Over the past 10 years, transcranial direct current stimulation (tDCS) has quickly become a favored method for neuromodulation studies in humans. Its low cost, safety, and ease of application have made it attractive for use in both systems neuroscience laboratories and clinical settings. But what does tDCS do, and how does it work? I will speak about its history and its motor behavioral effects, and will take you on a whirlwind tour of its ostensible mechanisms of action -- from motor network down to synapse.

Biosketch:

Dr. Heidi Schambra completed her undergraduate neuroscience studies with Dr. Mark Bear at Brown University, and obtained her medical degree from Emory University in 2003. Thereafter, she trained at Harvard's Partners Neurology Residency Program (Massachusetts General and Brigham and Women's hospitals). In 2007, Dr. Schambra undertook a postdoctoral fellowship in the laboratory of Dr. Leonardo Cohen at the NIH, where she gained expertise in noninvasive brain stimulation techniques. Since arrival to Columbia University in 2010, she has been establishing a research program investigating the neurophysiology and rehabilitation of stroke patients. Dr. Schambra is currently a clinical research fellow in the Departments of Rehabilitation Medicine and Neurology at Columbia, and a clinical neurorehabilitation fellow at Cornell-Burke Rehabilitation Hospital.

Selected References:
