

		Parallel 1	Parallel 2	Parallel 3	Parallel 4	Parallel 5	Parallel 6	Parallel 7	Parallel 8	Parallel 9	Parallel 10
SALA		Building 10 - Room 10.6	Building 10 - Room 10.2-3	Bulding 37 - Aula Magna	Building 10 - Room 10.7	Building 10 - Room 10.5	Building 10 - Room 10.8	Building 24 - Room 24.9	Building 24 - Room 24.1	Building Sabatini - Salón de Grados	Building 10 - Room 10.4
MONDAY	MORNING MS 11:40-13:00 h	MS: Mechanistic learning in mathematical oncology (I)	MS: Deciphering intracellular reaction processes: Bridging Stochastic models with single-cell measurement technologies (I)	MS: Insights and emerging trends in infectious disease modeling and mathematical analysis (I)	MS: Modelling tissue mechanics and cell fate in regeneration and cancer (I)	MS: Travelling wave phenomena in biology (I)	MS: Plant models across scales (I)	MS: Infectious disease outbreak modelling across multiple scales	MS: Nonlinear dynamics and instabilities in the heart	MS: Modelling, regulation and control of cellular networks	
	AFTERNOON I CT 15:00-16:20 h	CT: Hematopoietic cancers	CT: Cell biology	CT: Transmissible viral diseases	CT: Cancer Modelling	CT: Model reduction and identificabiity	CT: Bacteria	CT: Air Borne	CT: COVID (I)	CT: Epidemic networks	
	AFTERNOON II CT/MS 16:40-18:00 h	MS: Mechanistic learning in mathematical oncology (II)	MS: Deciphering Intracellular Reaction Processes: Bridging Stochastic Models with Single-Cell Measurement Technologies (II)	MS: Insights and emerging trends in infectious disease modeling and mathematical analysis (II)	MS: Modelling tissue mechanics and cell fate in regeneration and cancer (II)	MS: Travelling wave phenomena in biology (II)	MS: Plant models across scales (II)		CT: Stem Cells	CT: COVID (II)	CT: Stochastic Biology

		Parallel 1	Parallel 2	Parallel 3	Parallel 4	Parallel 5	Parallel 6	Parallel 7	Parallel 8	Parallel 9	Parallel 10
SALA		Building 10 - Room 10.6	Building 10 - Room 10.2-3	Bulding 37 - Aula Magna	Building 10 - Room 10.7	Building 10 - Room 10.5	Building 10 - Room 10.8	Building 24 - Room 24.9	Building 24 - Room 24.1	Building Sabatini - Salón de Grados	Building 10 - Room 10.4
TUESDAY	MORNING MS 10:40-12:00 h	MS: Quantitative approaches to modelling and analysing cancer-immune interactions (I)	MS: Complexity science for biological and medical problems	MS: Mathematical models for vector-borne infections (I)	MS: Modelling heterogeneity, adaptation and evolution in cancer	MS: Unravelling brain phisiology and pathology: the role of mathematical modelling	MS: Recent developments in biofilm modellling	MS: Thermodynamics of living systems	MS: Emerging data driven approaches for increasing the prediction and understanding of biological processes		MS: Collective behaviour across scales: drawing parallels from cells to humans
	AFTERNOON CT/MS 15:00-16:20 h	MS: Quantitative approaches to modelling and analysing cancer-immune interactions (II)	MS: Applied multi-scale modelling methods in dynamic tissue remodelling	MS: Mathematical models for vector-borne infections (II)	CT: Tumour control and therapies	CT: Population dynamics (animals)	CT: Dynamical systems in biomedicine	CT: Transmissible viral diseases	CT: Mutations	CT: Human populations	

	Parallel 1	Parallel 2	Parallel 3	Parallel 4	Parallel 5	Parallel 6	Parallel 7	Parallel 8	Parallel 9	Parallel 10
SALA	Building 10 - Room 10.6	Building 10 - Room 10.2-3	Bulding 37 - Aula Magna	Building 10 - Room 10.7	Building 10 - Room 10.5	Building 10 - Room 10.8	Building 24 - Room 24.9	Building 24 - Room 24.1	Building Sabatini - Salón de Grados	Building 10 - Room 10.4
WEDNESDAY MORNING MS/CT 10:40-12:00 h	MS: Multiscale mathematical models in physiological processes and cancer: from sub-cellular mechanisms to phenotype switching and metastasis (I)	MS: Mathematical modelling of microbial ecological systems: bridging theory and experiments (I)	MS: New directions for stochastic models of epidemics (I)	MS: Topological data analysis for applications in biomedicine	MS: Modelling collective cell migration across scales: from individual-based to continuum models	CT: Extracellular Matrix (I)	CT: Developmental biology	CT: Virus Growth / Vaccine strategies (I)	CT: Pattern formation (I)	MS: Multiscale modeling and analysis in neuroscience
AFTERNOON I CT/MS 15:00-16:20 h	MS: Multiscale mathematical models in physiological processes and cancer. From sub-cellular mechanisms to phenotype switching and metastasis (II)	MS: Mathematical modeling of microbial ecological systems: Bridging theory and experiments (II)	MS: New directions for stochastic models on epidemics (II)	MS: Digital twins for clinical oncology and cancer research	MS: Recent developments on tumor growth models: analysis and simulations	CT: Blood flow	CT: Epidemiology (I)		CT: Microbiology and drug resistance	CT: Neurodegenerative diseases
AFTERNOON II CT 16:40-17:40 h	CT: Radiotherapy in cancer	CT: Human diseases (I)	CT: Vector-borne diseases: miscellaneous	CT: Protein/enzyme kinetics	CT: Virus Modelling	CT: Extracellular matrix (II)	CT: Epidemiology (II)	CT: Vaccine strategies (II)	CT: Pattern formation (II)	CT: Cardiology

	Parallel 1	Parallel 2	Parallel 3	Parallel 4	Parallel 5	Parallel 6	Parallel 7	Parallel 8	Parallel 9	Parallel 10
SALA	Building 10 - Room 10.6	Building 10 - Room 10.2-3	Bulding 37 - Aula Magna	Building 10 - Room 10.7	Building 10 - Room 10.5	Building 10 - Room 10.8	Building 24 - Room 24.9	Building 24 - Room 24.1	Building Sabatini - Salón de Grados	Building 10 - Room 10.4
THURSDAY MORNING MS/CT 10:40-12:00 h	MS: Mathematical models of cancer immunotherapy (I)	MS: Modelling and analysis in cell biology: multi-scale perspectives	MS: Data-driven approaches in infectious disease modelling	MS: Mathematical insights into telomere length dynamics	MS: Gaussian processes and inference for dynamical systems	MS: Mathematical models for pest dynamics and control	CT: Vector-borne diseases: dengue	CT: Non-pharmaceutical interventions in epidemics	CT: Evolutionary dynamics (I)	
AFTERNOON I CT/MS 15:00-16:20 h	MS: Mathematical models of cancer immunotherapy (II)	CT: Ecology	CT: Epidemiology (Non pharmacological models)	CT: Metabolic Networks (I)	CT: Predator-prey models	CT: Arthropod biology	CT: Microbiology (I)	CT: Organelle modelling / Coagulation fragmentation	CT: Evolutionary dynamics (II)	
AFTERNOON II CT 16:40-17:40 h	CT: Brain cancer	CT: Human diseases (II)	CT: Epidemics and human behaviour (I)	CT: Imaging	CT: Cell migration	CT: Plants	CT: Eye modelling	CT: Biofilms (I)	CT: Neurosciences	

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FRIDAY MORNING MS/CT 10:40-12:00 h	MS: Recent advances in modelling cancer invasion	MS: Genetic and non-genetic routes to phenotypic plasticity in cancer	CT: Epidemics and human behaviour (II)	CT: Immunology	CT: Immunotherapies	CT: Metabolic networks (II)	CT: Microbiology (II)	CT: Biofilms (II)	CT: Cancer (miscellaneous)	

