, **Harvard University Graduate School of Education**; co-author of "Dynamic Auditory Processing, Musical Experience and Language Development" (2006, *Trends in Neurosciences*)

## ***\*Reading Skills and Disabilities: What Is the Role of Educational Neuroscience***

In schools, students learn by building knowledge along specific skill pathways, mastering the specific tools of mathematics, literacy, and other human inventions. Modern cultures have created schools

main institution for promoting this learning beyond the family, but schools must change if they educate not only an elite but everyone. Different students build knowledge in diverse ways, and innovation required in 21st century education are understanding these diverse pathways so that can help all children learn what they need to be effective human beings. Cognitive and neurosci beginning to provide tools for facilitating learning along many distinct pathways.

**Kurt W. Fischer, PhD**, Charles Bigelow Professor; Director, Mind, Brain & Education Program (MBE), **Harvard University Graduate School of Education**; Director, International Mind, Brain and Education Society (IMBES); Editor, *Mind, Brain & Education Journal*; Co-editor, *Mind, Brain and Education in Reading Disorders* (2

## DRAMA, THE ARTS & TECHNOLOGY

### *\* Theater Experience and Building Social-cognitive Skills*

In this talk, Thalia Goldstein and Ellen Winner will outline the connections between social cognitive development and acting training. They will focus on the ability to understand others' mental states, to feel empathy for them, and to understand and control one's own emotions. They will outline a project research looking at how acting training may be linked to giftedness in these skills, and how acting can train social cognitive learning in children and adolescents.

**Ellen Winner, PhD**, Professor of Psychology; Principal Investigator, Laboratory for Teaching, Learning and Cognition in the Arts, **Boston College**; Senior Research Advisor at Project Zero, **Harvard Graduate School of Education**; author of *Studio Thinking: Visual Arts Teaching Can Promote Disciplined Habits of Mind* (2007)

**Thalia Goldstein, PhD candidate**, Laboratory for Teaching, Learning and Cognition in the Arts, Department of Psychology, **Boston College**; professional actress and dancer; researcher on the study of emotion regulation in actors as a way of understanding the underpinnings of exceptional ability in emotion regulation

### *Using Drama and Play to Enhance Social-emotional Development for Children With Developmental and Mood Disorders*

Very young children and children with developmental delays/disabilities including autism, are not able to access talking therapy or more traditional child-led play therapy to master situations that cause them emotional distress, yet emotional lability is very common in these populations. In this talk, Karen Levine outlines a technique, Replays, of using interactive dramatic play, combined with puppets to guide the child through playful re-enactments of their own intense responses to specific upsetting situations in a manner that is accessible to children even before they are able to engage in spontaneous pretend play, and often leads to substantial decrease in upset response patterns. Hypotheses regarding the underlying mechanisms of change, as well as our current research program will be discussed. Video of the technique will be shown.

**Karen Levine, PhD**, Psychologist; Clinical Director, Autism and Developmental Disabilities Program, Center for Child and Adolescent Development (CCAD), Cambridge Health Alliance; Instructor, **Harvard Medical School**; Member, National Boards of Directors, International Council for Development and Learning Disorders; co-author of *Replay: Using Play to Enhance Emotional And Behavioral Development for Children With Spectrum Disorder* (2007)

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### ***\*Emotional Intelligence Technology: Improving Learning, Tutors & Autism***

The use of the computer as a model, metaphor, and modeling tool has tended to privilege the 'cognitive' over the 'affective' by engendering theories in which thinking and learning are viewed as information processing and affect is ignored or marginalized. In the last decade there has been an accelerated finding in multiple disciplines supporting a view of affect as complexly intertwined with cognition, guiding rational behavior, memory retrieval, decision-making, creativity, and more. Researchers are looking to redress the imbalance by developing theories and technologies in which affect and cognition are appropriately integrated with one another. Professor Rosalind Picard will describe and conduct demonstrations of new work in that direction at the MIT Media Lab, including technology used in learning tutors, emotion self-regulation, and autism intervention.

**Rosalind W. Picard, PhD**, Professor, Media Arts and Sciences; Founder/Director, Affective Computing Research Group, Media Laboratory, **Massachusetts Institute of Technology**; Co-Director, Things That Think Consortium; author of the award-winning book, *Affective Computer* (1997)

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### ***\*Building Emotionally-Intelligent Tutors for the Classroom***

Professor Beverly Woolf will describe intelligent tutors that recognize student affect (frustration, boredom, motivation) and provide appropriate interventions. These tutors already know the answers to the problems the students are working on and infer a student's cognitive ability. They have been used by thousands of students in classrooms and reason about which type of hints to present in each context. The presence of a human companion who cares, or at least appears to care is motivating for students. Can a noted human relationship be reproduced, in part, by assistance and apparent empathy from a computer agent? Find out the results in this talk. The research she will describe is based on efforts at the University of Massachusetts, Arizona State University and the MIT Media Lab.

**Beverly P. Woolf, PhD, EdD**, Associate Research Professor, Department of Computer Science; Director, Center for Knowledge Communication and the Center for Computer-Based Instructional Technology, **University of Massachusetts, Amherst**; Fellow of the American Association of Artificial Intelligence (AAAI); author of the new book, *Building Emotionally Intelligent Interactive Tutors* (2008)

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### ***\*Emotions, Music and Reading/Math Skills***

Dr. Martin Gardner will present data relating music skill learning to long-term improvements in math and reading in Elementary School children. The students who enjoyed the Kodaly method of music training and also the music used in these studies and this can help explain why they learned music skills to an impressive degree even at this young age. But why should this musical skill learning have a broader impact beyond music itself? Our studies, other related studies presented at this session and other published research all imply an important specificity as to which aspects of music skill learning transfer to which aspects of skill learning within another skill area such as reading. Gardner will outline an explanation involving procedural learning that he is proposing regarding these data, and suggest the general potential for education.

