

# Stabilizing and elongating actin filaments alters the position of nuclei in migrating cells in confinement

C. Baltes<sup>1</sup>, J. Herrmann<sup>2</sup>, R. Müller<sup>2</sup>, F. Lautenschläger<sup>1,3</sup>

<sup>1</sup> *Department of Physics, Saarland University, Saarbrücken, Germany*

<sup>2</sup> *Helmholtz Center for Infection Research, Saarbrücken, Germany*

<sup>3</sup> *Center for Biophysics, Saarland University, Saarbrücken, Germany*

As one of the main components of the cytoskeleton involved in many mechanics, targeting actin dynamics is a desirable goal. Miuraenamamide A (MiuA), a compound that can pass through the cell's membrane, stabilizes actin filaments and promotes their polymerisation. Here, I'm going to describe the effects of MiuA on stress fibres in geometrically controlled RPE-1 cells in a quantitative way and show its stabilizing and elongating effects. Furthermore, I will present that when MiuA treated cells were put in confinement (PDMS microchannels for migration) their migratory behaviour was unaltered, however, the position of their nuclei was shifted towards the cell centre.