



THE CITIZEN TALES COMMONS YOUTH MENTORING FORUM ON CIVIC
INNOVATION VIRTUAL LECTURE SERIES ON CIVIC SPACES

cordially invites you to the talk by

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and Applied Sciences, Harvard University**

**“Movement Impairment After Stroke:
Mechanisms Behind the Different Signs of Hemiparesis”**



SATURDAY, JANUARY 20, 2024, 12:00 PM-1:30 PM EST (US & CANADA)

Join Zoom Meeting

<https://zoom.us/j/94819669637?pwd=bWZ1QzBqMCt3WlFKTXICT2VhWWZ3dz09>

Moderators: Katerina Triantafyllou & Valentino Dardas

Meeting ID: 948 1966 9637 | Passcode: 596558

Stroke is one of the most prevalent neurological disorders, with about 800,000 people in the US having one every year. A common outcome of stroke is loss of motor function. This is often referred to as hemiparesis – from the Greek hemi, meaning half, and paresis, to let go – weakness that is focused on one side of the body. Hemiparesis presents not with a monolithic phenotype, but comprises different signs that may have distinct emergence and recovery timelines, and the relative severity of each sign may differ from one patient to the next. Typical signs include weakness, loss of dexterity, and the appearance of intrusive motor patterns such as abnormal muscle synergies, abnormal resting postures, and spasticity. While these different signs are generally well-characterized and readily identified in the clinic, their underlying mechanisms and the interactions between them remain subjects of debate. Here, I will focus on arm movement, and describe recent work breaking down these different components of hemiparesis, discussing their interactions (or lack thereof), and how understanding these interactions can reveal the mechanisms behind these symptoms. In particular, the presentation will focus on an emerging account of these mechanisms which is based on the balance between intact and damaged neural pathways after stroke. I will then discuss ways in which this kind of work can help us improve the assessment and rehabilitation of people with hemiparesis after stroke.

Alkis Hadjiosif is a Postdoctoral Research Associate with the John A. Paulson School of Engineering and Applied Sciences at Harvard University. Before that, he studied Electrical and Computer Engineering at the National Technical University of Athens, Greece, and completed a PhD in Bioengineering at Harvard University, followed by a postdoctoral fellowship at Johns Hopkins University. His research tries to understand how the brain controls movement and learns motor skills. To that end, he studies motor control and motor learning in both healthy populations and patients with neurological disease such as stroke or cerebellar degeneration, using tools like behavioral paradigms and computational models.

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