

## ESF theme school in the framework of the Funcdyn program

### 'Simulation Tools applied to Calcium Dynamics'

Co-organizers : Geneviève Dupont and Ursula Kummer

#### Meeting program and confirmed speakers

#### **Sunday 14 March**

Arrival of participants

#### **Monday 15 March : $\text{Ca}^{2+}$ oscillations**

Morning :     Lecture 1 : *Introduction to  $\text{Ca}^{2+}$  dynamics and  $\text{Ca}^{2+}$  oscillations from an experimental point of view* (T. Bellamy)  
                  Lecture 2 : *Simple models for  $\text{Ca}^{2+}$  oscillations* (A. Politi)

Afternoon :   Tutorial :   Introduction to the COPASI software and to MatLab

#### **Tuesday 16 March : Intracellular $\text{Ca}^{2+}$ waves**

Morning :     Lecture 1 : *Introduction to  $\text{Ca}^{2+}$  waves from an experimental point of view* (R. Dumollard)  
                  Lecture 2 : *Modelling approaches for intracellular  $\text{Ca}^{2+}$  waves* (G. Dupont, U. Kummer)

Afternoon :   Practical work about modelling  $\text{Ca}^{2+}$  oscillations and/or waves

#### **Wednesday 17 March : Intercellular $\text{Ca}^{2+}$ waves**

Morning :     Lecture 1 : *Prototypical examples of intercellular  $\text{Ca}^{2+}$  wave propagation* (L. Leybaert)  
                  Lecture 2 : *Modelling approaches for intercellular  $\text{Ca}^{2+}$  waves* (T. Höfer)

Afternoon :   Practical work about modelling  $\text{Ca}^{2+}$  oscillations and/or waves

#### **Thursday 18 March : Stochastic aspects of $\text{Ca}^{2+}$ dynamics**

Morning :     Lecture 1 : *Small scale  $\text{Ca}^{2+}$  increases in non-excitable cells* (J. Marchant)  
                  Lecture 2 : *Understanding the stochastic aspects of  $\text{Ca}^{2+}$  dynamics* (A. Skupin)

Afternoon :   Practical work about stochastic simulations of  $\text{Ca}^{2+}$  oscillations

Evening:       Workshop dinner

#### **Friday 19 March**

Departure of participants