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# Mathematical Biology on the Mediterranean Conference - Workshop 2022

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Monday 05/09

**9.30 - 10.20 Christian Schmeiser**

*On kinetic models motivated by myxobacteria dynamics*

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**10.20 - 11.00 Coffee break**

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**11.00 - 11.20 Giulia Chiari**

*A mathematical study of the influence of hypoxia on tumour growth, phenotypic heterogeneity and radiotherapy*

**11.20 - 11.40 David Morselli**

A hybrid modeling environment to describe aggregates of cells heterogeneous for genotype and behavior with possible phenotypic transitions

**11.40 - 12.15 Vasiliki Bitsouni**

*On the quasi-steady-state assumption in enzyme kinetics: rigorous analysis*

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**12.15 - 13.30 Lunch break**

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**13.30 - 13.50 Tomasz Dębiec**

*From cell population models to Hele-Shaw type dynamics: the rate of convergence*

**13.50 - 14.10 Toyo Vignal**

*Impact of different destocking strategies on the resilience of dry rangelands*

**14.10 - 15.00 Dina Lika**

*Dynamic Energy Budget models: parameter estimation and applications*

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**15.00 - 15.30 Coffee break**

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**15.30 - 16.05 Zuzanna Szymańska**

*Bayesian inference of a non-local proliferation model*

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**16.05 - 16.35 Giorgos Grekas**

*Cells exploit a phase transition to mechanically remodel the fibrous extracellular matrix*

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**16.35 - 18.00 Poster session**

Odile Burckard - Coupling and synchronization of peripheral circadian clocks

Giorgia Ciavolella - Membrane problems and application to cell invasion

Dimitrios Katsaounis - Bridging the gap between individual cell movement and macroscopic cancer invasion models

Baptiste Maucourt - Optimizing a pesticide-free control in an agro-epidemiological system

Nga Nguyen - Migration effects on biological control of dengue vectors

Yuri Sasunov - Mathematical modelling of lipolysis. Active surface model

Suney Toste - Arrival time for the fastest among  $N$  switching stochastic particles

Tuesday 06/09

**9.30 - 10.20 Phillip Maini**

*Modelling collective cell movement in development and disease*

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**10.20 - 11.00** Coffee break

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**11.00 - 11.20 Vasilis Tsilidis**

*Mathematical modeling of immune response in breast cancer: the effect of tBregs and rituximab*

**11.20 - 11.40 Ignacio Madrid**

Probabilistic inference of the steady-state distribution of an age-size structured population from single-cell data

**11.40 - 12.15 Thomas Hodgson**

*Collective Navigation in Flowing Environments*

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**12.15 - 13.30** Lunch break

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**13.30 - 13.50 Emma Leschiera**

*A hybrid discrete-continuum modelling approach to explore the role of T cell infiltration in the immune response against solid tumours*

**13.50 - 14.10 Thomas Williams**

*Choice of Spatial Discretisation Influences the Progression of Viral Infection within Multicellular Tissues*

**14.10 - 15.00 Mats Gyllenberg**

*TBA*

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**15.00 - 15.30** Coffee break

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**15.30 - 16.05 Jan Haskovec**

*Functional Differential Equations in Models of Collective Behavior*

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**16.05 - 16.25 Pauline Chassonnery**

*Mathematical 3D modelling of adipose tissue morphogenesis*

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**16.25 - 16.45 Claire Ecoti re**

*Human-environment feedback and the consistency of proenvironmental behaviour*

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**16.45 - 17.00** Break

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**17.00 - 17.20 Claudia Fonte**

*Long time behavior of an age and leaky memory-structured neuronal population equation*

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**17.20 - 17.40 Viktoria Freingruber**

*How cells work together to migrate more efficiently*

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**17.40 - 18.00 Matteo Fornoni**

*Optimal distributed control for a non-local diffuse interface tumour growth model*