

Friday 24 June 2016		
		Chairperson
09:00–09:20	Ivan Georgiev	Nikolai Kutev
	<i>HPC Biomedical Simulations Based on CT Data</i>	
09:20–09:40	SvetoslavMarinov Markov	
	<i>Building Reaction Kinetic Models for Amiloid Fibril Growth</i>	
09:40–10:00	Nina ChristovaPesheva	
	<i>On the single-lane TASEP with generalized update and open boundary conditions</i>	
10:00–10:20	ElitsaPetrova	
	<i>Mathematical Model of the First Stage of Adaptation of Acidithiobacillusferrooxidans JCM 3863 to High Substrate Concentrations in Batch</i>	
10:20–10:40	RoumenAngelov	
	<i>Set-Valued Approximations of Sets in R^n</i>	
10:40–11:00	<i>Tea/coffee</i>	
11:00–12:40	Visit to SWU	
12:40–13:40	Lunch	

Additional Lectures for the School for Young Scientists		
20 June Monday 09:00–09:50	Yves Dumont	<i>Diffusion models, applications in epidemiology</i>
21 June Tuesday 18:00–18:50	Patrick Shipman,	<i>Formation of square lattices in coupled pattern-forming systems</i>

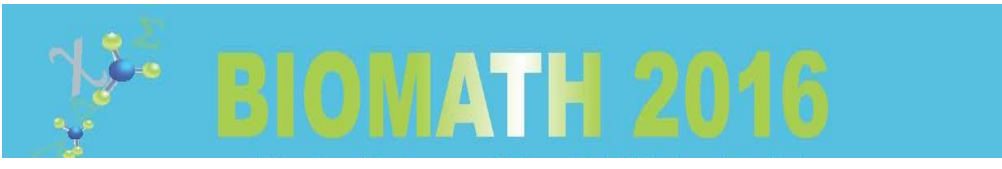


University Center “Bachinovo”, SWU

Biomath 2016, Blagoevgrad, 19-25 June 2016
The Scientific Programme at a glance

Sund 19.06.	Time	Monday 20.06.		Tuesday 21.06.	Wednesday 22.06.	Thursday 23.06.	Friday 24.06.
	7:00-9:00	Breakfast		Breakfast	Breakfast	Breakfast	Breakfast
	09:20-40	Regi- strati- on	Lecture SYS Dumont	Keynote Lecture Kazanci	Keynote Lecture Shipman	Miller Peynaud Hojjati Javidi Kutev	Georgiev Markov Pesheva Petrova Angelov
				Tamen Ndam Rashkov	Stoltz Akimenko Umeo		
	10:20-40	Opening		Coffee Break	Coffee Break	Coffee	Coffee
		R.Tsanev Plenary Lecture Tcholakova		I. Ivanov Sariaydın Njagarah Beshkov Dukuza	Timofte Marinova Lazarova Machineni Trenchev	Stoilov Pourbashash Kheiri	Visit to SWU
	11:20-40	Coffee Break	Keynote Lecture Diekmann			Lunch	
	12:20-40	Milanov					
	13:20-40	Lunch					Lunch
14:20-40	Keynote Lecture Wieden	Keynote Lecture Dumont	Hot Topics Workshop SYS				
	Olivos Santes Girodat Pencheva Koroleova	Traykov Dufourd Mavrevski Paskova					
15:20-40							
Regi strati on	16:20-40	Coffee Break Poster Session		Coffee Break Poster Session	Coffee Break Poster Session	E X C U R S I O N	Excursion to RILA Monastery
		Chapwanya Collera Dimitriu Łakomiec Gouia-Zarad		Bulai Zeile Pashov Kolev	Hot Topics Workshop SYS		
17:20-40			ISC	Lecture SYS Shipman	SYS Jury meeting		
SYS meet ing	18:20-40	Poster Session					
Sup per	19:20-40	Book/Journal Exhibition		Performance (volk dance)	Official Dinner		
	20:20-40	Cocktail		Supper	SYS Awards	Supper	

