

Neuroscience 2012

13–17 OCTOBER 2012

Ernest N. Morial Convention Center
New Orleans, LA
Approximate attendance: 28,500



NEUROSCIENCE 2012

Neuroscience 2012 was the 42nd annual meeting of the Society for Neuroscience, an organization of more than 42,000 basic scientists and clinicians who study the brain and nervous system. The meeting is an ideal opportunity for the neuroscience community to present new research and to network with colleagues and also represents a key source of emerging news about brain science and health for the public. This year, the program included thousands of abstracts, lectures, symposia, workshops and events; scientists from nearly 75 countries presented more than 16,500 posters.

Career development was highlighted at the meeting, beginning with the NeuroJobs Career Fair on Saturday (13 October). Throughout the week, lectures about interview skills; different job sectors (academic research, teaching, private enterprise, “beyond the bench”); collaboration; and training were mixed with networking events and workshops targeted to specific career stages (such as early career development and mid-career opportunities). More than a dozen prizes and awards were presented, including lifetime achievement awards to Michael Zigmond and Martha Constantine-Paton; career development awards to Anne Churchland and Dayu Lin; and young investigator awards to Rui Costa and Guo-li Ming.

Communication was also emphasized in the program with presentations on scientific publishing and panel discussions on communicating research. In a Public Advocacy Forum titled “The Developing Brain—How Research and Advocacy Are Shaping Public Policy” on Tuesday (16 October), participants discussed the effects of early childhood environment on brain development and the need to bring this information to the attention of policy makers. Vincent J. Felitti (Kaiser Permanente Medical Care Program, University of California, San Diego) described the Adverse Childhood Experiences (ACE) study, which explores how ten types of adverse experiences in childhood, such as abuse, are related to health, well-being and disease outcomes. Christine Heim (Charité University of Medicine, Berlin, Germany) discussed the neurobiological consequences of childhood trauma and their relationship to depression and anxiety. The researchers were joined by Rob Grunewald (Federal Reserve Bank of Minneapolis, MN), who provided an economics-motivated perspective on the value of public investments in childhood development. Pat Levitt (University of Southern California, Los Angeles) closed out the forum by presenting materials developed for the National Scientific

Council on the Developing Child, a policy group that informs legislators on research related to brain and childhood development.

New research on brain development during early childhood was introduced at Neuroscience 2012 during a press conference on Tuesday morning. Layla Banihashemi (University of Pittsburgh, PA) presented work showing that physical abuse during early childhood could alter communication between “body control” areas in the brain, potentially predisposing adults to cardiovascular disease and mental health disorders. Eric Pakulak (University of Oregon, Eugene) discussed his research associating childhood poverty with changes in working memory and attention in adults. Suzanne Houston (University of Southern California, Los Angeles) also reported that parental education levels and income are positively correlated with brain size in children. In animal research, Mar Sanchez (Emory University, Atlanta, GA) discussed studies showing that chronic stress in infant rhesus macaques led to changes in stress hormone production and in development of the amygdala that in turn led to increases in fearful and aggressive behaviors.

Neurodegeneration in aging and disease was another focal point at Neuroscience 2012. Lennart Mucke gave a Special Lecture on Tuesday (16 October) on “Alzheimer Mechanisms and Therapeutic Strategies,” and several presenters reported new results from studies targeting early identification of the disease. Lori Beason-Held (National Institute on Aging, Bethesda, MD) showed that people with age-related cognitive impairment underwent changes in brain function that could be detected by positron emission tomography years before they developed symptoms. William Klein (Northwestern University, Evanston, IL) presented an antibody-based imaging probe that could distinguish between diseased and normal brain tissue in a mouse model of Alzheimer’s disease. Paula Desplats (University of California, San Diego) identified epigenetic signatures of Alzheimer’s disease and two other disorders that could aid accurate diagnosis and enable early treatment.

In a press conference on Monday (15 October) publicizing the latest results, moderator Samuel Gandy (Mount Sinai School of Medicine, New York, NY) said, “Being able to detect AD [Alzheimer’s disease] early—perhaps even before symptoms begin—is an essential pre-condition if we are to develop effective treatments that slow or stop the changes that occur in the brain during Alzheimer’s.”