Session title	Organizers	Schedule	Talk title	Presenting author
MONDAY MORNING MS (11:40 - 13:00)				
Mechanistic learning in mathematical oncology (I)	Alvaro Köhn-Luque	Monday 11:40 - 12:00	A review of mechanistic learning in mathematical oncology	Saskia Haupt
		Monday 12:00 - 12:20	Integrating machine learning and mechanistic modeling enables non-invasive measurement of intra-tumoral fluid transport in dynamic MRI	Russell Rockne
	Saskia Haupt	Monday 12:20 - 12:40	How to make clinical predictions when we do not know everything	Haralampos Hatzikirou
		Monday 12:40 - 13:00	Predicting anatomical tumor growth in pediatric glioma by guided denoising diffusion models	Sarah Brüningk
Deciphering intracellular reaction processes: Bridging Stochastic models with single-cell measurement technologies (I)	Elena Sofia D'Ambrosio	Monday 11:40 - 12:00	From single cells to microbial consortia and back: Stochastic chemical kinetics coupled to population dynamics	Jakob Ruess
		Monday 12:00 - 12:20	Optimal and model predictive of gene regulatory networks: Driving a positively autoregulated gene to bi-modal behaviour	Hamza Faquir
		Monday 12:20 - 12:40	A scaling analysis of stochastic models of regulation of protein production in bacterial cells	Philippe Robert
		Monday 12:40 - 13:00	Unbiased estimation of second-order parameter sensitivities for stochastic reaction networks	Quentin Badolle
Plant models across scales (I)	Mariya Ptashnyk	Monday 11:40 - 12:00	Mathematical models to understand root-soil mechanical interactions	Lionel Dupuy
		Monday 12:00 - 12:20	Mobility of charged molecules through plasmodesmata	Kaare H. Jensen
	Eva E. Deinum	Monday 12:20 - 12:40	Organization of plant cortical microtubules on curved surfaces	Tim Tian
		Monday 12:40 - 13:00	Efficient algorithm for realistic microtubule-based nucleation in the cortical microtubule array	Marco Saltini
Modelling tissue mechanics and cell fate in regeneration and cancer (I)	Gabriel Piedrafita	Monday 11:40 - 12:00	Modelling a proliferative disorder of the bone: Fibrous Dysplasia	Magdalena Caballero
		Monday 12:00 - 12:20	Efficient cell-based modelling in Julia with applications to development and cancer	Gabriel Torregrosa Cortés
	Qiyao (Alice) Peng & José Manuel García Aznar	Monday 12:20 - 12:40	Hybrid cellular potts modelling of angiogenesis: Cell-extracellular matrix interactions and cell-fate decisions	Roeland Merks
		Monday 12:40 - 13:00	A simple predictive cell-fate model of epithelial clone dynamics	Gabriel Piedrafita
Travelling wave phenomena in biology (I)	Lukas Eigentler	Monday 11:40 - 12:00	How different forms of leadership impact on collective migration	Sara Bernardi
		Monday 12:00 - 12:20	Self-organised patterning in chemotaxis of multicellular communities	Giulia Laura Celora
	Mattia Sensi	Monday 12:20 - 12:40	Rethinking tipping points in spatial ecosystems	Swarnendu Banerjee
		Monday 12:40 - 13:00	The role of front instabilities in reversing species invasion and desertification	Michel Ferre Diaz
Insights and emerging trends in infectious disease modeling and mathematical analysis (I)	Burcu Gürbüz	Monday 11:40 - 12:00	Imitation dynamics of vaccination with distributed delay risk perception	Yuliya Kyrychko
		Monday 12:00 - 12:20	The problem of viability in mathematical epidemiology	Peter Rashkov
	Alan D. Rendall	Monday 12:20 - 12:40	Waiting for the perfect vaccine	Gergely Röst
		Monday 12:40 - 13:00	The existence of backward bifurcation in a mathematical model with the concentration of virus in the environment: An application for COVID-19	Aytül Gökçe
Infectious disease outbreak modelling across multiple scales	Shingo Iwami	Monday 11:40 - 12:00	Using models at multiple scales to assess the impact of SARS-Cov-2 potential variants of concern under gradually relaxing control measures	Louise Dyson
		Monday 12:00 - 12:20	Multi-scale modelling of mpox isolation strategies: the impact of heterogeneity in infectiousness between hosts	Yong Dam Jeong
	Robin Thompson	Monday 12:20 - 12:40	Modelling dynamics of citrus disease at different scales	Elin Falla
		Monday 12:40 - 13:00	Mathematical modelling of evolutionary conditions for viral oncogenicity	Yoshiki Koizumi
Nonlinear dynamics and instabilities in the heart	Blas Echebarria	Monday 11:40 - 12:00	Bistability in the conductance of cardiac gap junctions	Jean Bragard
		Monday 12:00 - 12:20	Understanding the mathematical birth of early afterdepolarizations in single cardiomyocyte models	Roberto Barrio
	Roberto Barrio	Monday 12:20 - 12:40	The role of Calmoduline regulation of the RyR2 in the onset of cardiac alternans	Enrique Alvarez-Lacalle
		Monday 12:40 - 13:00	Oscillations in a minimal calcium model in cardiac cells	Blas Echebarria
Modeling, regulation and control of cellular networks	Tomas Gedeon	Monday 11:40 - 12:00	How do bacteria adaptively control their growth rate in fluctuating environments?	Robert Planqué
		Monday 12:00 - 12:20	The logical modelling approach demonstrated through the analysis of a hybrid epithelial-mesenchymal network	Claudine Chauyuiya
	Madalena Chaves	Monday 12:20 - 12:40	Cell geometry constrains Escherichia coli growth rate, respiration capacity and interactions with environment	Tomas Gedeon
		Monday 12:40 - 13:00	Tolerant vs. Sensitive: deciphering heterogeneous cellular response via mathematical modeling of single-cell dynamics	Giada Fiandaca

MONDAY MORNING MS (11:40 - 13:00)

Session title	Organizers	Schedule	Talk title	Presenting author
MONDAY AFTERNOON I MS/CT (15:00 - 16:20)				
Model reduction and identifiability		Monday 15:00 - 15:20	Scalable Machine Learning methods to detect meaningful lineages in viral populations from large amounts of genetic data	Roberto Cahuantzi
		Monday 15:20 - 15:40	Data-Driven model reduction for biomedical data	Ismaila Muhammed
		Monday 15:40 - 16:00	Variable selection for nonlinear dimensionality reduction of biological datasets through bootstrapping of correlation networks	David G. Aragonés
		Monday 16:00 - 16:20	Analytical Bayesian Framework for Differential Gene expression analysis on RNA-Seq data	Franziska Hoerbst
Cancer Modelling		Monday 15:00 - 15:20	Higher-Dimensional (HD) partial differential equation (PDE) approaches for acute myeloid leukaemia (AML)	Arran Hodgkinson
		Monday 15:20 - 15:40	Mathematical modeling unveils optimization strategies for targeted radionuclide therapy of blood cancers	Maxim Kuznetsov
		Monday 15:40 - 16:00	Pantograph type partial differential equations and tumor growth	Ali Ashher Zaidi
Hematopoietic cancers		Monday 15:00 - 15:20	Mathematical model of CAR-T cell therapy for a B-cell Lymphoma lymph node	Soukaina Sabir
		Monday 15:20 - 15:40	Understanding pre-malignant stem cell dynamics: Lessons from clonal hematopoiesis and stem cell transplantation	Thomas Stiehl
		Monday 15:40 - 16:00	A mathematical modeling approach to clonal architecture of hematopoietic cancers	Johnny Ottesen
Cell biology		Monday 15:00 - 15:20	Investigating spatial signatures of extrachromosomal DNA in cancer with agent-based modelling	Magnus Haughey
		Monday 15:20 - 15:40	Integrated understanding of human PGCLC development using multi-scale mathematical modeling of gene-cel-BMP dynamics	Michito Ujino
		Monday 15:40 - 16:00	Mathematical modeling of subunit formation in Pex14	Mio Heinrich
		Monday 16:00 - 16:20	Identifying the number of rate-limiting steps in transcription initiation, mRNA splicing and nuclear export from mRNA count data	Andrew Nicoll
Transmissible viral diseases		Monday 15:00 - 15:20	Clinical characterization of mpox-infected patients using a lesion transition dynamics model	Takara Nishiyama
		Monday 15:20 - 15:40	Mathematical models of hepatitis B infection	Giulia Belluccini
		Monday 15:40 - 16:00	Inter-species pathogen transmission using stochastic models with demographics: application aquatic ecosystems	Clotilde Djuikem
Air Borne		Monday 15:00 - 15:20	A novel model of tuberculosis progression using CompuCell 3D	James Doran
		Monday 15:20 - 15:40	Epidemiological implications of symptom propagation in respiratory pathogens	Phoebe Asplin
		Monday 15:40 - 16:00	Respiratory viruses in care homes: Development of transmission models	Irene Garcia
		Monday 16:00 - 16:20	The Wells-Riley model revisited: Randomness, heterogeneity and transient behaviours	Alexander J. Edwards
Bacteria		Monday 15:00 - 15:20	Model-based experimental design to identify microbe interactions	Geoffrey Roudaut
		Monday 15:20 - 15:40	Modelling tripartite microbial population dynamics	Tanvir Hassan
		Monday 15:40 - 16:00	Coupling cell size regulation and proliferation dynamics of microbes reveals cell division based on surface area	Abhyudai Singh
Epidemic networks		Monday 15:00 - 15:20	Effective stochastic simulation of adaptive networks in epidemiology	Nils Gubela
		Monday 15:20 - 15:40	Cross-disease predictive analysis: A new paradigm in pandemic preparedness	Joana Meyer
		Monday 15:40 - 16:00	Periodic oscillations in an epidemic model with loss of immunity	Angel Calsina
COVID (I)		Monday 15:00 - 15:20	Estimating unreported COVID-19 infections in Korea from internet search data with epidemic risk perception hybrid model	Minji Lee
		Monday 15:20 - 15:40	EpiBeds: Data-informed short-term projections of the COVID-19 hospital and care home burden in the UK	Lorenzo Pellis
		Monday 15:40 - 16:00	SIS-type COVID-19 spread with collective effects	Daniel Strömbom
		Monday 16:00 - 16:20	Diverse methodological analysis of movement patterns by purpose and age in South Korea during COVID-19	Daeil Jang

