

## INM-KOLLOQUIUM

### “FEEL THE FORCE: HOW MATRIX STIFFNESS AND PHYSICAL CONFINEMENT MODULATE CELL FUNCTIONS”

Prof. Dr. Sylvain Gabriele

Research Institute for Biosciences, University of Mons, Belgien

Dienstag, 15.05.2018, 11.00 Uhr

INM, Leibniz-Saal, Campus D2 5

Gastgeberin: Prof. Dr. Aránzazu del Campo

The digital adhesive pads that allow gecko lizards to climb vertical surfaces result in many physiological and pathological processes involving the sensing of microenvironmental cues. In general, cells and tissues have been shown to react to the stiffness of their environment by regulating their level of contractility, and in turn applying traction forces on their environment to probe it. In addition, recent evidence suggests that confinement is a physical cue that modulates intracellular signaling, thereby altering cell migration mechanisms or tuning the formation of neuronal networks. During this seminar, I'll review multidisciplinary strategies that have been developed in my group to understand force- and rigidity-sensing mechanisms in various cell types and I'll present recent effort which has been concentrated for studying the role of the physical confinement in collective migration.

After a PhD in polymer physics in 2006, Sylvain Gabriele accepted a CNRS postdoctoral position at the Aix-Marseille University (France) with Prof Olivier Thédoly and Pierre Bongrand. Then he moved to Harvard University (Cambridge, USA) as a postdoctoral Research Associate in the Disease and Biophysics group directed by Prof Kevin Kit Parker. He accepted a permanent position at the University of Mons in 2010 and he started his own research group to understand the basic physical principles underlying force transmission in living systems and elucidating how cell mechanics regulate cellular functions. Sylvain Gabriele is tenured Associate Professor and President of the Research Institute for Biosciences (~13 teams, ~75 scientists). He was Invited Professor at Stanford University (Beth Pruitt's lab) for 3 months in 2017.

Wir laden 15 Minuten vor Beginn zu einem Get-together mit dem Referenten ein.

#### KONTAKT

INM – Leibniz-Institut  
für Neue Materialien gGmbH  
Campus D2 2  
66123 Saarbrücken  
[www.leibniz-inm.de](http://www.leibniz-inm.de)

Christine Hartmann  
Event Manager  
[christine.hartmann@leibniz-inm.de](mailto:christine.hartmann@leibniz-inm.de)  
Tel: 0681-9300-244  
Fax: 0681-9300-233