

## REPORT



# 3<sup>rd</sup> Portuguese Meeting in Biomathematics

FCT-NOVA, July 13–14 2022

by Paula Patrício\*

The Portuguese Meeting on Biomathematics is a biannual event, which aims to bring together national researchers interested in Biomathematics and, at the same time, to promote interaction between mathematicians working on models arising from the field of biology, with other researchers working in areas of biology and who use mathematics as an important tool in their investigation.

After two attempts postponed by the current COVID-19 pandemic, the 3<sup>rd</sup> Portuguese Meeting in Biomathematics (III EPB), took place on the 13<sup>th</sup> and 14<sup>th</sup> of July of 2022, at NOVA School of Science and Technology (<https://eventos.fct.unl.pt/3epb>). III EPB was a joint organization of the NOVA MATH (Center for Mathematics and Applications) of the NOVA School of Science and Technology, NOVA University of Lisbon and the Center for Research and Development in Mathematics and Applications of the University of Aveiro (CIDMA),

integrated in its thematic lines Mathematical Biology and Biomathematics.

The III EPB had 6 invited speakers, 17 contributed talks and 5 posters, with more than 50 participants, some of them international. The plenary talks were on exciting and diversified topics and were given by the renowned Portuguese and international scientists in this area of research. Additionally, there was a short course *Stochastic processes theory and applications*, on the 12 and 15 July, by Nico Stollenwerk, Maíra Aguiar, Basque Center for Applied Mathematics (BCAM), Ikerbasque, Basque Foundation for Science, Bilbao, Spain. The course had 10 participants, most of them master and PhD students.

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Structure of the talk

1. Introduction  
Motivation & biological combinations  
Acronyms & diseases
2. Model for autoimmunity  
Kinetic equations  
Macroscopic equations
3. Qualitative analysis  
Existence and uniqueness  
Equilibrium & stability
4. Numerical simulations  
Results & biological interpretation
5. Optimal control problem  
Therapeutical treatment

### Organizing committee

**Cristiana J. Silva**  
U Aveiro & CIDMA  
**Fabio Chalub**  
FCT NOVA & NOVA MATH  
**Maria do Céu Soares**  
FCT NOVA & NOVA MATH  
**Paula Patrício**  
FCT NOVA & NOVA MATH  
**Paulo Doutor**  
FCT NOVA & NOVA MATH

### Scientific Committee

**Alberto Pinto**  
Universidade do Porto  
**Delfim F. M. Torres**  
Universidade de Aveiro  
**Fabio Chalub**  
Universidade NOVA de Lisboa  
**Patrícia Filipe**  
ISCTE- Instituto Universitário de Lisboa

### Invited speakers

**Jean Clairambault**  
INRIA Paris Research Centre  
**Ana Jacinta Soares**  
CMAT, Universidade do Minho  
**Carlos Ramos**  
CIMA, Universidade de Évora  
**Cristiana J. Silva**  
CIDMA, Universidade de Aveiro  
**Jorge Orestes Cerdeira**  
CMA, Universidade Nova de Lisboa  
**Maíra Aguiar**  
BCAM, Basque Center for Applied Mathematics, Bilbao, Spain