**MONDAY
AFTERNOON
I CT
(15:00 - 16:
20)**

Session title	Organizers	Schedule	Talk title	Presenting author
MONDAY AFTERNOON II MS/CT (16:40 - 18:00)				
Mechanistic learning in mathematical oncology (II)	Alvaro Köhn-Luque	Monday 16:40 - 17:00	Mechanistic learning to predict the results of clinical trials	Sébastien Benzekry
		Monday 17:00 - 17:20	Patient-specific forecasting of prostate cancer growth and radiotherapy response using biomechanistic models and hybrid classifiers	Guillermo Lorenzo
	Saskia Haupt	Monday 17:20 - 17:40	Augmenting mechanistic models with machine learning to predict cancer treatment outcomes	Alvaro Köhn-Luque
		Monday 17:40 - 18:00	On the use of neural networks for parameter identification in mathematical models of glioblastoma evolution	Marina Pérez-Aliacar
Deciphering intracellular reaction processes: Bridging Stochastic models with single-cell measurement technologies (II)	Elena Sofia D'Ambrosio	Monday 16:40 - 17:00	Information processing by intracellular signaling networks	Andre Levchenko
		Monday 17:00 - 17:20	Scalable inference reveals global transcription regulation from time-resolved single-cell transcriptomics	Dimitris Volteras
		Monday 17:20 - 17:40	Trade-offs between cost and information in cellular prediction	Pieter Rein ten Wolde
		Monday 17:40 - 18:00	Real-time inference of intracellular dynamics: A deep learning approach	Elena Sofia D'Ambrosio
Plant models across scales (II)	Mariya Ptashnyk	Monday 16:40 - 17:00	Using 3D finite element method simulations to unravel the interplay between plant stomata morphology and function	Melissa Tomkins
		Monday 17:00 - 17:20	Plant morphogenesis across scales	Antoine Fruleux
	Eva E. Deinum	Monday 17:20 - 17:40	Root water uptake modelling across scales	Andrea Schnepf
		Monday 17:40 - 18:00	Modelling the influence of root rhizodeposits on soil hydraulics and root water uptake	Andrew Mair
Modelling tissue mechanics and cell fate in regeneration and cancer (II)	Gabriel Piedrafita	Monday 16:40 - 17:00	Mathematical modelling of tissue morphogenesis and regeneration	Diane Peurichard
		Monday 17:00 - 17:20	Modelling the influence of loss of E-Catherin and stroma attachment in cancer cell invasion: Mathematical approach	Pilar Guerrero
	Qiyao (Alice) Peng & José Manuel García Aznar	Monday 17:20 - 17:40	Numerical assessment of a morphoelastic model for post-burn contractures and hypertrophic scars	Fred Vermolen
		Monday 17:40 - 18:00	Emergence and consequences of transcription factor dynamics during development	Jochen Kursawe
Travelling wave phenomena in biology (II)	Lukas Eigentler	Monday 16:40 - 17:00	Travelling waves in dryland ecology	Gabriele Grifo
		Monday 17:00 - 17:20	Derivation and travelling wave analysis of phenotype-structured models in cancer invasion	Fiona Macfarlane
	Mattia Sensi	Monday 17:20 - 17:40	Negative feedback driving biodiversity: Transient biomass distributions and the Janzen-Connell hypothesis	Frits Veerman
		Monday 17:40 - 18:00	Topological defect law for migrating banded vegetation patterns	David Pinto-Ramos
Insights and emerging trends in infectious disease modeling and mathematical analysis (II)	Burcu Gürbüz	Monday 16:40 - 17:00	Mathematical modelling of replication-mutation dynamics of coronaviruses	Konstantin Blyuss
		Monday 17:00 - 17:20	Problems and applications of kinetics models for interacting cellular dynamics	Ana Jacinta Soares
	Alan D. Rendall	Monday 17:20 - 17:40	Threshold dynamics in a periodic time-delayed model for measles with passive immunity and double-dose vaccination	Attila Dénes
		Monday 17:40 - 18:00	Exploring dynamics and stability in a dengue fever transmission model with delay terms	Burcu Gürbüz
Stochastic biology		Monday 16:40 - 17:00	Control of stochastic biochemical oscillators: feedback stabilization around the low probability region	Christian Fernández Pérez
		Monday 17:00 - 17:20	Jump-switch-flow: hybrid deterministic-stochastic trajectories of compartmental systems	Domenic Germano
		Monday 17:20 - 17:40	The role of bacterial dilution and stochastic growth in <i>Vibrio fischeri</i> symbiotic colonization	Xabier Rey Barreiro
		Monday 17:40 - 18:00	Moment-based inference of stochastic reaction networks with error guarantees	Zekai Li
Stem cells		Monday 16:40 - 17:00	A mathematical approach to the evolution of the proliferation potential of stem cells	Ana M. Portillo
		Monday 17:00 - 17:20	Stochastic modelling reveals combined regulation strategies maintaining homeostasis in stem cell population	Rodrigo García-Tejera
		Monday 17:20 - 17:40	Transcriptome-structured population models for neural stem cells	Carolin Lindow
		Monday 17:40 - 18:00	Quantitative evaluation of bypass pathways on the differentiation potential of hematopoietic stem cells	Shoya Iwanami
COVID (II)		Monday 16:40 - 17:00	Optimizing epidemic restrictions through piecewise time-varying SIRD models: a case study of the COVID-19 emergency in Italy	Federico Papa
		Monday 17:00 - 17:20	Mathematical development of random models of household infection and statistical fitting to three years of a large community COVID study	Thomas House
		Monday 17:20 - 17:40	Lessons learned from epidemic modeling for COVID-19 with real-world data	Roberto Kraenkel
		Monday 17:40 - 18:00	Measuring the cost-effectiveness of COVID-19 vaccination: a modelling study	Carlo Delfin Estadilla

