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## **LES SÉMINAIRES DE L'INMG**

*Role of Srf transcription factor  
and F-actin scaffold in muscle  
stem cell fusion*

par

**Athanassia SOTIROPOULOS**

*(Invitée par Rémi MOUNIER)*

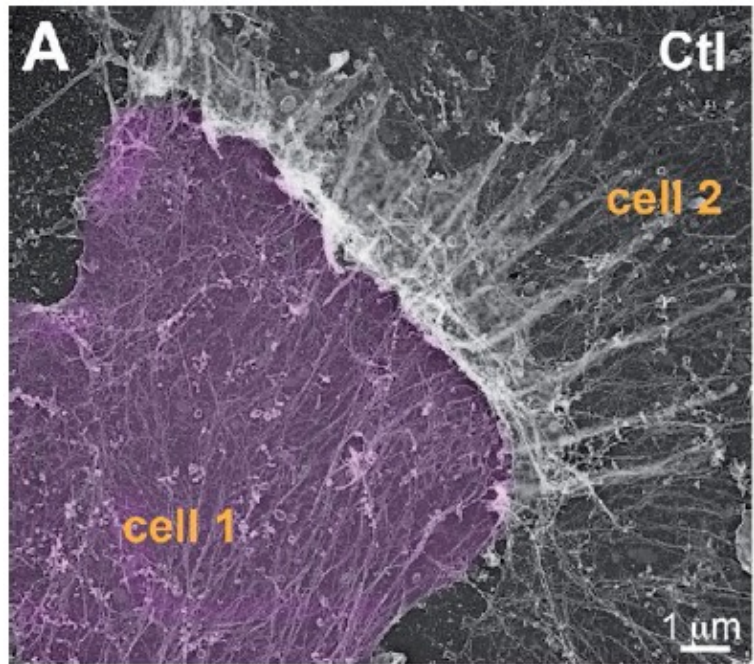
**Institut Cochin – Inserm U1016 – CNRS UMR 8104  
Université Paris Descartes  
Département Développement Reproduction et Cancer  
Paris - FRANCE**

**Vendredi 6 avril 2018  
11 heures**

**Salle des Pas Perdus  
Faculté de Médecine Lyon Est  
1<sup>er</sup> étage  
8, Avenue Rockefeller  
69008 LYON**

## Abstract :

Our team is interested on how signaling pathways control of adult skeletal muscle plasticity. In the past years, we focused our attention on Srf transcription factor which is one of the three master genes that controls myogenesis in *Caenorhabditis elegans*, together with MyoD and HAND. We investigated the role of Srf in two cellular compartments of mouse skeletal muscle (myofibers and adult muscle stem cells) upon different perturbation of muscle homeostasis (hypertrophy, atrophy, regeneration). In the present seminar, I will summarize our findings concerning the role of Srf in myofibers to control muscle mass and I will present recent data identifying Srf as a master regulator of muscle stem cell fusion and demonstrating the implication of F-actin architecture in this process.



## Recents Publications:

- Randrianarison-Huetz, Papaefthymiou A, Herledan G, Noviello C, Faradova U, Collard L, Pincini A, Schol E, Decaux JF, Maire P, Vassilopoulos S, Sotiropoulos A . Srf controls satellite cell fusion through the maintenance of actin architecture. *J Cell Biol.* 2017 Dec 21[Epub ahead of print].
- Collard L, Herledan G, Pincini A, Guerci A, Randrianarison-Huetz V, Sotiropoulos A. Nuclear actin and myocardin-related transcription factors control disuse muscle atrophy through regulation of Srf activity. *J Cell Sci.* 2014 Dec 15;127(24):5157-63.
- Guerci A, Lahoute C, Hébrard S, Collard L, Graindorge D, Favier M, Cagnard N, Batonnet-Pichon S, Précigout G, Garcia L, Tuil D, Daegelen D and Sotiropoulos A. Srf-dependent paracrine signals produced by myofibers control satellite cell-mediated skeletal muscle hypertrophy. *Cell Metabolism* 2012 Jan 4; 15:25-37.