

# Mathematical Modeling and Analysis in Biological and Chemical Systems

*Université Paris-Sud XI (Orsay, Bât. 425) and IHÉS (Bures-sur-Yvette)  
September 3–5, 2007*

**Monday September 3rd, Petit Amphi (Orsay)**

9.20–9.30: Opening: A. Suzor-Weiner, Vice-president of the Université Paris-Sud XI

*Chairperson: H. Matano*

09.30–10: M. Mimura  
*Modeling of smoldering combustion under micro-gravity*

10–10.30: S. Martin

10.30–11: Pause café

*Chairperson: P. De Kepper*

11–11.30: D. Ueyama  
*Numerical study of pattern transition in Liesegang type precipitation systems*

11.30–12: V. Calvez  
*The chemotaxis aggregation principle and application to pattern formation in the brain*

12–12.30: R. Eymard  
*Numerical schemes for non linear diffusion problems on general meshes*

*Chairperson: Z. Peradzynski*

14–14.30: Y. Takeuchi  
*Avian-Human influenza epidemic model*

14.30–15: H. Seno  
*Interspecific reaction may cause the paradox of pest control*

15–15.30: M. Langlais  
*Some remarks on predator-prey systems posed on non-coincident spatial domains*

15.30–16: Pause thé

**Tuesday September 4th (IHÉS, Bures)**  
**Amphithéâtre Léon Motchane**

*Chairperson: E. Logak*

- 9.30–10: K. Pakdaman  
*Sustained and transient oscillations in some biological models with delays*
- 10–10.30: R. Kobayashi  
*A Biologically Motivated Shortest Path Finding Algorithm*
- 10.30–11: Pause café

*Chairperson: J. Peyrière*

- 11–11.30: S.I. Ei  
*The dynamics of boundary spikes for reaction-diffusion systems in space dimension 2*
- 11.30–12: K. Prevost  
*Models of Salmonella infection within industrial hen houses*

*Chairperson: G. Raugel*

- 14–14.30: H. Ninomiya  
*Reaction-diffusion approximations*
- 14.30–15: R. Ignat  
*Compactness for the Landau state in thin films micromagnetics*
- 15–15.30: L. Roques
- 15.30–16: Pause thé

*Chairperson: J.M. Coron*

- 16–16.30: K.I. Nakamura  
*Dynamics of fronts in a reaction-diffusion equation of multistable type*
- 16.30–17: Y. Maday  
*title to be announced*
- 17.20–... : ReaDiLab meeting
- 19–22.30: *Conference dinner at the CNRS Castle in Gif-sur-Yvette*

Wednesday September 5th, Petit Amphi (Orsay)

Chairperson: A. Lesne

9.30–10: J. Demongeot  
*Time change : from chronological to biological time*

10–10.30: T. Shibata  
*Stochastic signal processing and transduction  
in chemotactic response of eukaryotic cells*

10.30–11: Pause café

Chairperson: A. Muntean

11.00–11.30: L. Forest  
*Modelling of feather buds formation in the  
chick embryo*

11.30–12: J.P. Françoise  
*Propagating bursting oscillations*

12–12.30: D. Pontier  
*title to be announced*

Chairperson: J. Demongeot

14–14.30: F. Hamel  
*Uniqueness and further qualitative properties  
of KPP pulsating fronts*

14.30–15: M. Henry  
*title to be announced*

15–15.30: A. Ducrot  
*title to be announced*

15.30–16: Pause thé

Chairperson: M. Mimura

16–16.30: G. Nadin  
*Travelling fronts and spreading in space-time  
periodic media*

16.30–17: H. Matano  
*title to be announced*