**MONDAY
AFTERNOON
II MS/CT
(16:40 - 18:
00)**

Session title	Organizers	Schedule	Talk title	Presenting author
TUESDAY MORNING MS (10:40 - 12:00)				
Mathematical models for vector-borne infections (I)	Christopher Kribs	Tuesday 10:40 - 11:00	The impact of infestation behaviors on vector-borne disease: co-feeding transmission dynamics	Jianhong Wu
		Tuesday 11:00 - 11:20	Spatio-temporal dynamics of arbovirus transmission and control	Iliaria Dorigatti
	Andrea Pugliese	Tuesday 11:20 - 11:40	Modeling the risk of arboviral transmission at detailed spatio-temporal scales	Piero Poletti
		Tuesday 11:40 - 12:00	Estimating the risk of vector-borne disease spread in seasonal environments	Kyeongah Nah
Quantitative approaches to modelling and analysing cancer-immune interactions (I)	Eszter Lakatos	Tuesday 10:40 - 11:00	A hybrid discrete-continuum modelling approach to explore the impact of T-Cell infiltration on anti-tumour immune response	Emma Leschiera
		Tuesday 11:00 - 11:20	Predicting T-cell receptor - peptide-MHC interactions: How can we bridge the two sides of the equations?	David Gfeller
	Barbara Bravi	Tuesday 11:20 - 11:40	Individual-based modelling of the interaction between cancer and T cells in vitro	Tomás Alarcón
		Tuesday 11:40 - 12:00	Immune evasion impacts the landscape of driver genes during cancer evolution	Luis Zapata Ortiz
Complexity science for biological and medical problems	Jesús J. Bosque	Tuesday 10:40 - 11:00	Data-driven approaches to study the complexity of organelles	Konstantinos Giannakis
		Tuesday 11:00 - 11:20	Using neuronal cultures as a model system for medicine: From complex networks to therapy	Jordi Soriano
		Tuesday 11:20 - 11:40	Mathematical essence of aging	Uri Alon
		Tuesday 11:40 - 12:00	Bridging networks for drug repurposing: Insights from network medicine	Lucía Prieto Santamaría
Modelling heterogeneity, adaptation and evolution in cancer	LEGRAND Carine	Tuesday 10:40 - 11:00	The statistical physics of gene expression and mRNA expression heterogeneity	James Holehouse
		Tuesday 11:00 - 11:20	Site frequency spectrum of a rescued population under rare resistant mutations	BONNET Céline
	BONNET Céline	Tuesday 11:20 - 11:40	Deterministic modelling of cancer evolutionary dynamics: A phenotype-structured PDE approach	VILLA Chiara
		Tuesday 11:40 - 12:00	Time-resolved, integrated analysis of clonally evolving genomes	LEGRAND Carine
Unravelling brain physiology and pathology: The role of mathematical modelling	Chiara Giverso	Tuesday 10:40 - 11:00	Incorporating phenotypic heterogeneity in mathematical models for the growth of brain tumours: A non-local reaction-diffusion approach	Francesca Ballatore
		Tuesday 11:00 - 11:20	Modeling the growth of brain metastases	Beatriz Ocaña Tienda
	Giulio Lucci	Tuesday 11:20 - 11:40	Coupled mechanics of axial and circumferential active contractions in axons	Giulio Lucci
		Tuesday 11:40 - 12:00	Spatial multi-scale model of tumor metabolism	Angélique Stéphanou
Thermodynamics of living systems	Maarten Droste	Tuesday 10:40 - 11:00	Opening the black box: Thermodynamics of microbial growth	Oliver Ebenhöf
		Tuesday 11:00 - 11:20	Combining thermodynamic, kinetic and physiological tools to unravel basic and applied problems in microbiology	Karel Olavarria
	Robert Planqué	Tuesday 11:20 - 11:40	Network-wide thermodynamic constraints shape NAD(P)H cofactor specificity of metabolic reactions	Steffen Klamt
		Tuesday 11:40 - 12:00	Thermodynamic modeling for metabolic pathways	Elad Noor
Collective behaviour across scales: drawing parallels from cells to humans	Andrei Sontag	Tuesday 10:40 - 11:00	Self-organization in multicellular systems: from collective motion to stem cell patterning	David Brückner
		Tuesday 11:00 - 11:20	Mechanisms underlying synchronization during collective hunting in social spiders	Violette Chiara
	Kit Yates	Tuesday 11:20 - 11:40	Collective decision making in locust groups	Kit Yates
		Tuesday 11:40 - 12:00	Pathways for overturning consensus in human collective decision-making	Andrei Sontag
Emerging data driven approaches for increasing the prediction and understanding of biological processes	Joanne Dunster	Tuesday 10:40 - 11:00	Feature selection and parameter inference with sparsely sampled data via lasso and global optimization	Rahma Abdulahi
		Tuesday 11:00 - 11:20	Building interpretable machine learning models from omics data to better understand biology	Rachel Cavill
	Sara Jabbari	Tuesday 11:20 - 11:40	Mechanical regulation and cell cycle dynamics in models of collective cell migration	Carles Falcó
		Tuesday 11:40 - 12:00	Reducing uncertainty in ion channel models via experimental design and accounting for experimental artefacts	Gary Mirams
Recent developments in biofilm modelling	Maria Rosaria Mattei	Tuesday 10:40 - 11:00	Immersed boundary models for biofilm spread and response to antibiotics	Ana Carpio
		Tuesday 11:00 - 11:20	Estimating biofilm viscoelastic properties using a Bayesian framework	Nick Cogan
	Luigi Frunzo	Tuesday 11:20 - 11:40	Sulfur mediated precipitation in a biofilm reactor	Vincenzo Luongo
		Tuesday 11:40 - 12:00	Multiscale modeling of microbial community metabolism	Isaac Klapper

**TUESDAY
MORNING MS
(10:40 - 12:
00)**

Session title	Organizers	Schedule	Talk title	Presenting author
TUESDAY AFTERNOON MS/CT (15:00 - 16:20)				
Mathematical models for vector-borne infections (II)	Christopher Kribs	Tuesday 15:00 - 15:20	Modelling the climate-driven transmission suitability of the dengue virus	José Lourenço
		Tuesday 15:20 - 15:40	Impact of ADE and dengue vaccination with screening on the toll of a dual dengue-Zika outbreak	Christopher Kribs
	Andrea Pugliese	Tuesday 15:40 - 16:00	Evaluating the transmission dynamics of co-circulating chikungunya, Zika, and dengue viruses	Alex Perkins
		Tuesday 16:00 - 16:20	A novel compartmental framework for modelling lymphatic filariasis dynamics and elimination strategies	Indrajit Ghosh
Quantitative approaches to modelling and analysing cancer-immune interactions (II)	Eszter Lakatos	Tuesday 15:00 - 15:20	A dynamical model of PD-1/PD-L1 and CTLA-4 immune-checkpoint therapy	Kamran Kaveh
		Tuesday 15:20 - 15:40	Stochastic mutation rate switching in response to immune selection in mismatch repair-deficient colorectal cancer (MMRd CRC)	Lauren McKenzie
	Barbara Bravi	Tuesday 15:40 - 16:00	Modeling the co-evolution of an evolving cancer and T-cell repertoire: challenges and exciting opportunities for mathematics to improve T-cell immunotherapy	Jason T. George
		Tuesday 16:00 - 16:20	The interplay between the cancer cell and the immune microenvironment during cancer	Nicholas McGranahan
Applied multi-scale modelling methods in dynamic tissue remodelling	Arran B. J. Hodgkinson	Tuesday 15:00 - 15:20	A Numerical Study of Point Forces in a Multi-Dimensional Elastic Model for Tumors	Fred Vermolen
		Tuesday 15:20 - 15:40	Multiscale modelling and analysis for Glioblastoma Multiforme progression and relapse	Dumitru Trucu
	Anna Zhigun	Tuesday 15:40 - 16:00	Mathematical modelling of cancer invasion: Phenotypic transitioning provides insight into multifocal foci formation	Zuzanna Szymanska
		Tuesday 16:00 - 16:20	Hybrid modelling of spatially extended reaction-diffusion processes	Kit Yates
Human populations		Tuesday 15:00 - 15:20	The popularity spectrum appearing in cultural evolution and the diffusion approximation	Joe Yuichiro Wakano
		Tuesday 15:20 - 15:40	libpspm: A feature-rich numerical package for solving physiologically structured population models	Elisa Stefaniak
		Tuesday 15:40 - 16:00	Analysis of effects of interregional and international migration on Japan's population decline using a multi-regional Leslie matrix model	Ryo Oizumi
Population dynamics (animals)		Tuesday 15:00 - 15:20	Incorporating heterogeneity in farmer disease control behaviour into a livestock disease transmission model	Edward Hill
		Tuesday 15:20 - 15:40	A simulation model for porcine diseases in a farrow-to-finish pig farm with intra-herd transmission through animal and farmer movements	Jerrold M. Tubay
		Tuesday 15:40 - 16:00	Identifying environmental and ecological risk factors for highly pathogenic avian influenza in wild birds	Joe Hilton
		Tuesday 16:00 - 16:20	Bioeconomic modelling for sustainable biological control against a cabbage pest	Frédéric Grognard
Dynamical systems in biomedicine		Tuesday 15:00 - 15:20	Analysing the entrainment dynamics of models of the central circadian clock	Franz Aschl
		Tuesday 15:20 - 15:40	Spike-adding phenomena in bursting models: Dissecting the bifurcation skeleton	Lucía Pérez
		Tuesday 15:40 - 16:00	Approximation of reproduction numbers of age-structured models	Francesca Scarabel
		Tuesday 16:00 - 16:20	A differential geometric analysis of perpetual and equilibrium points multistable dynamical systems	Sam Subbey
Transmissible viral diseases		Tuesday 15:00 - 15:20	Investigating the impact of disease on aboriginal Australia with stochastic multi-patch epidemic models	Matthew C. Nitschke
		Tuesday 15:20 - 15:40	Assesing the transmission potential of mpox in East Asia during 2022-2023: A focus on Taiwan, China, Japan, and South Korea	Eunha Shim
		Tuesday 15:40 - 16:00	Modelling intra- and inter-hospital transmission of Middle East Respiratory Syndrome and preventive strategy	Youngsuk Ko
		Tuesday 16:00 - 16:20	Mathematical modelling of measles infection dose responses	Anelone Anet
Mutations		Tuesday 15:00 - 15:20	Inference on natural selection for a family of Wright-Fischer diffusion models	Celia García Pareja
		Tuesday 15:20 - 15:40	Eco-evolutionary dynamics in finite network-structured populations with migration	Wajid Ali
		Tuesday 15:40 - 16:00	The effect of community structure on fixation process in evolutionary graph theory	Javad Mohamadichamga
Tumor control and therapies		Tuesday 15:00 - 15:20	Optimal control of tumour growth to maximize patient life expectancy	Byron Tzamarías
		Tuesday 15:20 - 15:40	Modeling and control of tumor growth: alternative approaches	Pasquale Palumbo
		Tuesday 15:40 - 16:00	Optimal therapy for lung and brain cancers using intra- and inter-cellular networks	Tamaki Wakamoto
		Tuesday 16:00 - 16:20	Mathematical insights into cyclic multidrug therapy: how temporally heterogeneous treatments can control phenotypically heterogeneous tumour	Artur César Fassoni