Conference website: www.biomath.bg/2016
Biomath Communications Volume 3 Issue 1:
www.biomathforum.org/biomath/index.php/conference



International Conference on Mathematical
Methods and Models in Biosciences
19-25 June, Blagoevgrad, Bulgaria

Scientific Programme

	Bulgarian Academy of Sciences.	
	South-WestUniversity"NeofitRilski" University Centers: Functional Research in Sports and Kinesitherapy, Advanced Bioinformatics Research	
		Foundation for Scientific Research of Bulgaria Programme for support of international scientific forum
	National Research Foundati	National Research Foundation &Dept. of Science and Technology of South Africa SARCHI Chair on Mathematical Models and Methods in Bioengineering and Biosciences
	Society for Mathematical Biology (SMB)	
	Union of the Bulgarian Mathematicians (UBM)	
	European Society of Mathematical and Theoretical Biology (ESMTB)	
	ELSEVIER	
	Society Forum Biomath	

Monday 20 June 2016		
	Event/speaker/topic	Chairperson
10:00–10:20	Opening (Welcome addresses)	RoumenAngeulov
10:20–11:20	R. Tsanev plenary lecture: SlavkaTcholakova	Ivan Mirchev
	Kinetics of Drop Breakage and Drop-Drop Coalescence in Turbulent Flow	
11:20–11:40	Tea/coffee	
11:40–12:20	Keynote lecture 1: OdoDiekmann	BorislavYurukov
	On Renewal Equations in Population Biology	
12:20–12:40	Peter Milanov	
	Quantitative Analysis and Mathematical Models of a Partial Agonism	
12:40–14:00	Lunch	
14:00–14:40	Keynote lecture 2: Hans Joachim Wieden	Peter Milanov
	Using Rapid Kinetics and Molecular Dynamics Simulations to Study Biomolecular Information Processing and Design.	
14:40–15:00	EdgarOlivosSantes	
	A Model-based Analysis of Glycolytic Oscillations and Electrical Activity in Pancreatic Alpha-cells	
15:00–15:20	Dylan Joseph Girodat	
	Domain Configuration Defines the Thermodynamic Landscape of Elongation Factor Tu Nucleotide Binding	
15:20–15:40	NevenaPencheva	
	The Biomechanical Relevance of the Mathematical Models of Torque-Angle and Torque-Velocity Relationships	
15:40–16:40	GerganaLyubomirovaKoroleova	
	Mathematical Models Of Torque-Velocity Relation	
16:00–16:40	Tea/coffee &Poster session	
16:40–17:00	Michael Chapwanya	OdoDiekman
	On the Spread of Rabies in Humans and Dogs	
17:00–17:20	Juancho A. Collera	
	Stabilizing Role of Harvesting on a Chaotic Intraguild PredationModel	
17:20–17:40	Gabriel Dimitriu	
	An Optimal Control Problem Related to a Hybrid Aquatic System	
17:40–18:00	KrzysztofLakomicc	
	Adjoint Sensitivity Analysis of a Spatial Tumor Growth Model with Strong Allee Effect	
18:00–18:20	Rim Gouia-Zarrad	
	The V-Line Radon Transform and its Biomedical Imaging Applications.	
18:20–20:00	Poster session, book exhibition, cocktail	

Posters (presenter and topic):
MilenKolevBorisov, Mathematical Analysis and Numerical Simulations of a Functional Differential Model of a Biological Digestion Process
AgataCzerniecka, 20D-dynamic Representation of Protein Sequences
BurcuGürbüz, Numerical Solutions of One-Dimensional Parabolic Convection-Diffusion Problems Arising in Biology by the Laguerre Collocation Method
TihomirIvanov, Mathematical Models with Generic Birth and Death Rates in Population Dynamics
GankaKamisheva, Nestor Marcoff Contribution to Bulgarian Physical and Mathematical Education (1836 – 1916)
AntoanelaTerzieva, Model Phytoplankton Population by Branching processes
GerganaVenkovaVelikova, Mathematical and Statistical Analysis of the Interactions between Tumor Cells and Cells of the Immune System
Vladimir Vladimirov, Modified Genetic Algorithm to Traveling Salesman Problem for Large Input Datasets

