

**Asymptotic Behaviors of  
systems of PDEs arising in  
physics and biology - 5th  
edition**

**Report of Contributions**

Contribution ID: 1

Type: **not specified**

# Highly efficient energy stable schemes for dissipative systems and a new fully decoupled scheme with uniform second-order accuracy for Navier-Stokes equations

*Monday, 5 June 2023 14:30 (1 hour)*

**Primary author:** Prof. SHEN, Jie (Purdue University)

**Presenter:** Prof. SHEN, Jie (Purdue University)

Contribution ID: 2

Type: **not specified**

## **A cross-diffusion system with Cahn-Hilliard terms: analysis and long time behavior**

*Monday, 5 June 2023 15:30 (30 minutes)*

**Presenter:** Dr MARINO, Greta (Universität Augsburg)

Contribution ID: 3

Type: **not specified**

## **Cahn-Hilliard system: From nonlocal to local**

*Monday, 5 June 2023 16:00 (30 minutes)*

**Presenter:** Mr ELBAR, Charles (Sorbonne Université - LJLL)

Contribution ID: 4

Type: **not specified**

## **Convergence to equilibrium for linear run and tumble chemotaxis models**

*Tuesday, 6 June 2023 09:30 (1 hour)*

**Presenter:** Dr EVANS, Joséphine (Warwick Mathematics Institute)

Contribution ID: 5

Type: **not specified**

## **Hydrodynamic limits for kinetic equations: a spectral and unified approach**

*Tuesday, 6 June 2023 10:30 (30 minutes)*

**Presenter:** Dr GERVAIS, Pierre (Université de Turin)

Contribution ID: 6

Type: **not specified**

## **Vanishing diffusion limit for aggregation equations**

*Tuesday, 6 June 2023 11:30 (30 minutes)*

**Presenter:** Mr TRAN TIEN, Sébastien (Institut Camille Jordan, Lyon)

Contribution ID: 7

Type: **not specified**

## **Vicsek-Kuramoto third order system in collective dynamics and their macroscopic equations**

*Tuesday, 6 June 2023 12:00 (30 minutes)*

**Presenter:** Ms MOSCHELLA, Carmela (University of Vienna)



Contribution ID: 9

Type: **not specified**

# Doubly Degenerate Cahn-Hilliard Models of Surface Diffusion

*Thursday, 8 June 2023 14:30 (1 hour)*

**Presenter:** Prof. WISE, Steven (University of Tennessee)

Contribution ID: **10**

Type: **not specified**

## **Time discretization on Cahn-Hilliard equations**

*Tuesday, 6 June 2023 15:30 (30 minutes)*

**Presenter:** Dr BRACHET, Matthieu (Université de Poitiers)

Contribution ID: 11

Type: **not specified**

# **Sharp-interface limits in the dynamics of phase transitions: from the Allen-Cahn equation to liquid crystals**

*Tuesday, 6 June 2023 16:30 (1 hour)*

**Presenter:** Dr LAUX, Tim (University of Bonn)

Contribution ID: 12

Type: **not specified**

**Cauchy systems of type Rao-Nakra sandwich beam  
with frictional dampings or infinite memories: some  
 $L^q(\mathbb{R})$ -norm polynomial stability estimates ( $q \in [1, +\infty]$ )**