**TUESDAY
AFTERNOON
MS/CT
(15:00 - 16:
20)**

Session title	Organizers	Schedule	Talk title	Presenting author
WEDNESDAY MORNING MS/CT (10:40 - 12:00)				
Mathematical modeling of microbial ecological systems: Bridging theory and experiments (I)	Havva Yoldaş	Wednesday 10:40 - 11:00	Heterogeneous structuring in travelling wave solutions of a trait-structure Keller-Segel model	Viktoria Freingruber
		Wednesday 11:00 - 11:20	Analysis of a fractional cross-diffusion system for multi-species populations	Nicola Zamponi
	Rebeca Gonzalez - Cabaleiro	Wednesday 11:20 - 11:40	Unravelling the debate on the oxygen requirements of comammox Nitrospira through theory-based modelling	Eloi Martinez-Rabert
		Wednesday 11:40 - 12:00	Bioenergetic metabolic models for understanding and designing open mixture culture fermentation process	Alberte Regueira
New directions for stochastic models of epidemics (I)	Jacob Curran-Sebastian	Wednesday 10:40 - 11:00	Stochastic analysis of an Epidemic Model in a Resource-Limited Environment	Antonio Gómez-Corral
		Wednesday 11:00 - 11:20	Applications of Bayesian stochastic hierarchical models in epidemiology	Punya Alahakoon
	Thomas House	Wednesday 11:20 - 11:40	Using Hawkes process to model malaria in countries close to elimination	Juliette Unwin
		Wednesday 11:40 - 12:00	A Bayesian SEIR modelling approach to quantifying the impact of COVID-19 Vaccination on lives saved in Sweden 2021	Fanny Bergström
Multiscale mathematical models in physiological processes and Cancer: from sub-cellular mechanisms to phenotype switching and metastasis (I)	Niklas Kolbe	Wednesday 10:40 - 11:00	The influence of the geometry and domain size for a reaction-diffusion system with cross-diffusion	Gülsemay Yiğit
		Wednesday 11:00 - 11:20	Computational investigation of heterogeneous cell phenotypes in the tumour microenvironment	Raluca Eftimie
	Zuzanna Szymanska	Wednesday 11:20 - 11:40	Cell-state transitions and frequency-dependent interactions among subpopulations together explain the dynamics of spontaneous epithelial-mesenchymal heterogeneity in breast cancer	Paras Jain
		Wednesday 11:40 - 12:00	Modeling heterogeneous gene expression responses to TGFβ stimulation	Karen Amaral Oliveira
Modelling collective cell migration across scales: from individual-based to continuum models	Juan Jiménez - Sánchez	Wednesday 10:40 - 11:00	Macroscopic limits of kinetic equations for interacting multi-species systems	Gissell Estrada-Rodríguez
		Wednesday 11:00 - 11:20	Modelling collective migration of phenotypically heterogeneous cell populations: a multiscale kinetic approach	Nadia Loy
	Tommaso Lorenzi	Wednesday 11:20 - 11:40	Evolution of phenotypic plasticity leads to tumour heterogeneity with implications for therapy	Simon Syga
		Wednesday 11:40 - 12:00	Linking discrete and continuous models of cell birth and migration	Duncan Martinson
Multiscale modeling and analysis in neuroscience	Zhennan Zhou	Wednesday 10:40 - 11:00	Noise-driven bifurcations in a neural field system modelling networks of grid cells	José A. Carrillo
		Wednesday 11:00 - 11:20	Modelling of grid cells using a non-linear and non-local Fokker-Planck equation	Pierre Roux
		Wednesday 11:20 - 11:40	A mean-field limit of neural networks with heterogeneous connections	Datong Zhou
		Wednesday 11:40 - 12:00	Blow-up time dilation: capturing the synchronization in the mean-field PDE for integrated-and-fire neurons	Xu'an Dou
Topological data analysis for applications in biomedicine	Salvador Chulián García	Wednesday 10:40 - 11:00	Modelling periodic biological processes as persistent cohomology classes	Kelly Maggs
		Wednesday 11:00 - 11:20	Capturing spatial patterns with topological methods	Ondrej Draganov
	Bernadette Jana Stolz-Pretzer	Wednesday 11:20 - 11:40	Specific TDA pipelines for understanding spatial biology of multiplex data	A. Natarajan, M. J. Jiménez
		Wednesday 11:40 - 12:00	Relational persistent homology for multispecies data with application to the tumor microenvironment	Bernadette Stolz
Developmental biology		Wednesday 10:40 - 11:00	A model of self-organizing axon pathfinding in the fly visual system	Eric Reifenstein
		Wednesday 11:00 - 11:20	Mini-models unleashed: Decoding Zygotic genome activation in zebrafish	Jacques Hermes
		Wednesday 11:20 - 11:40	Dynamics of positional information in the vertebrate neural tube	Andela Markovic
		Wednesday 11:40 - 12:00	Attraction and repulsion within cell populations on growing spatial domains	Alf Gerisch
Pattern formation (I)		Wednesday 10:40 - 11:00	Pattern formation in mechanochemical models	Daphne Nesenberend
		Wednesday 11:00 - 11:20	Phase separation approach for investigating the impact of organic molecules and phosphate ions on formation of biosilica pattern in diatoms	Svetlana Petrenko
		Wednesday 11:20 - 11:40	Turing and Wave instabilities in water-biomass-toxicity models for patterned vegetation dynamics	Giancarlo Consolo
		Wednesday 11:40 - 12:00	Pattern formation in stochastic reaction-diffusion systems	Fraser Waters
Extracellular matrix (I)		Wednesday 10:40 - 11:00	Modelling and simulation of intracellular signaling pathways: coupling chemical processes and mechanical properties	Sofie Verhees
		Wednesday 11:00 - 11:20	Mathematical modeling of wild type and mutant keratin-14 network dynamics and keratin aggregate formation	Marcos Gouveia
		Wednesday 11:20 - 11:40	Microenvironment anisotropy drives cell migration and large-scale nuclear deformations - a coupled in silico and in vitro study	Ana Bensabat
Virus growth and Vaccine strategies (I)		Wednesday 10:40 - 11:00	Dynamical analysis of an HIV infection model including quiescent cells and immune response	Ibrahim Nali
		Wednesday 11:00 - 11:20	Estimation of the cell-to-cell transmission rate using a spatio-temporal mathematical model	Yusuke Asai
		Wednesday 11:20 - 11:40	Designing vaccination strategies for epidemics models using multiple optimal controls	Fernando Saldaña
		Wednesday 11:40 - 12:00	On the exact and population bi-dimensional reproduction numbers in a stochastic SVIR model with imperfect vaccine	María Gamboa Pérez

WEDNESDAY MORNING MS/CT (10:40 - 12:00)

