

Developmental Biology	Gene Networks	Immunobiology and infection	Mathematical Epidemiology	Mathematical Neuroscience	Population Dynamics, Ecology and Evolution
Mathematical Oncology	Mathematical Physiology	Model Identification/ Estimation	Methods Development	Education	Other
DKFZ (INF 280)		Mathematikon (INF 205)		BioQuant (INF 267)	
Monday, 19.09.2022				Room	Zoom
<b>Opening</b> 09:00-09:50	Opening Ceremony			DKFZ auditorium + streaming in Mathematikon & Bioquant	Zoom
<b>Keynote</b> 09:50-10:40	Roeland Merks Cell-based modeling in cell and developmental biology: from individual cell behavior to collective pattern formation				
10:40-11:00	Coffee Break (DKFZ/BioQuant/Mathematikon)				
<b>MS 1</b>  11:00-12:40	Mathematical modelling in radiation oncology – an RRS/SMB minisymposium Heiko Enderling & Jan Schuemann			DKFZ auditorium	Zoom
	Investigating the dynamics of many - Mathematical modeling and parameter estimation for multi-cellular systems Frederik Graw, Franziska Matthäus, Jan Hasenauer & Lutz Brusch			BioQuant SR42	Zoom
	Boolean networks and related modeling frameworks – Part I: Model design and analysis Claus Kadelka			BioQuant SR43	Zoom
	Mathematical biology of signaling and metabolism at synapses Guadalupe C. Garcia, Mayte Bonilla Quintana & Padmini Rangamani			BioQuant SR44	Zoom
	Controlling epidemics: the interplay between models and public health policies Vicenzo Capasso & Alberto d’Onofrio			Mathematikon Hörsaal	Zoom
	Evolutionary dynamics in structured populations: modelling, analytics and numerics Silvia Cuadrado & Tommaso Lorenzi			Mathematikon SR A + B	Zoom
Dynamics of blood flow in microcirculation Yaron Ben-ami, Helen Byrne & George William Atkinson			Mathematikon SR C	Zoom	
12:40-14:30	Lunch			Mensa	
<b>MS 2</b>  14:30-16:10	Collective cell migration in cancer growth and spread: interacting dynamics at multiple spatial scales Dumitru Trucu & Raluca Eftimie			DKFZ auditorium	Zoom
	Multi-scale phenomena in biology: modelling and analysis Annalisa Iuorio & Cinzia Soresina			BioQuant SR41	Zoom
	Stochastic Modelling of Genetic and Biochemical Systems - Part I Abhyudai Singh & Ramon Grima			BioQuant SR43	Zoom
	Mathematics for cell migration under the influence of the microenvironment: from single cells to populations Anna Zhigun & Christina Surulescu			Mathematikon Hörsaal	Zoom
	Mathematical modeling of psychiatric disorders and addiction Lucas Böttcher, Tom Chou & Maria R. D’Orsogna			Mathematikon SR A+B	Zoom
Pattern formation in developmental processes Franziska Matthäus & Tim Liesch			Mathematikon SR C	Zoom	
16:10-16:30	Coffee Break (DKFZ/BioQuant/Mathematikon)				
<b>CT 1</b>  16:30-18:10	Mathematical Oncology			DKFZ auditorium	Zoom
	Population Dynamics, Ecology and Evolution			BioQuant SR41	Zoom
	Population Dynamics, Ecology and Evolution			BioQuant SR42	Zoom
	Gene Networks			BioQuant SR43	Zoom
	Mathematical Neuroscience	Model Identification/ Estimation		BioQuant SR44	Zoom
	Mathematical Epidemiology			Mathematikon Hörsaal	Zoom
	Methods Development			Mathematikon SR A+B	Zoom
Mathematical Physiology			Mathematikon SR C	Zoom	
<b>NSF</b> 18:10-19:00	Funding opportunities for Mathematical Biology at the NSF and the NIH Zhilan Feng (NSF/DMS/Math Bio) Joseph Whitmeyer (NSF/SBE/SES) Han Nguyen (NIH/NIGMS)			DKFZ auditorium	Zoom
<b>Posters</b> 19:00-20:30	Mathematical Oncology			DKFZ Foyer (EG)	
	Population Dynamics, Ecology & Evolution	Developmental Biology	Mathematical Neuroscience	Mathematikon Foyer (UG)	

