

## Program

### Image Processing Session, Friday May 20<sup>th</sup>

**9h30-10h20** Raymond Chan : Point-spread function reconstruction in ground-based astronomy

**10h20-10h50** Coffee break

**10h50-11h40** Claire Boyer : Adapting to unknown noise level in super-resolution

**11h40-12h30** Alasdair Newson: Low-Rank Video Segmentation for Background Estimation, and Multi-Temporal Foreground Detection in Videos

### PDEs Session, Monday May 23<sup>rd</sup>

**14h-14h45** : Ping Zhang: Global regularities of two-dimensional density patch for inhomogeneous incompressible viscous flow with general density

**14h45-15h30** Raphaël Danchin: Optimal time decay estimates in critical spaces for the compressible Navier-Stokes equations

**15h30- 16h** Coffee break

**16h- 16h45** Corentin Audiard: On the long-time dynamics of the Euler-Korteweg system

**16H45 – 17H30** Zhifei Zhang: Rigorous derivation from the molecular kinetic theory of liquid crystal to the continuum theory

## Session Population Dynamics Session, Tuesday May 24<sup>th</sup>

**09h30-10h00:** Zhihua Liu - - Normal form theory and application to age structured models

**10h00-10h30:** Arnaud Ducrot - - Existence of travelling waves for a bistable equation in a periodic medium

**10h30-11h00:** Coffee break

**11h00-11h30:** Jacques Demongeot -- Susceptibility, risk and frailty to the contagion in population dynamics of social diseases: example of obesity.

**11h30-12h00:** Gael Raoul, - - Virulence evolution at the front line of an epidemics.

**12h00-12h30:** Dongmei Xiao - - Dynamics of a class of epidemic models

## Session Control, Tuesday May 24<sup>th</sup>

**14h:** Weiwei Hu -- *Observer-based Feedback Stabilization of a Thermal Fluid*

**14h45:** Jean-Pierre Raymond -- *Local stabilization of fluid-structure models*

**15h30:** *Coffee break*

**15h45:** Xu Zhang -- *Memory-type null controllability of evolution equations*

**16h30:** Julie Valein -- *Detectability and state estimation for linear age-structured population diffusion models*

**17h15:** Zhiqiang WANG -- *Asymptotic stability and controllability of wave equations coupled by velocities.*

## **Session Probability and statistics, Wednesday May 25<sup>th</sup>**

**9h00-10H00** Jonatha Anselmi, *Asymptotic control of non-observable stochastic queues*

**10H00-11h00** Huilong Zhang, *Quantization and Stochastic Control of Trajectories of Carrier Submarine in Bearings-only Tracking*

**11H00-11H30** Coffee break

**11H30-12H30** Lixing Zhu, *Model checking for parametric single-index models: a dimension-reduction model-adaptive approach*

## **Session Scientific Computing, Wednesday May 25<sup>th</sup>**

**14h:** Yongliang Xiong-- Numerical Study on Drag Reduction and Two-Dimensional Turbulence in Diluted Polymer Solutions

**14h45:** Kai Schneider -- Bumblebees in turbulence: massively parallel numerical simulations

**15h30:** *Coffee break*

**16h00:** Mazen Saad-- Positive finite volume schemes for degenerate and anisotropic Keller-Segel model

**16h45:** Héloïse Beaugendre -- Numerical simulation of ice block trajectories.