Session title	Organizers	Schedule	Talk title	Presenting author
WEDNESDAY AFTERNOON I MS/CT (15:00 - 16:20)				
Mathematical modeling of microbial ecological systems: Bridging theory and experiments (II)	Havva Yoldaş	Wednesday 15:00 - 15:20	Impact of an obligate predator on microbial ecosystems: The challenges and benefits of combining modelling and high throughput chemostat arrays	J. Kimberley Summers
		Wednesday 15:20 - 15:40	Harnesing synthetic microbial communities for environmental bioremediation: Insights from genome-scale metabolic modeling	William Scott
	Rebeca Gonzalez - Cabaleiro	Wednesday 15:40 - 16:00	Dynamics of encapsulated bacteriophage in the gastrointestinal tract	Carles Barril
		Wednesday 16:00 - 16:20	Mixture models for gut microbiota ecology	Bastien Polizzi
New directions for stochastic models of epidemics (II)	Jacob Curran-Sebastian	Wednesday 15:00 - 15:20	Time series models of epidemics and associated tree structures	Niket Thakkar
		Wednesday 15:20 - 15:40	Long-term behaviour of a stochastic epidemic in a growing population	Malwina Luczak
	Thomas House	Wednesday 15:40 - 16:00	Modeling the impact of human movement on the spread of Dengue Virus: the importance of appropriate spatial scales	Alun Lloyd
		Wednesday 16:00 - 16:20	Modeling spreading on networks	James Gleeson
Multiscale mathematical models in physiological processes and cancer: from sub-cellular mechanisms to phenotype switching and metastasis (II)	Niklas Kolbe	Wednesday 15:00 - 15:20	Exploring the role of EMT in ovarian cancer progression and metastasis	Sam Oliver
		Wednesday 15:20 - 15:40	A multi-layer model of cancer metastasis	Niklas Kolbe
	Zuzanna Szymanska	Wednesday 15:40 - 16:00	Discrete and continuum modeling of robust biological transportation networks	Jan Haskovec
		Wednesday 16:00 - 16:20	Agent-based modelling of heterogeneous EMT scenarios highlights nuclear positioning and protrusions as main drivers of extrusion	Steffen Plunder
Digital twins for clinical oncology and cancer research	Guillermo Lorenzo	Wednesday 15:00 - 15:20	Predictive modelling in radiation oncology	Heiko Enderling
		Wednesday 15:20 - 15:40	Therapy optimization in gliomas: in vitro and in silico study of alternative dose spacings	Juan Jiménez-Sánchez
	Chengyue Wu	Wednesday 15:40 - 16:00	Integrative kinetics and machine learning modeling for prediction of outcome following immunotherapy in lung cancer	Sébastien Benzekry
		Wednesday 16:00 - 16:20	Digital twins in leukemia treatment	Ana Niño-López
Recent developments on tumor growth models: analysis and simulation	Xinran Ruan	Wednesday 15:00 - 15:20	PDE models for the spatial spread and evolutionary dynamics of heterogeneous cell population	Tommaso Lorenzi
		Wednesday 15:20 - 15:40	Tumor growth with a necrotic core as an obstacle problem in pressure	Zhennan Zhou
		Wednesday 15:40 - 16:00	Mathematical problems in a class of tumor growth models	Yu Feng
		Wednesday 16:00 - 16:20	Structure preserving schemes for tumor growth models	Xinran Ruan
Epidemiology (I)		Wednesday 15:00 - 15:20	Genotype-structured epidemiological models to gain insights into variant emergence and competition	Anass Bouchnita
		Wednesday 15:20 - 15:40	Identifiability and observability for a class of epidemiological models	Alicja B. Kubik
		Wednesday 15:40 - 16:00	The impact of deprivation and heterogeneous mixing epidemic models	Hasan Sevil
		Wednesday 16:00 - 16:20	Hybrid epidemiological models for efficient insight on the individual scale: A contribution to green computing	Martin Kühn
Blood flow		Wednesday 15:00 - 15:20	Notch Flow-driven polarisation and signalling in vessels - A mathematical model	Rui Travasso
		Wednesday 15:20 - 15:40	Modeling of the oxygen and carbon dioxide transport through the lung to the blood	Frédérique Noël
		Wednesday 15:40 - 16:00	Systems biology approaches to studying subcellular mechanisms and their regulation in the human platelet	Joanne Dunster
		Wednesday 16:00 - 16:20	Exact solutions and conservation laws of a one-dimensional PDE model for a blood vessel	Almudena P. Márquez
Microbiology and drug resistance		Wednesday 15:00 - 15:20	Drug-resistant bacterium <i>Pseudomonas aeruginosa</i> vs. host: nested defence strategies	Wassili Dimitriew
		Wednesday 15:20 - 15:40	Effects of antimicrobial drugs on Quorum Sensing dynamics	Juan David Marmolejo Lozano
		Wednesday 15:40 - 16:00	Birth-death processes for modelling bacterial heteroresistance under antimicrobial stress with substrate utilisation kinetics	Nerea Martínez López
		Wednesday 16:00 - 16:20	Coupled environmental and demographic fluctuations shape the evolution of cooperative antimicrobial resistance	Lluís Hernández Navarro
Neurodegenerative diseases		Wednesday 15:00 - 15:20	The synergistic interplay between amyloid beta and tau in Alzheimer's disease. A mathematical model on the human connectome	Maria Carla Tesi
		Wednesday 15:20 - 15:40	A network transport model for the progression of Alzheimer's disease	Veronica Tora
		Wednesday 15:40 - 16:00	A model for simulating plaques formation in Alzheimer's disease	Ezio Venturino
		Wednesday 16:00 - 16:20	A virtual lab for Parkinson's disease: modeling alpha-synuclein aggregation dynamics	Elena Righetti

WEDNESDAY AFTERNOON I MS/CT (15:00 - 16:20)

Session title	Organizers	Schedule	Talk title	Presenting author
WEDNESDAY AFTERNOON II MS/CT (16:40 - 17:40)				
Vector-borne diseases: miscellaneous		Wednesday 16:40 - 17:00	Assessing neutral network models of mosquito abundance for vector surveillance	Adrienne Kinney
		Wednesday 17:00 - 17:20	Evaluating targeted vector-control strategies for malaria elimination in Cambodia's forested regions: a stochastic modelling approach	Emma Fairbanks
Human diseases (I)		Wednesday 16:40 - 17:00	Amplitude and frequency variation in stimulated glycemc rhythms	Benoit Huard
		Wednesday 17:00 - 17:20	Modeling a rare disease: a case in fibrous dysplasia	Juan Carlos Beltrán Vargas
		Wednesday 17:20 - 17:40	Mathematical modeling of phosphate kinetics for hemodialysis	Morten Andersen
Biomedical Modelling		Wednesday 16:40 - 17:00	New conserved quantities and modern symmetry analysis applied to a dissipative Westervelt equation	Tamara María Garrido Letrán
		Wednesday 17:00 - 17:20	TBA	Raúl Felipe Sosa
		Wednesday 17:20 - 17:40	Interdigitation between in silico sinoatrial and trial cells improves the robustness of conducting action potentials	Martijn de Jong
Protein/enzyme kinetics		Wednesday 16:40 - 17:00	Enzyme kinetics simulation at the scale of individual particles	Taylor Kearney
		Wednesday 17:00 - 17:20	Optimising resource allocation to defence chemicals and counter-counter defence by enzyme inhibitors in parasitic and trophic interactions	Stefan Schuster
		Wednesday 17:20 - 17:40	Information across scales: Can information on protein structure inform models of protein network dynamics?	Holly Huber
Virus modelling		Wednesday 16:40 - 17:00	Viral kinetics for early infection of SARS-CoV-2 and risk analysis	Jingsi Xu
		Wednesday 17:00 - 17:20	Accurate and efficient integration of within-host models into discrete stochastic population models of infectious diseases	Mark B Flegg
		Wednesday 17:20 - 17:40	Efficient coupling of within-and between-host infectious disease dynamics	Cameron Smith
Epidemiology (II)		Wednesday 16:40 - 17:00	Optimal control in the presence of parametric uncertainty: a case study in epidemiology	Sandra Díaz-Seoane
		Wednesday 17:00 - 17:20	Optimal timing of intervention and testing for mitigating infectious disease outbreaks in prisons	Joseph Brooks
		Wednesday 17:20 - 17:40	Evolution into chaos - Implications of the trade-off between transmissibility and immune evasion	Golsa Sayyar
Radiotherapy in cancer		Wednesday 16:40 - 17:00	A mathematical approach for tumor-associated macrophages in glioma growth and response to radiation	Jesús J. Bosque
		Wednesday 17:00 - 17:20	A mathematical model assuming frequency-dependent cost for analyzing the influence of stem cell competition on the radiation effects	Kouki Uchinomiya
		Wednesday 17:20 - 17:40	Efficient radial-shell model for 3D tumor spheroid dynamics with radiotherapy	Anja Voss-Böhme
Pattern formation (II)		Wednesday 16:40 - 17:00	Delayed loss of stability of periodic travelling waves affect wavelength changes of patterned ecosystems	Lukas Eigentler
		Wednesday 17:00 - 17:20	Mathematical and Numerical analysis of Turing patterns in biological system for Nodal and Lefty.	Mohamed Amine Ouchdiri
		Wednesday 17:20 - 17:40	Nonlocality-induced instabilities in reaction diffusion systems arising from modeling inflammation	Cordula Reisch
Vaccine strategies (II) and Extracellular matrix (II)		Wednesday 16:40 - 17:00	Dynamics and vaccination control of the transmission of gonorrhoea in MSM, females and non-MSM males	Feng Xu
		Wednesday 17:00 - 17:20	Long-term impact of vaccination on the antigenic evolution of RNA viruses	Myrthe Willemsen
		Wednesday 17:20 - 17:40	Cells align to structured collagen fibrils in a hybrid cellular Potts model	Koen Keijzer

WEDNESDAY AFTERNOON II CT (16:40 - 17:40)

