



## Exquisite Energetics of Ultrafast Organisms

Nov. 8<sup>th</sup> (Tuesday): 4-5pm ET

### Sheila Patek



To generate ultrafast movements, organisms have evolved marvelous pathways to transform a small amount of energy into extraordinarily intense events which are among the most energetically dense events known to science.

These energetics revolve around the compression of the duration of energy release. We will explore the realm of ultrafast organisms through the lens of energy flow – from structures and materials to the environment. In this rapidly expanding interdisciplinary field, organisms such as mantis shrimp, trap-jaw ants, and snapping shrimp are revealing the evolutionary and mechanical principles for reusable, low energy mechanisms wielding exquisite energetics.

Patek is the Hehmyer Professor of Biology and a Bass Fellow at Duke University. Patek received an A.B. with honors in Biology from Harvard University followed by a Ph.D. in Biology from Duke University. Patek was a postdoctoral fellow at the Miller Institute for Basic Research in Science at UC Berkeley. Patek has received many honors, including a Guggenheim Fellowship, the George A. Bartholomew Award for distinguished contributions to comparative physiology, and a fellowship at the Radcliffe Institute for Advanced Studies at Harvard University. Patek is Director and Founder of Muser – a software app and multi-university program that is dedicated to improving equity, transparency, and inclusion in academic research. Patek also serves as Deputy Editor in Chief of the Journal of Experimental Biology.

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