

# Educational Neuroscience of Reading Symposium



Teachers College | September 23, 2023

Teachers College and the Neurocognition of Language Lab welcome you to a comprehensive symposium discussing the latest research on the neural bases of reading—and its implications for teaching and learning.

## AGENDA | ALL EVENTS TAKE PLACE IN MILBANK CHAPEL

**9:00 - 9:45 AM: BREAKFAST & REGISTRATION**

**9:45 - 10:10 AM: WELCOME — KAREN FROUD**

**OPENING REMARKS — PROVOST KERRYANN O'MEARA**

### 10:10 - 11:10 AM: EDUCATIONAL NEUROSCIENCE OF READING: PURPOSES AND CONSEQUENCES

**John Gabrieli**, Professor and Director, Athinoula A. Martinos Imaging Center and Grover Hermann Professor of Health Sciences and Technology and Cognitive Neuroscience, McGovern Institute for Brain Research, MIT



**11:10 - 11:45 AM: BREAK IN EVERETT LOUNGE**

### 11:45 - 12:45 PM: DYSLEXIA, RHYTHM, LANGUAGE, AND THE DEVELOPING BRAIN

**Usha Goswami**, Professor and Director, Centre for Neuroscience in Education at Cambridge Neuroscience, University of Cambridge



**12:45 - 2:00 PM: LUNCH — [LINK HERE FOR RESTAURANTS IN THE AREA](#)**

**2:00 - 2:10 PM: REMARKS — VICE-PROVOST JUSTIN PEARLMAN, COLUMBIA UNIVERSITY**

**2:10 - 2:25 PM: INTRODUCTION AND BACKGROUND FOR THE DIGITAL / PRINT MEDIA STUDY — JOHN R. MACARTHUR, PRESIDENT AND PUBLISHER, HARPER'S MAGAZINE**

### 2:25 - 3:25 PM: READING INTO THE FUTURE: THE DIGITAL/PRINT MEDIA STUDY

**Karen Froud**, Director, Neurocognition of Language Lab and Associate Professor, Neuroscience and Education, Teachers College, Columbia University



### 3:25 - 4:25 PM: NYC READS: LARGE SCALE IMPLEMENTATION OF SCIENCE BASED LITERACY INSTRUCTION

**Jason Borges**, Executive Director of NYC Public Schools Literacy Collaborative, Department of Curriculum and Instruction, New York City Department of Education



**4:25 - 5:00 PM: BREAK IN EVERETT LOUNGE**

**5:00 - 6:00 PM: PANEL DISCUSSION — DR. GABRIELI, DR. GOSWAMI, JASON BORGES**

**6:00 - 7:00 PM: WINE AND CHEESE RECEPTION IN EVERETT LOUNGE**

The primary goal of the Educational Neuroscience of Reading Symposium is to facilitate cross-disciplinary dialogue and collaborations between researchers, educators and policymakers working to improve literacy outcomes.

The following aims have been developed in support of this goal:

- To bring together a multidisciplinary group of researchers, educators, and policymakers to discuss research on the neural bases of reading and the implications for teaching and learning.
- To promote a greater understanding of the neurobiology of reading, including how it develops during childhood and adolescence, how it varies across languages and cultures, and how it is affected by different learning environments and instructional approaches.
- To present established and emerging research on how the brain processes written language, how different aspects of reading are reflected in neural responses, and how the neural circuitry of reading might differ for individuals with reading difficulties.
- To support broader understanding of the applications of neuroimaging research to questions of direct relevance to pedagogy, to enhance understanding of the experimental applications of fMRI, EEG, and MEG, and to discuss how these methods enable investigations of the neural bases of reading.

The symposium will also provide an opportunity to examine the implications of neuroscience research for educational practice. We will discuss how insights from neuroscience may guide interventions and instructional strategies that promote reading skills among diverse learners.

We would like to take this opportunity to highlight the Program in Neuroscience and Education, a discipline that originated at TC in the 1970s and that is continuing to grow with the development of its Ph.D. program. We encourage you to learn more about the program at [the link here](#). September 2023 also marks the anniversary of the Neurocognition of Language Lab, where cutting-edge research into language and literacy across the lifespan and across cultures has been conducted for the past 20 years.

# Speaker Information

## Professor Usha Goswami



**Professor Usha Goswami**, CBE, FRS, FBA, is a researcher and professor of Cognitive Developmental Neuroscience at the University of Cambridge, a Fellow of St. John's College, Cambridge, and the director of the Centre for Neuroscience in Education. She obtained her Ph.D. in developmental psychology from the University of Oxford before becoming a professor of cognitive developmental psychology at the University College London.