Session title	Organizers	Schedule	Talk title	Presenting author
THURSDAY MORNING MS/CT (10:40 - 11:00)				
Mathematical models of cancer immunotherapy (I)	Juan Belmonte Beitia	Thursday 10:40 - 11:00	Computational modelling of CAR-T therapy: from pharmacokinetic description to patient-level predictions	Adrià Murias-Closas
		Thursday 11:00 - 11:20	Individual patient dynamics of CAR-T cell therapy in lymphoma: Model selection and response prediction	Álvaro Martínez-Rubio
	Álvaro Martínez Rubio	Thursday 11:20 - 11:40	T-cell-cancer cell conjugate dynamics impact time to equilibrium or cancer extinction	Qianci Yang
		Thursday 11:40 - 12:00	Modelling tumour escape mechanisms in CAR-T cell treatment of leukemias	Alexis Farman
Mathematical models for pest dynamics and control	Sara Pasquali	Thursday 10:40 - 11:00	Controlling burrowing nematodes in banana roots based on an epidemiological model with variable infestation density	Suzanne Touzeau
		Thursday 11:00 - 11:20	Physiological-based models and field measurements: a good binomial to improve models' predictivity	Luca Rossini
	Bedr'Eddine Ainseba	Thursday 11:20 - 11:40	Mathematical modelling of pest resistance to insecticides and global dynamics	Khadija Aicha Kada
		Thursday 11:40 - 12:00	Climate-sensitive dynamically-structured population modelling for the castor bean tick, Ixodes ricinus	Iman Mehrabinezhad
Data-driven approaches in infectious disease modeling	Necibe Tuncer	Thursday 10:40 - 11:00	Simple models of epidemic control through mass-testing	Andrea Pugliese
		Thursday 11:00 - 11:20	Understanding short-term and long-term virus dynamics: lessons from hepatitis B infections	Stanca Ciupe
	Stanca Ciupe	Thursday 11:20 - 11:40	Multi-scale modelling of inhalational anthrax	Beverlynn Williams
		Thursday 11:40 - 12:00	The effect of model structure and data availability on Usutu virus dynamics at three biological scales	Necibe Tuncer
Mathematical insights into Telomere length dynamics	Marie Doumic	Thursday 10:40 - 11:00	Stochastic branching model for the telomeres dynamics including telomerase	Coralie FRITSCH
		Thursday 11:00 - 11:20	Stochastic models of telomere evolution: An idiosyncratic review	Marek KIMMEL
	Denis Villemonais	Thursday 11:20 - 11:40	An inverse problem in cell dynamics: estimating the initial distribution of telomere length from the measurements of senescence times	Jules OLAYÉ
		Thursday 11:40 - 12:00	Individual cell fate and population dynamics revealed by a mathematical model of replicative senescence	Anaïs RAT
Modeling and analysis in cell biology: multi-scale perspectives	Martina Conte	Thursday 10:40 - 11:00	Modeling non-local cell-cell adhesion: a multi-scale approach	Anna Zhigun
		Thursday 11:00 - 11:20	Diffusion-driven instability in bulk-surface reaction-diffusion systems	Davide Cusceddu
	Romina Travaglini	Thursday 11:20 - 11:40	A linear optimal control model of immunotherapy for recurrent autoimmune disease	Kamila Azib
		Thursday 11:40 - 12:00	A computational multi-scale approach to the therapeutic resistance of protaste cancer	Marianna Cerasuolo
Gaussian processes and inference for dynamical systems	John Fricks	Thursday 10:40 - 11:00	Gaussian processes for the inference of partially known mechanistic models used for clinical trial	Julien Martinelli
		Thursday 11:00 - 11:20	Curve registration for mechanistic models: application for treatment effect analysis	Quentin Clairon
		Thursday 11:20 - 11:40	Manifold-constrained Gaussian processes for estimating and assessing differential equation models	Yuxuan Zhao
		Thursday 11:40 - 12:00	Parameter estimation for ordinary differential equations with time warping	John Fricks
Evolutionary dynamics (I)		Thursday 10:40 - 11:00	SARS-CoV-2 Evolution on a Dynamic Immune Landscape	Max Von Kleist
		Thursday 11:00 - 11:20	Eco-evolutionary models for trait evolution and minimum viable population sizes in a changing environment	Peter Nabutanyi
		Thursday 11:20 - 11:40	Understanding the biased distribution in traction forces in cooperative cell motility	Ying Zhang
Non-pharmaceutical interventions in epidemics		Thursday 10:40 - 11:00	Can age-based restrictions replace horizontal lockdowns?	Vasilis Tsilidis
		Thursday 11:00 - 11:20	Quantifying the effect of non-pharmaceutical interventions in a compartmental epidemiological model	Marvin Schulte
		Thursday 11:20 - 11:40	Optimal management of an emerging pathogen using precautionary management strategy	Jacinta Onwuka
Vector-Borne diseases: Dengue		Thursday 10:40 - 11:00	Efficacy of the Sterile Insect Technique in presence of inaccessible areas: a study using twxo-pach models	Nga Nguyen
		Thursday 11:00 - 11:20	Two-vector transmission dynamics of the dengue virus	Donna Dyer
		Thursday 11:20 - 11:40	A household model for the introduction of Wolbachia to control dengue	Abigail Barlow

THURSDAY MORNING MS/CT (10:40 - 11:00)

Session title	Organizers	Schedule	Talk title	Presenting author
THURSDAY AFTERNOON MS/CT (15:00 - 16:20)				
Mathematical models of cancer immunotherapy (II)	Juan Belmonte Beitia	Thursday 15:00 - 15:20	Car-T cell immunotherapy: from the bench to mathematical modeling	Luciana Rodrigues Carvalho Barros
		Thursday 15:20 - 15:40	Understanding the role of B cells in the treatment with CAR-T cells for acute lymphoblastics leukemia	Sergio Serrano
	Álvaro Martínez Rubio	Thursday 15:40 - 16:00	Modeling CD19 relapses after CAR-T cell therapy in B cell leukemias: Insights and implications	Salvador Chulián
		Thursday 16:00 - 16:20	A delayed model for tumor-immune system interactions	Laid Boudjellal
Epidemiology (Non pharmacological models)		Thursday 15:00 - 15:20	Deployment of genetic variability in treescapes: Insights from a bioeconomic model	Ewan McTaggart
		Thursday 15:20 - 15:40	Method to estimate the impact of control measures on the reproduction number	Jantien Backer
		Thursday 15:40 - 16:00	A retrospective analysis on the robustness of existing compartmental models for modelling future pandemics	Ioana Bouros
		Thursday 16:00 - 16:20	Modelling the importation dynamics and establishment of infectious diseases using a general branching process	Jacob Curran-Sebastian
Predator-prey models		Thursday 15:00 - 15:20	Qualitative analysis in a discrete-time model of competing prey with a shared predator	Debasis Mukherjee
		Thursday 15:20 - 15:40	Impact of predator-driven Allee and spatiotemporal effects on a simple predator-prey model	Kaushik Kayal
		Thursday 15:40 - 16:00	The wolverine and reindeer: on the role of prey senescence in predator-prey dynamics	Ludek Berec
Ecology		Thursday 15:00 - 15:20	Assessing the coupled effects of fishing pressure and climate change on West Greenland's ecosystem using an end-to-end ecosystem model	Matthew Hatton
		Thursday 15:20 - 15:40	Impact of biodiversity loss on the structure and stability of a marine Antarctic food web	Vanesa Salinas
		Thursday 15:40 - 16:00	Speed and shape of population fronts with density dependent diffusion	Beth Stokes
Metabolic Networks (I)		Thursday 15:00 - 15:20	How centrality measures can reduce complexity of Elementary Conversion Modes - Opportunities connecting network science and	Zita Soons
		Thursday 15:20 - 15:40	Tractability challenges for biochemical network models	Chathranee Jayathilaka
Microbiology (I)		Thursday 15:00 - 15:20	A multiscale physiologically based pharmacokinetic (PBPK) platform to support the development of mRNA-encoded therapeutics	Elio Campanile
		Thursday 15:20 - 15:40	Modelling drug release from microcapsules with functionally graded materials	Giuseppe Pontrelli
		Thursday 15:40 - 16:00	Synechocystis sp. PCC 6803 photosynthesis under different light colours - in silico analysis	Tobias Pfennig
		Thursday 16:00 - 16:20	Decoding yeast metabolism under batch fermentation with multi-phase dynamic genome-scale model	Diego Troitiño-Jordedo/Artai R.
Evolutionary dynamics (II)		Thursday 15:00 - 15:20	Modelling cell adaptation and resistance using internal variables: a continuum-based approach for computational epigenetics	Jacobo Ayensa-Jiménez
		Thursday 15:20 - 15:40	Modelling the evolution of symbiosis in the context of eukaryogenesis	Nandakishor Krishnan
		Thursday 15:40 - 16:00	Learning a cancer's evolutionary history from bulk methylation data using Bayesian inference	Calum Gabbutt
Arthropod biology		Thursday 15:00 - 15:20	Sensing electrical environments: the unique sense of electroreception	Ryan Palmer
		Thursday 15:20 - 15:40	Population dynamics of tick in Korea and the potential impact of climate change and control measures	Heejin Choi
		Thursday 15:40 - 16:00	Towards a generic tick life cycle model	Slimane Ben Miled
		Thursday 16:00 - 16:20	Pest detection from a biology-informed inverse problem and pheromone sensors	Thibault Malou
Coagulation fragmentation and Organelle modelling		Thursday 15:00 - 15:20	Multicomponent fragmentation and coagulation in polymer-bacterial clustering	Cameron Wilcox
		Thursday 15:20 - 15:40	Experimental data informs molecular cluster prediction in Mitochondria	Fabian Schuhmann
		Thursday 15:40 - 16:00	Mathematical modelling of mitochondrial function: Analyzing the cellular ATP Landscape	Rajneesh Kumar

THURSDAY AFTERNOON | MS/CT (15:00 - 16:20)

