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Adam Kepecs, Ph.D.

Assistant Professor
Cold Spring Harbor Laboratory
Cold Spring Harbor, NY



Dr. Adam Kepecs received his bachelor's degree in computer science and mathematics at Eötvös Loránd University, Budapest, Hungary in 1997. He then switched to studying the brain, completing his Ph.D. in the laboratory of Dr. John Lisman at Brandeis University in theoretical neuroscience. In 2002 he joined the group of Dr. Zachary Mainen at Cold Spring Harbor Laboratory where he began studying decision-making in rats. Since 2007 he has been an assistant professor at Cold Spring Harbor Laboratory where he employs quantitative behavioral paradigms, electrophysiological, optical and molecular techniques to study the neural circuitry underlying decision-making in rodents.

Are you certain? The Neural Basis for Decision Confidence

Dr. Kepecs's essay describes their discovery of confidence signaling neurons in the rodent brain and presents a framework for studying the neural basis of confidence. Knowing how confident you are in a decision you just made confers significant benefits for a broad range of activities from managing your stock portfolio to whether to make a U-turn when lost. To understand the brain processes involved in confidence judgments, Dr. Kepecs and colleagues designed a new behavioral task in which rats could report their confidence in a

decision. By monitoring the activity of individual neurons in orbitofrontal cortex and comparing these with predictions of a model for decision-making they found a population of neurons that signaled the animals' decision confidence. These results show that confidence judgments need not require mysterious acts of self-awareness limited to humans but constitute a fundamental feature of neural processing across species.