

Steve E. Maier, Ph.D.

M.I.N.D. Institute Distinguished Lecturer Series – May 9, 2012

Biographical Information

Steven F. Maier, Ph.D., is a University of Colorado Distinguished Professor and the Director of the Center for Neuroscience at the University of Colorado. He received his Ph.D. from the University of Pennsylvania in 1968 and has been at the University of Colorado since 1973. He has received numerous awards including the Norman Cousins and the Neal Miller Distinguished Lectureship Awards, The D. O. Hebb Distinguished Research Award and the Award for Distinguished Scientific Contributions from the American Psychological Association (APA), and is a Fellow of the APA, Association for Psychological Science, and American Association for the Advancement of Science. He has held both career and MERIT awards from the NIH, has served on numerous NIH study sections, and has edited and been on the editorial boards of numerous journals. He has authored or co-authored over 300 scientific papers.

Dr. Maier's research falls into two broad areas. One centers on interactions between the brain and the immune system, with the study of both elucidating how the brain regulates immune processes and how products of immune cells signal the brain. The current emphasis of this research is on understanding the mechanisms of immune-to-brain signaling at pathway, cellular and molecular levels, and the implications of these signaling pathways for understanding stress, mood disturbances, cognitive impairment, and exaggerated pain states. The other main area centers on an exploration of the variables that modulate the impact of stressors on brain chemistry and the neurochemical mechanisms by which stressors alter behavior, mood, and an organism's reactions to drugs of abuse.

Presentation Abstract (The Role of Hippocampal Microglia in Age-Related Cognitive Decline)

The biological causes of cognitive declines that occur during normal healthy aging remain obscure. It has frequently been observed that such declines occur precipitously after the individual has experienced a peripheral inflammatory event such as infection or surgery. This presentation will trace pathways that lead from peripheral inflammation to neuroinflammation, with the exaggerated neuroinflammatory events in the aging individual that are mediated by microglia, being causal. These inflammatory processes, such as interleukin-1 production, will, in turn, be shown to inhibit growth factors that are necessary for neural plasticity and memory. Such studies transcend disease state, and provide critical new information about the potential role of inflammation in altering brain function in children and adults alike, and the relationship between peripheral and neuroinflammation.

<http://psych.colorado.edu/~mwlab/publications.html>