



# ADVANCED MATERIALS AND NANOTECHNOLOGY

SEMINAR SERIES 2019

CEITEC - BRNO UNIVERSITY OF TECHNOLOGY  
LARGE MEETING ROOM

## Dr. Shahrageim Tajbakhsh

*Stem Cells & Development Unit, UMR CNRS 3738, Institut Pasteur, Paris, France*

### Stem and niche cell interactions during development and regeneration

**October, 29**

**Tuesday, 10:00**

Seminar room **S2.02**

CEITEC BUT

Purkynova 123

**Invited by:**

Tomáš Zikmund, Ph.D.

Regulation of skeletal muscle stem cells during homeostasis and regeneration involves the interplay between extrinsic and intrinsic cues. The mechanisms by which niche molecules and intrinsic factors regulate muscle stem cell quiescence and properties remain largely unknown. In a series of studies, we investigated Notch as a key mediator of muscle stem cell stability and fate through extrinsic regulation of extracellular matrix, and internal regulation of cell migration via the mirtron mir708. Using static and live imaging, these observations led us to propose a two-step mechanism where the final mitosis before cellular quiescence and cell migration need to be independently regulated prior to niche occupancy by the stem cell.