**Martin F. Gardner, PhD**, Visiting Research Associate, Center for the Study of Human Development; **Brown University**; Director of Research, The Music School, RI; co-author of "Learning improved by arts training" (1996, *Nature*: 381,284), "Music, Learning and Behavior: A Case for Mental Stretching" (2000, *Journal for Learning Through Music*)

"The Human Ecology of Music" (2002, *Encyclopedia of Human Ecology*)

## ADULT LEARNING, MOTIVATION & MEMORY

### *\*Adult Brains: Emotions, Memory & Context*

In this talk, John Gabrieli, PhD, will discuss his research on how adults form richer memories a context than children, the science behind the older-and-wiser hypothesis, and studies of young people on their ability to regulate emotions and how they view positive and negative images.

**John D.E. Gabrieli, PhD**, Grover Hermann Professor in Health Sciences and Tech Professor, Brain and Cognitive Sciences; Associate Director, Athinoula A. Martino for Biomedical Imaging, McGovern Institute for Brain Research, **Massachusetts Institute of Technology**

### *\*Understanding Adult Motivation to Learn: A Neuroscientific and Cultural Perspective (for All Educators)*

This talk will focus on the neuroscientific concepts that are most relevant to adult motivation and learning. The presentation will address and exemplify key motivational strategies for adults that are confirmed by educational and neuroscientific research. This session will introduce a model for instruction that is responsive to a neuroscientific and cultural understanding of adults.

**Raymond J. Wlodkowski, PhD**, Licensed Psychologist; Research Professor Emeritus and Director, Center for the Study of Accelerated Learning, **Regis University**; recipient of the award for outstanding research from the Adult Higher Education Alliance; author, *Enhancing Adult Motivation to Learn* (2008); co-author, *Accelerated Learning for Adults* (2003) and *Creating Highly Motivated Classrooms for All Students* (2000)

### *\*Exploring Learning in Adulthood: Intelligence, Wisdom and Context*

In this talk and interactive presentation, Professor Rosemary Caffarella will first argue that being intelligent, no matter how defined, is not enough to address the complexity of the problems and challenges we face in the 21st Century. She will then initially explore how linking the concepts of intelligence, wisdom, and context might provide a more powerful theoretical lens for understanding learning in adulthood. This talk is followed by small and large group discussions of the ideas being presented, with an emphasis on the premises being presented and the effects of how bringing these concepts together might lead to different ways of thinking about adult learning both as research and as educators.

**Raymond J. Wlodkowski, PhD**, Licensed Psychologist; Professor Emeritus, DePaul University

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of Psychology, **Regis University**, Founding Executive Director, Commission for Accelerated Programs (CAP); recipient of the award for outstanding research from Adult Higher Education Alliance; author, *Enhancing Adult Motivation to Learn* (2000); author, *Accelerated Learning for Adults* (2003) and *Creating Highly Motivated Classrooms for All Students* (2000)

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***\*The Adult Brain & Memory: How Learning Protects Against Alzheimer's***

One of the most startling discoveries in the field of Alzheimer's research is the finding that education protects one from this dreaded disease. This finding raises the stakes even higher than they already are for ensuring that our education systems are effective throughout life. This effect, called the "brain reserve" hypothesis, states that with education, people enhance brain function so the earliest structural changes related to Alzheimer's disease have little clinical impact. Education thus offers a powerful strategy to stave off Alzheimer's disease.

**Kenneth S. Kosik, MD**, Co-Director, Neuroscience Research Institute; Harriman Chair and Professor of Neuroscience Research, Department of Molecular, Cellular and Developmental Biology, **University of California, Santa Barbara**; co-author of *When Someone You Love Has Alzheimer's* (1997)

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***\*The Adult Brain: Optimizing and Protecting Memory***

This talk will address prevention and proaction including the path to optimal memory, practical strategies to enhance everyday memory, behaviors for effective learning and memory, memory techniques, and what's on the horizon for preventing and curing memory disorders.

**Aaron P. Nelson PhD, ABPP**, Clinical Neuropsychologist; Chief of Psychology and Neuropsychology at Brigham and Women's Hospital; Assistant Professor, **Harvard Medical School**, co-author of *Harvard Medical School Guide to Achieving Optimal Memory* (2005)

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## What attendees are saying:

*"The entire conference was extremely useful! As a public school educator, the opportunity to work side-by-side with those involved in the latest research involving how children learn is an important and extremely valuable opportunity."*

--Darryl Cross, Assistant Superintendent, Weatherford TX

*"It was a wonderful conference, and I have brought back a great deal of information to share with my faculty. Perhaps next year we can bring a larger group with us to the conference."*

-- Mary Ann Scott, School Psychologist, Park Tudor School, IN

*"This Conference has had a life-changing impact on us."*

--Kathy Qualman, Learning Center Director, The Catlin Gabel School, OR

*"I usually go to conferences to present my own research, but this one is special I go to learn, to sit in an audience and take notes, often spellbound.... my teaching and clinical work are put aside, and it is enormous fun for me."*

--Lynn E. O'Connor, Ph.D. Professor, The Wright Institute; Associate Clinical Professor, University of California, Berkeley; Director, Emotion, Personality & Altruism Research Group

*"It's just so stimulating!"*

--Heidi Baldassare, Learning Specialist, City College of San Francisco

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