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Tuesday, 20.09.2022				Room	Zoom	
<b>Keynote</b> 09:00-09:50	<b>Benoît Perthame</b> Structured equations in biology; relative entropy, Monge-Kantorovich distance			DKFZ auditorium + streaming in Mathematikon & Bioquant	<a href="#">Zoom</a>	
<b>Keynote</b> 09:50-10:40	<b>Heather Harrington</b> Shape of data in biology					
10:40-11:00	Coffee Break (DKFZ/BioQuant/Mathematikon)					
<b>MS 3</b>  11:00-12:40	<b>Single-cell dynamics and longitudinal landscapes in cancer drug resistance and clonal evolution – Part 2</b> Mohit Kumar Jolly & Yogesh Goyal			DKFZ auditorium	<a href="#">Zoom</a>	
	<b>Modeling the female reproductive system at different scales</b> Romain Yvinec			DKFZ K1+K2	<a href="#">Zoom</a>	
	<b>Insights on collective migration using agent-based modeling</b> William Duncan Martinson & Sara Bernardi			BioQuant SR41	<a href="#">Zoom</a>	
	<b>Stochastic biochemical reaction networks</b> Wasiur KhudaBukhsh & Hye-Won Kang			BioQuant SR42	<a href="#">Zoom</a>	
	<b>Boolean networks and related modeling frameworks - Part II: The Role of Canalization</b> Claus Kadelka			BioQuant SR43	<a href="#">Zoom</a>	
	<b>Multiscale mathematical models of infectious disease</b> James Doran			Mathematikon Hörsaal	<a href="#">Zoom</a>	
	<b>Non-local models in mathematical biology</b> Jose Antonio Carrillo & Zuzanna Szymańska			Mathematikon SR A	<a href="#">Zoom</a>	
<b>Quantitative investigation of the immune system's functions: from molecules to organisms - Part 1</b> Hassan (Sam) Jamaledine & Kevin Thurley			Mathematikon SR B	<a href="#">Zoom</a>		
12:40-14:30	(Mentoring) Lunch			Mensa		
<b>MS 4</b>  14:30-16:10	<b>Single-cell dynamics and longitudinal landscapes in cancer drug resistance and clonal evolution – Part 2</b> Mohit Kumar Jolly & Yogesh Goyal			DKFZ auditorium	<a href="#">Zoom</a>	
	<b>Recent Progress and Open Frontiers in Turing's Theory of Morphogenesis</b> Andrew L Krause & Frits Veerman			DKFZ K1+K2	<a href="#">Zoom</a>	
	<b>Quantitative investigation of the immune system's functions: from molecules to organisms - Part 2</b> Hassan (Sam) Jamaledine & Kevin Thurley			BioQuant SR41	<a href="#">Zoom</a>	
	<b>SMB Writing Groups: Showcasing the research of one group to highlight the role of writing groups in the development of early-career researchers</b> Shelby M. Scott, Laura F. Strube, Joan Ponce & Jessica Crawshaw			BioQuant SR42	<a href="#">Zoom</a>	
	<b>Bistable genetic switches across time, space, and disciplines</b> Ruben Perez-Carrasco & Pilar Guerrero			BioQuant SR43	<a href="#">Zoom</a>	
	<b>Disease Models: Modeling, Analysis, and Simulation</b> Xi Huo, Rongsong Liu & Ryosuke Omori			Mathematikon Hörsaal	<a href="#">Zoom</a>	
	<b>Novel techniques for spatial analysis of biological data</b> Joshua A Bull & Bernadette Stolz			Mathematikon SR A	<a href="#">Zoom</a>	
<b>Anisotropy and finite-size effects in the emergence of collective behaviour</b> Maria Bruna & Markus Schmidtchen			Mathematikon SR B	<a href="#">Zoom</a>		
16:10-16:30	Coffee Break (DKFZ/BioQuant/Mathematikon)					
<b>DEI Panel</b>  16:30-18:10	<b>Panel Discussion: Equity of paths into mathematical biology</b>			DKFZ auditorium	<a href="#">Zoom</a>	
	<b>Panel Discussion: Building inclusive graduate programs in mathematical biology</b>					
<b>Editors</b> 18:10-19:00	Meeting with Editors			DKFZ Foyer (EG)		
<b>Posters</b> 19:00-20:30	Methods Development	Other	Model Identification	Gene Networks	DKFZ Foyer (EG)	