*Tuesday, 6 June 2023 17:30 (30 minutes)*

**Presenter:** Dr GUESMIA, Aïssa (Université de Lorraine)

Contribution ID: 13

Type: **not specified**

**TBA**

Contributed talk 9

Contribution ID: 14

Type: **not specified**

## **Covariance modulated optimal transport: geometry and gradient flows**

*Wednesday, 7 June 2023 09:30 (1 hour)*

**Presenter:** Prof. MATTHES, Daniel (Technische Universität München)

Contribution ID: 15

Type: **not specified**

# **Boltzmann mean-field game model for knowledge growth**

*Wednesday, 7 June 2023 10:30 (30 minutes)*

**Presenter:** Dr KANZLER, Laura (Université Paris-Dauphine)

Contribution ID: 16

Type: **not specified**

## **Concentration in a population model structured in age and phenotypical trait : an asymptotic-preserving scheme**

*Wednesday, 7 June 2023 11:30 (30 minutes)*

**Presenter:** Dr HIVERT, Hélène (Inria Rennes)



Contribution ID: 17

Type: **not specified**

## **Cahn-Hilliard Equation with Regularization Term**

*Wednesday, 7 June 2023 12:00 (30 minutes)*

**Presenter:** Ms MHEICH, Rim (Université de Poitiers)

Contribution ID: 18

Type: **not specified**

## **Asymptotic behavior of Lamé's system in large size noncylindrical do- mains**

*Wednesday, 7 June 2023 12:30 (30 minutes)*

**Presenter:** Dr GUESMIA, Senoussi (University of The Bahamas)

Contribution ID: 19

Type: **not specified**

## **Cross-diffusion systems in moving boundary domains: discretization and optimal control**

*Wednesday, 7 June 2023 14:30 (1 hour)*

**Presenter:** Prof. EHRLACHER, Virginie (CERMICS, ENPC)

Contribution ID: 20

Type: **not specified**

## **Asymptotic-preserving IMEX methods: bridging scales in hyperbolic and kinetic equations**

*Thursday, 8 June 2023 09:30 (1 hour)*

**Presenter:** Prof. PARESCHI, Lorenzo (University of Ferrara)

Contribution ID: 21

Type: **not specified**

## **Modelization and AP kinetic scheme for the 2D bi-temperature dimensionless Euler system in a plasma**

*Thursday, 8 June 2023 10:30 (30 minutes)*

**Presenter:** Mr GUILLOIN, Kévin (Université de Bordeaux)

Contribution ID: 22

Type: **not specified**

## **Multiscale numerical schemes for the collisional Vlasov equation in the finite Larmor radius approximation regime**

*Thursday, 8 June 2023 11:30 (30 minutes)*

**Presenter:** Mr PREL, Damien (Université de Nantes)

Contribution ID: 23

Type: **not specified**

## **Collective motion of birds: swarming dynamics with transient leadership**

*Thursday, 8 June 2023 12:00 (30 minutes)*

**Presenter:** Ms FERRARESE, Federica (University of Trento and Verona)

Contribution ID: 24

Type: **not specified**

## **Hybrid Kinetic/Fluid numerical method for the Vlasov-BGK equation in the diffusive scaling**

*Thursday, 8 June 2023 12:30 (30 minutes)*

**Presenter:** Mr LAIDIN, Tino (Université de Lille)



Contribution ID: 25

Type: **not specified**

## **Jumping in the middle, from alignment models to sexual population dynamics**

*Friday, 9 June 2023 09:30 (1 hour)*

**Presenter:** Dr FROUVELLE, Amic (Université de Paris-Dauphine)

Contribution ID: 26

Type: **not specified**

## **A high-order scheme for advection-diffusion preserving positivity and long-time behaviour**

*Thursday, 8 June 2023 15:30 (30 minutes)*

**Presenter:** Mr MOATTI, Julien (Inria Lille)

Contribution ID: 27

Type: **not specified**

## **Long time behavior of the field-road diffusion model**

*Thursday, 8 June 2023 16:30 (30 minutes)*

**Presenter:** Prof. ALFARO, Matthieu (Université de Rouen Normandie)

Contribution ID: 28

Type: **not specified**

## **Finite volumes for a generalized Poisson-Nernst-Planck system with cross-diffusion and size exclusion**

*Thursday, 8 June 2023 17:00 (30 minutes)*

**Presenter:** Ms MASSIMINI, Annamaria (TU Wien)

Contribution ID: 29

Type: **not specified**

## **Rigorous derivation of the Fick cross-diffusion system from the multi-species Boltzmann equation in the diffusive scaling**

*Tuesday, 6 June 2023 12:30 (30 minutes)*

**Presenter:** Dr BÉRÉNICE, Grec (MAP5, Univ. Paris Cité)

Contribution ID: **30**

Type: **not specified**

**TBA**

*Tuesday, 6 June 2023 14:30 (1 hour)*

**Presenter:** Prof. LIU, Jian-Guo (Duke University)

Contribution ID: 31

Type: **not specified**

## **Rigorous derivation of Michaelis-Menten kinetics in the presence of diffusion**

*Friday, 9 June 2023 10:30 (30 minutes)*

**Presenter:** Dr TRAN, Bao Ngoc (University of Graz)

Contribution ID: 32

Type: **not specified**

## **Dynamics of the isothermal compressible Euler system with damping**

*Friday, 9 June 2023 11:30 (30 minutes)*

**Presenter:** Dr CHAULEUR, Quentin (Université de Lille)



Contribution ID: 33

Type: **not specified**

## **Modelling compressible two-phase flows with surface tension**

*Friday, 9 June 2023 12:00 (1 hour)*

**Presenter:** Prof. MATHIS, Hélène (Université de Montpellier)

Contribution ID: 34

Type: **not specified**

## **Combining and Optimising the Innovative Cancer Therapies Based to the Mechanistic Modeling**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Dr BALTI, Aymen (EPISEN)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 35

Type: **not specified**

## **Numerical Analysis of Fractional Nonlinear Diffusion Equation on Bounded Domain**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Mr SALIN, Florian (Université de Lyon 1 & Tohoku University)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 36

Type: **not specified**

## **Instability of stationary solutions to Allen-Cahn type opinion formation models**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Mr ROSSI, Alex (FAU Erlangen-Nürnberg)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 37

Type: **not specified**

## **Asymptotic behaviour of a nonlocal Fokker-Planck equation**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Mr TASSI, Niccolò (Universidad de Granada)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 38

Type: **not specified**

## **Numerical and Theoretical Study of Patterns in a Chemotaxis Model**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Mr PAYAN, Maxime (Ecole Polytechnique)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 39

Type: **not specified**

## **Explicit rates of convergence for the localization limit of some cross-diffusion systems**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Dr ZUREK, Antoine (Laboratoire de Mathématiques Appliquées de Compiègne)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 40

Type: **not specified**

## **Robust resolution of chemical equilibrium by the methods of parametrization and cartesian representations**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Mr JONVAL, Maxime (Inria Lille)

**Session Classification:** "Ice breaker" Poster session



Contribution ID: 41

Type: **not specified**

## **Multi-scale unfolding homogenization method applied to bidomain and tridomain electro-cardiology models**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Mr BADER, Fakhrieddine (Université de Rennes)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 42

Type: **not specified**

## **L<sup>2</sup> Hypocoercivity methods for kinetic Fokker-Planck equations with factorised Gibbs states**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Mr ZIVIANI, Luca (Université Paris Dauphine)

**Session Classification:** "Ice breaker" Poster session

Contribution ID: 43

Type: **not specified**

## **Polynomial stability of a transmission problem involving Timoshenko systems with fractional Kelvin-Voigt damping**

*Monday, 5 June 2023 17:00 (2 hours)*

**Presenter:** Ms MOHAMAD ALI, Zeinab (Université de Lorraine)

**Session Classification:** "Ice breaker" Poster session