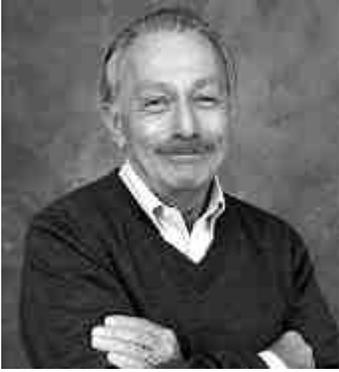


MEET THE RESEARCHER: Floyd E. Bloom, M.D.



Floyd E. Bloom, M.D. is professor emeritus at The Scripps Research Institute in La Jolla, California. He was chairman emeritus of the department of neuropharmacology at The Scripps Research Institute, past president of the American Association for the Advancement of Science, former president of the Society for Neuroscience and of the American College of Neuropsychopharmacology, former editor-in-chief of *Science* (1995-2000), director of behavioral neurobiology at the Salk Institute for Biological Studies, and chief of the Laboratory of Neuropharmacology of the National Institute of Mental Health.

Dr. Bloom recently won the RSA Lifetime Achievement Award at the Research Society on Alcoholism's annual meeting in June 2012 in San Francisco, California.

Writer Sherry Wasilow interviewed Dr. Bloom from his office in San Diego.

Writer Sherry Wasilow interviewed Dr. Bloom from his office in San Diego.

SW: How did you begin your work in the field of alcohol studies?

FEB: I began my biomedical research career with investigations of the conduction properties of single isolated axons, and then transitioned to single neuron pharmacology in the early applications of microiontophoresis (<http://www.merriam-webster.com/medical/microiontophoresis>). I was among the first to study neurotransmitter systems at the anatomical, physiological, and pharmacological levels beginning with the noradrenergic innervation of cerebellum, hippocampus, and cerebral cortex (http://www.cnsforum.com/content/pictures/imagebank/hirespng/Neuro_path_GABA_GAD.png). I was also one of the first neurobiologists to utilize modern molecular biological techniques to identify, functionally characterize, and map brain specific genes. In other words, we developed some simple questions about how alcohol produces its effects on the brain and saw that the approaches that had been used did not provide a foundation on which to build better questions.

Early on, I also recognized the value of computers in neuroscience, and helped to pioneer their application to neuroanatomic investigations and the development of neuroanatomic databases.

SW: What is your research focus?

FEB: I consider myself a physician-scientist, who followed some minor deviations into molecular and cellular neuroscience in the middle of my hands-on period of

bench work. For the last decade or two, I have worked less with my hands and more as a lab leader and statesman for my areas of neuroscience. Today, I serve as a Trustee for Washington University in St. Louis; formerly I chaired their National Council for the School of Medicine. I completed three years on President Bush's Presidential Council on Bioethics, and I also served for three years as a member of the Independent Citizens Oversight Committee for the California Institute of Regenerative Medicine (the Proposition 71 Stem Cell initiative, <http://www.cirm.ca.gov/about-stem-cells>). This means I no longer am doing research. I advise others in their research quests and review papers for journals.

"...deeper and more important questions as to why some individuals become alcohol dependent, the neuronal effects that alcohol shares with other addictive drugs, and the development of medications that can intervene in that addiction."

SW: How did you begin your journey in research?

FEB: We first explored how it is that blood alcohol levels (BALs) produce the states of intoxication demonstrated by failure to perform tests of cerebellar function, such as touching your finger to your nose with your eyes shut. We developed models of these functions by studying the effects of single doses and later more extended exposures to intoxicating levels of blood alcohol, and studied how the brains of experimental animals adjust and then react when the BALs return to zero. We did these studies on the major neuronal population of the cerebellum, the Purkinje neurons, and on the pontine neurons, in the nucleus locus ceruleus, that we had previously shown to set the levels of attention to novel events in the world.

SW: What day-to-day applications do you think your research has for both clinicians and non-clinicians?

FEB: Our work explains each of the multiple effects alcohol has on emotional, cognitive, attentional and motoric functioning. Our work also sets the stage for deeper and more important questions as to why some individuals become alcohol dependent, the neuronal effects that alcohol shares with other addictive drugs, and the development of medications that can intervene in that addiction.

SW: What does your recent award – the 2012 RSA Lifetime Achievement Award – mean to you on a personal level?

FEB: I feel gratified that the specific scientific achievements obtained by my colleagues and me were recognized by the alcohol research community as having changed the field of alcohol research.

SW: What would you like to see happen in the addiction-research field?

FEB: I would like to help individuals avoid dependence on addictive substances through medications.

SW: What advice do you have for people now entering addiction research?

FEB: There are many open questions in defining how and why individuals choose to experiment with addictive drugs, and why some succumb to the addiction and others choose not to. These are essential questions to answer if we are to help society attain improved health without the consequences of addiction to alcohol and other drugs.