	Mathematical Epidemiology	Mathematical Physiology	Immunobiology and Infection	Mathematikon Foyer (UG)		

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<b>DKFZ (INF 280)</b>		<b>Mathematikon (INF 205)</b>		<b>BioQuant (INF 267)</b>	
<b>Wednesday, 21.09.2022</b>				<b>Room</b>	<b>Zoom</b>
<b>Keynote</b> 09:00-09:50	<b>Padmini Rangamani</b> Mathematical modeling of cellular mechanotransduction			<b>DKFZ auditorium + streaming in Mathematikon &amp; Bioquant</b>	<u><a href="#">Zoom</a></u>
<b>Keynote</b> 09:50-10:40	<b>Daniel Forger</b> New Techniques for Modeling in Precision Medicine: From GPUs to Wearables				
<b>10:40-11:00</b>	<b>Coffee Break (DKFZ/BioQuant/Mathematikon)</b>				
<b>Prizes</b> 11:00-13:00	<b>Talks of Winners of Reinhart Heinrich award</b>			<b>DKFZ auditorium + streaming in Mathematikon &amp; Bioquant</b>	<u><a href="#">Zoom</a></u>
	<b>Lisa Kreusser</b>	Mathematical modelling in biology: Analysis and numerics			
	<b>Lukas Eigentler</b>	Modelling dryland vegetation patterns: the impact of non-local seed dispersal and mechanisms of species coexistence			
	<b>Martina Conte</b>	Mathematical models for glioma growth and migration inside the brain			
	<b>Poster prize award ceremony</b>				
<b>13:00-14:30</b>	<b>Lunch</b>			<b>Mensa</b>	
<b>Assemblies</b> 14:30-15:20	<b>ESMTB Assembly</b>			<b>Mathematikon Hörsaal</b>	
	<b>SMB Assembly</b>			<b>DKFZ auditorium</b>	
<b>16:00</b>	<b>Excursions meeting time</b>			<b>Heidelberg</b>	

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Thursday, 22.09.2022				Room	Zoom
CT 2 09:00-10:40	Mathematical Oncology			DKFZ auditorium	<a href="#">Zoom</a>
	Mathematical Physiology			DKFZ K1+K2	<a href="#">Zoom</a>
	Population Dynamics, Ecology and Evolution			BioQuant SR41	<a href="#">Zoom</a>
	Population Dynamics, Ecology and Evolution			BioQuant SR42	<a href="#">Zoom</a>
	Immunobiology and Infection			BioQuant SR43	<a href="#">Zoom</a>
	Mathematical Epidemiology			Mathematikon Hörsaal	<a href="#">Zoom</a>
	Other			Mathematikon SR B	<a href="#">Zoom</a>
10:40-11:00	Coffee Break (DKFZ/BioQuant/Mathematikon)				
MS 5 11:00-12:40	Mathematical and computational modeling of cancer evolution <small>Philipp M. Altrock &amp; Marek Kimmel</small>			DKFZ auditorium	<a href="#">Zoom</a>
	Physical Determinants of Subcellular Processes <small>Fabian Spill</small>			DKFZ K1+K2	<a href="#">Zoom</a>
	Non-local mathematical models for collective migration: insights from analytical methods <small>Sara Bernardi &amp; William Duncan Martinson</small>			BioQuant SR41	<a href="#">Zoom</a>
	The SMB Immunobiology and Infection Subgroup mini-symposium <small>Stanca Ciupe &amp; Maria Rodriguez Martinez</small>			BioQuant SR42	<a href="#">Zoom</a>
	From single cells to populations: models and experiments <small>Philipp Thomas &amp; Paul Pihø</small>			BioQuant SR44	<a href="#">Zoom</a>
	Modelling of intra- and inter-hospital transmission of multidrug-resistant Enterobacteriaceae <small>Monika Joanna Piotrowska</small>			Mathematikon Hörsaal	<a href="#">Zoom</a>
	Recent advances in mathematical modelling in neuroscience <small>Mattia Sensi &amp; Panagiotis Kaklamanos</small>			Mathematikon SR A	<a href="#">Zoom</a>
CT'	Other			Mathematikon SR B	<a href="#">Zoom</a>
12:40-14:30	Lunch			Mensa	
CT 3 14:30-16:10	Mathematical Oncology			DKFZ auditorium	<a href="#">Zoom</a>
	Mathematical Oncology			DKFZ K1+K2	<a href="#">Zoom</a>
	Population Dynamics, Ecology and Evolution			BioQuant SR41	<a href="#">Zoom</a>