Session title	Organizers	Schedule	Talk title	Presenting author
THURSDAY AFTERNOON II CT (17:20 - 18:20)				
Eye Modelling		Thursday 16:40 - 17:00	Mean first passage time and its application in ocular drug development	Patricia Lamirande
		Thursday 17:00 - 17:20	Inferring corneal epithelial cell behaviour from a mathematical model	Neda Khodabakhsh
		Thursday 17:20 - 17:40	High-order numerical model for the light propagation in the cornea	Silvia Barbeiro
Human diseases (II)		Thursday 16:40 - 17:00	Modelling immune cell-endometrial cell dynamics in endometriosis	Claire Miller
		Thursday 17:00 - 17:20	Stratifying and predicting the progression of acute liver failure during the early phases	Raiki Yoshimura
		Thursday 17:20 - 17:40	Mathematical modelling of thyroid hormone dynamics in hypo- and hyperthyroidism	Tony Humphries
Plants		Thursday 16:40 - 17:00	Coupling plant physiology and pest demography to understand plant-nematode interactions	Joseph Penlap
		Thursday 17:00 - 17:20	A mathematical model of photoinhibition: exploring the impact of quenching processes	Tim Nies
		Thursday 17:20 - 17:40	Level set method for plants with growing lesions	Sheila Rae Permanes
Cell migration		Thursday 16:40 - 17:00	Mathematical modelling of mechanical communication between cells	Juan Arellano-Tinto
		Thursday 17:00 - 17:20	Modelling differential adhesion in stochastic and mean-field models of cell migration	Shahzeb Raja Noureen
Brain cancer		Thursday 16:40 - 17:00	How polarisation and depolarisation affects the spreading of migrating cells	Christophe Deroulers
		Thursday 17:00 - 17:20	Predicting the time to relapse for individual patients with Glioblastoma for the second-line of intervention	Pejman Shojaee
		Thursday 17:20 - 17:40	Improving drug delivery in the brain using microbubbles combined with focused ultrasound	Qiyao Peng
Imaging		Thursday 16:40 - 17:00	Measuring the similarity between single-molecule localisation microscopy datasets: A data-driven machine-learning approach	Sandeep Shirgill
		Thursday 17:00 - 17:20	Optimizing the method of images for regularized Stokeslets for sphere motions near boundaries	Hoa Nguyen
		Thursday 17:20 - 17:40	Quantifying cytoskeletal dynamics and remodeling from live-imaging microscopy data	Carey Li
Epidemics and human behaviour (I)		Thursday 16:40 - 17:00	Modelling the impact of mass gathering events (MGE) on potential future pandemics	Beryl Musundi
		Thursday 17:00 - 17:20	A hierarchically structured population model with delay	Jozsef Farkas
		Thursday 17:20 - 17:40	Backward bifurcation and permanence of disease-severity-structured epidemic models with treatment capacity	Yasuhisa Saito
Biofilms (I)		Thursday 16:40 - 17:00	Accidental and regulated cell death in yeast biofilms	Alex Tam
		Thursday 17:00 - 17:20	Modelling gene transfer and bacterial resistance in biofilms	Maria Rosaria Mattei
		Thursday 17:20 - 17:40	A mathematical study on stone subaerial biofilms	Alberto Tenore
Neuroscience		Thursday 16:40 - 17:00	A model framework for calcium ion channels: Consistent modelling of selectivity filters	Christine Keller
		Thursday 17:00 - 17:20	Derivation and numerical study of a Fokker-Planck equation describing a population of Resonate and Fire neurons	Nicolas Zadeh
		Thursday 17:20 - 17:40	The shape of sleep: How timescale separation reveals geometric structure in a mathematical model of the sleep/wake cycle	Gianne Derks

**THURSDAY
AFTERNOON
II CT (17:20 -
18:20)**

Session title	Organizers	Schedule	Talk title	Presenting author
FRIDAY MORNING MS/CT (10:40 - 12:00)				
Recent advances in modelling cancer invasion	Chiara Villa	Friday 10:40 - 11:00	Proliferation-immuno-evasion trade off: A continuous model for tumor-immune dynamics and therapeutic strategies	Giulia Chiari
		Friday 11:00 - 11:20	Multiscale modelling of glioma invasion under the influence of the microenvironment	Martina Conte
	Alexandre Poulain	Friday 11:20 - 11:40	Travelling waves in heterogeneous cell populations	Rebecca Crossley
		Friday 11:40 - 12:00	Hybrid modelling for cancer invasion and metastasis	Dimitrios Katsaounis
Genetic and non-genetic routes to phenotypic plasticity in cancer	Carmen Ortega - Sabater	Friday 10:40 - 11:00	Low dimensionality of phenotypic space as an emergent property of network topology	Pradyumna Vinod Harlapur
		Friday 11:00 - 11:20	4 states are not equal to 4 dimensions: Proneural-Mesenchymal antagonism dominates the patterns of phenotypic heterogeneity in glioblastoma	Harshavardhan BV
	Mohit K. Jolly	Friday 11:20 - 11:40	Chromosomal instability as a source of phenotypic variation in childhood B-Acute Lymphoblastic leukemia	Carmen Ortega-Sabater
		Friday 11:40 - 12:00	A mathematical model in evolutionary medicine: coordinated inheritance of extrachromosomal DNA types	Elisa Scanu
Cancer (miscellaneous)		Friday 10:40 - 11:00	Spatial characterisation of residual disease in environmentally mediated drug resistance	Amy Milne
		Friday 11:00 - 11:20	Mathematical modelling of stem and progenitor cell dynamics during ruxolitinib treatment of MPN patients	Tobias Idor Boklund
		Friday 11:20 - 11:40	Mathematical modeling of platelet formation in healthy individuals and blood cancer patients	Chenxu Zhu
		Friday 11:40 - 12:00	Modelling laser-induced thermal ablation: incorporating tissue water concentration and its vaporization effects for liver cancer treatment	Federico Herrero Hervás
Immunotherapies		Friday 10:40 - 11:00	Agent-based and continuum models for spatial dynamics of infection by oncolytic viruses and its interaction with the immune system	David Morselli
		Friday 11:00 - 11:20	A linear optimal control model of immunotherapy for recurrent autoimmune disease	Kamilia Azib
		Friday 11:20 - 11:40	Optimising cancer vaccine effectiveness via a delay differential equation model of variable T cell avidity	Georgio Hawi
Metabolic networks (II)		Friday 10:40 - 11:00	Feedback-forward control in signalling pathways	Artur Wycislok
		Friday 11:00 - 11:20	Hypoxia-inducible factors (HIFs) and oxygen homeostasis: the making of a (misleading) biological theory	Clemente Fernández Arias
		Friday 11:20 - 11:40	Growth, energy or both? Determinants of optimal metabolic pathway choice by microorganisms	Maarten Droste
		Friday 11:40 - 12:00	Prevalence of balancing complexes in large-scale biochemical networks	Anika Küken
Microbiology (II)		Friday 10:40 - 11:00	A flux balance analysis model for the ammonia-oxidizing archaeon <i>N. viennensis</i>	Rustem Musaev
		Friday 11:00 - 11:20	Multiscale infant gut model predicts that milk oligosaccharides decrease mucin consumption by feeding bacteria that don't share public goods	David M. Versluis
		Friday 11:20 - 11:40	Can smoking alter psychology?	Siti Maghfirotul Ulyah
		Friday 11:40 - 12:00	Spatial distancing: Modeling immune evasion by the human-pathogenic fungus <i>Candida albicans</i>	Yann Bachelot
Epidemics and human behaviour (II)		Friday 10:40 - 11:00	Studying the burden of depression during the COVID-19 pandemic: agent-based approach	Tatiana Sannikova
		Friday 11:00 - 11:20	Evolutionary generation and optimality of social contact networks	Bunlang Thatchai
		Friday 11:20 - 11:40	Quantifying optimal resource allocation strategies for controlling epidemics	Biplab Maity
		Friday 11:40 - 12:00	Comparison of accommodation reservation and mobile phone data to understand behavioral response against emerging infectious disease outbreak	Ryosuke Omori
Biofilms (II)		Friday 10:40 - 11:00	Managing biofilm infection through controlled drug release from a polymer-free implant	Parna Mandal
		Friday 11:00 - 11:20	Modelling bacterial chemotaxis in biofilms	Fabiana Russo
		Friday 11:20 - 11:40	Modelling of ecology interactions in a phototrophic-heterotrophic biofilm reactor system	Luigi Frunzo
Immunology		Friday 10:40 - 11:00	An interpretable prediction method for antibody binding affinity based on mathematical models of structural fluctuations and deep learning	Barbara Bravi
		Friday 11:00 - 11:20	Mathematical dermatology linking eruption morphology and skin disease	Sungrim Seirin-Lee
		Friday 11:20 - 11:40	Hydrodynamic limits for modelling anomalous immune response: a focus on Multiple Sclerosis	Romina Travaglini
		Friday 11:40 - 12:00	Modelling IL-2 signalling dynamics for a single T cell	Siting Miao