Goswami's work is primarily in educational neuroscience with major focuses on reading development and developmental dyslexia. Formerly a primary school teacher, Professor Goswami has received many honors and awards acknowledging her research contributions to educational neuroscience, including the British Psychology Society Spearman Medal (for early career research excellence), the Norman Geschwind-Rodin Prize (a Swedish award for research excellence in the field of dyslexia). Her work has been funded through research fellowships from the National Academy of Education (USA), the Alexander von Humboldt Foundation (Germany), and the Leverhulme Trust (UK). She has served on the National Curriculum and the National Literacy Project, the Foresight Project on Mental Capital and Wellbeing, and the Managing Committee of the European Concerted Action on Learning Disorders as a Barrier to Human Development. In 2013 she was selected as a Fellow of the British Academy, awarded to those with academic distinction in their research. Goswami has also been a member of several research boards including the ESRC Research Grants Board (1998-2000), the Neurosciences and Mental Health Board of the Medical Research Council (1999-2003), and the Cross Board Group of the Medical Research Council (2001-2003). Usha Goswami was awarded the Yidan Prize for Education Research in September 2019 for her ground-breaking neuroscience research in understanding brain function, which allows educators to design different teaching pedagogy, techniques and tools to help children with dyslexia and special needs to learn languages more effectively.

Goswami was appointed Commander of the Order of the British Empire (CBE) in the 2021 New Year Honors, for services to educational research; and was elected a Fellow of the Royal Society in May 2021.

## Professor John D. Gabrieli



**Professor John D. Gabrieli** is a neuroscientist at the Massachusetts Institute of Technology, and a senior Investigator at the McGovern Institute for Brain Research. He is the Grover Hermann Professor of Health Sciences and Technology, a faculty member in the department of Brain and Cognitive Sciences, and director of the Athinoula A. Martinos Imaging Center, part of the McGovern Institute.

Gabrieli is an expert on the brain mechanisms of human cognition, including memory, thought and emotion. His work includes neuroimaging studies across the lifespan, with a specific emphasis on the neural processes that support reading and learning. He has also investigated multiple brain disorders, including schizophrenia, depression, Alzheimer's disease, autism, and – especially – dyslexia.

As a graduate student with Suzanne Corkin at MIT he carried out research with the famous HM, who was a globally amnesic patient as a result of epileptic surgery. Gabrieli was among the first to demonstrate the importance of the parahippocampal cortex in the formation of memories. In collaboration with Christopher deCharms and colleagues he was the first to demonstrate that human subjects could learn to control their own brain activity using real-time feedback from functional MRI.

In 2008, Gabrieli was elected as a fellow of the American Association for the Advancement of Science, which cited his "penetrating analyses of the nature of human memory, its neural substrates, its development, and its problems." His current research is focused on the use of brain imaging to identify children who are at risk for reading difficulties and to understand how reading instruction affects the brain.

## Jason Borges



**Jason Borges** is the Executive Director of Literacy and Academic Intervention Services, NYC DOE, as well as a literacy leader and specialist. His journey began in teaching over twenty years ago in alternative schools in Massachusetts for students with disabilities. He has served in the Special Education Office in the NYC DOE as Senior Director of Intensive Interventions and Director of Academic Intervention Services in the Office of Curriculum, Instruction, and Professional Learning.

Jason sees literacy as a foundation for educational justice. He is committed to continue serving NYC DOE schools as Executive Director of Literacy and AIS in developing literacy environments where all students learn skills that will help them engage with and adapt to changing media, contexts, and to use knowledge towards a more just world.

## Professor Karen Froud



**Dr. Karen Froud** is Associate Professor of Neuroscience and Education at Columbia University's Teachers College. Originally trained in the UK (and certified in the United States) as a speech-language pathologist, she has worked extensively with clinical populations from children with speech sound disorders to adults with severe neurological disabilities.

Dr. Froud's doctoral and post-doctoral work was conducted in theoretical linguistics and neurosciences, at University College London and the Massachusetts Institute of Technology. She joined the Teachers College faculty in 2003 and is now Program Director for Neuroscience & Education, and lead investigator of the Neurocognition of Language Lab.

Dr. Froud has provided consultation, clinical services, and professional training around the world. She consulted for Save the Children's Education Cannot Wait project to develop ecologically valid educational assessments for children in refugee camps; she provided the first graduate-level trainings in cognitive psychological assessment for speech-language pathologists in Sri Lanka; and she continues to support clinical service provision and disability outreach for resource-poor communities in rural Cambodia. She is a certified Institutional Review Board (IRB) professional with expertise in research compliance and the ethical conduct of research with human participants in diverse communities.

Research in Dr. Froud's lab uses brain imaging techniques to investigate questions about the neuroscience of language, learning, and cognitive processing across the lifespan, with an emphasis on multilingualism, literacy, and speech-language impairment. Her work centers the importance of pedagogical and clinical applications for effective communication, language, and learning for all.

**Thank you so much for  
joining us today.**