	Population Dynamics, Ecology and Evolution			BioQuant SR42	<a href="#">Zoom</a>
	Immunobiology and Infection	Model Identification		BioQuant SR44	<a href="#">Zoom</a>
	Mathematical Epidemiology			Mathematikon Hörsaal	<a href="#">Zoom</a>
	Developmental Biology			Mathematikon SR A	<a href="#">Zoom</a>
16:10-16:30	Coffee Break (DKFZ/BioQuant/Mathematikon)				
MS 6 16:30-18:10	How to get a big picture of cancer? Recent advances in mathematical oncology <small>Saskia Haupt, Vincent Heuveline &amp; Aysel Ahadova</small>			DKFZ auditorium	<a href="#">Zoom</a>
	Bridging scales between the cytoskeleton and tissue mechanics <small>Mingfeng Qiu &amp; Zoë Lange</small>			DKFZ K1+K2	<a href="#">Zoom</a>
	Multi-scale and data-driven modeling approaches in ecology, immunology, and epidemiology – Part 2 <small>Hayriye Gulbudak</small>			BioQuant SR41	<a href="#">Zoom</a>
	Modeling and analysis of within-host influenza infection and vaccination dynamics <small>Andreas Handel &amp; James McCaw</small>			BioQuant SR42	<a href="#">Zoom</a>
	Modelling and Estimation in Mathematical Biology <small>Anthony Jose Kearsley</small>			BioQuant SR44	<a href="#">Zoom</a>
	Digital twins in medicine: where we are, where we are heading, and what is needed <small>Luis Sordo Vieira</small>			Mathematikon Hörsaal	<a href="#">Zoom</a>
	Brain Rhythms in Health and Disease – Part 1 <small>Anmar Khadra &amp; Stephen Coombes</small>			Mathematikon SR A	<a href="#">Zoom</a>
	The Next Frontier in Mathematical Biology: Learning from Complex Biological Data <small>Suzanne Sindi, Erica Rutter &amp; A. Ali Heydari</small>			Mathematikon SR B	<a href="#">Zoom</a>
SMB 18:10-19:00	Subgroup meetings			Mathematikon	

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DKFZ (INF 280)		Mathematikon (INF 205)		BioQuant (INF 267)	
Friday, 23.09.2022				Room	Zoom
MS 7 09:00-10:40	<b>Modeling inflammation and cancers</b> Dominik Wodarz, Natalia Komarova & Johnny Ottesen			DKFZ auditorium	<a href="#">Zoom</a>
	<b>Cell and Developmental Biology Subgroup minisymposium: Spatial cell heterogeneity across scales</b> Ruben Perez-Carrasco & Linus Schumacher			DKFZ K1+K2	<a href="#">Zoom</a>
	<b>COVID-19 Across Multiple Scales</b> Jonathan E Forde			BioQuant SR41	<a href="#">Zoom</a>
	<b>Multi-scale and data-driven modeling approaches in ecology, immunology, and epidemiology</b> Cameron Browne			BioQuant SR43	<a href="#">Zoom</a>
	<b>Dynamical modeling of respiratory virus propagation</b> Jacques Bélair			Mathematikon Hörsaal	<a href="#">Zoom</a>
	<b>Sneak peak at the future of mathematical biology: biology-driven machine learning</b> Dimitris Goussis & Andreas Deutsch			Mathematikon SR A+B	<a href="#">Zoom</a>
	<b>Brain Rhythms in Health and Disease – Part 2</b> Anmar Khadra & Stephen Coombes			Mathematikon SR C	<a href="#">Zoom</a>
10:40-11:00	Coffee Break (DKFZ/BioQuant/Mathematikon)				
CT 4 11:00-12:40	Mathematical Oncology			DKFZ auditorium	<a href="#">Zoom</a>
	Mathematical Oncology			DKFZ K1+K2	<a href="#">Zoom</a>
	Mathematical Epidemiology			Mathematikon Hörsaal	<a href="#">Zoom</a>
	Population Dynamics, Ecology and Evolution			Mathematikon SR A+B	<a href="#">Zoom</a>
	Methods Development			Mathematikon SR C	<a href="#">Zoom</a>
12:40-14:30	Lunch			Mensa	
<b>Keynote</b> 14:30-15:20	<b>Julijana Gjorgjieva</b> Emergence of network connectivity from biologically plausible synaptic plasticity rules			DKFZ auditorium + streaming in Mathematikon & Bioquant	<a href="#">Zoom</a>
<b>Closing</b> 15:20-16:10	Closing Ceremony				