Tuesday 21 June 2016		
	Event/speaker/topic	Chairperson
09:00–09:40	Keynote Presentation 3: Caner Kazanci	Yves Dumont
	Alternative Representations of Ecosystem Models	
09:40–10:00	Alexis TchuinteTamen	
	Interactions of Pulsed Fires and Water in Tree--Grass Savanna Ecosystems	
10:00–10:20	Joel NimyelNdam	
	A Mathematical Model for the Propagation of an Animal Species on a Plain	
10:20–10:40	Peter Rashkov	
	Hormesis Arising in a Simple Enzyme Kinetic Model	
10:40–11:00	Tea/coffee	
11:00–11:20	Ivan Ivanov	Patrick Shipman
	Sparse Canonical Correlation Analyses of Multimodal Omics Data	
11:20–11:40	MuhammedTalatSariaydin	
	Characterizations of a Quaternionic Surface in Minkowski 3-Space	
11:40–12:00	John BoscohHatsonNjagarah	
	Cholera Transmission Dynamics between Communities Linked by Migration	
12:00–12:20	VenkoBeschkov	
	Comparative Processing of Enzyme Kinetic Data by Henri and Michaelis-Menten Equations	
12:20–12:40	Kenneth NjengeleDukuza	
	Backward Bifurcation Analysis for a Malaria Transmission Model	
12:40–14:00	Lunch	
14:00–14:40	Keynote Presentation 4: Yves Dumont	Hans Joachim Wieden
	Modelling interactions between Plants and Bioagressors. Mathematical perspectives	
14:40–15:00	MetodiTraykov	
	Protein Folding Prediction in 3D Cubic Lattice in HP Model	
15:00–15:20	Claire Dufourd	
	Improving Insect-Pest Management via Mating Disruption and Trapping Models	
15:20–15:40	RadoslavMavrevski	
	Comparison and Assessment of Commonly Used Model Selection Criteria in Modeling of Experimental Data	
15:40–16:00	VasilkaPaskova	
	Electrical Properties of Blood in Patients with Type 2 Diabetes Mellitus	
16:00–16:40	Tea/coffee, poster session	
16:40–17:00	Iulia Martina Bulai	NevenaPencheva
	Wastewater Bioremediation using White Rot Fungi: Validation of a Dynamical System	
17:00–17:20	Clemens Zeile	
	Assessment of Different Approaches to Model and Simulate Supraventricular Tachycardias	
17:20–17:40	Anastas D. Pashov	
	Reading the Antibody Repertoires	
17:40–18:00	Mikhail Kolev	
	Analysis of Some Features of the Immunological System	
18:00–19:00	ISC Meeting (open) / SYS Lecture	
19:00–19:30	Performance	
19:30–21:00	Supper	

Wednesday 22 June 2016		
	Event/speaker/topic	Chairperson
09:00–09:40	Keynote Presentation 5: Patrick Shipman	Claudia Timofte
	Topological Analysis of Pattern-Forming Systems	
09:40–10:00	StephanusMarnusStoltz	
	Advection Induced Patterns in the Brusselator Model	
10:00–10:20	VitaliiAkimenko	
	Nonlinear Age-Structured Models of Polycyclic Population Dynamics with Density Dependent Death Rate	
10:20–10:40	Hiroshi Umeo	
	A Biologically-Motivated Synchronization Problem in Cellular Automata	
10:40–11:00	Tea/coffee	
11:00–11:20	Claudia Timofte	Fatima Sapundzhi
	On the Homogenization of a Diffusion Problem with Flux Jump	
11:20–11:40	RositsaMarinova	
	All Atom Dynamic Simulations of Solution Behavior of Two Forms of Magainin Monomers	
11:40–12:00	MeglenaDelchevaLazarova	
	NoncentralP'olya-Aeppli Distribution	
12:00–12:20	Lakshmi Machineni	
	A 3D Computational Model to Investigate the Influence of Spatial Heterogeneity on the Antibiotic Tolerance of Bacterial Biofilms	
12:20–12:40	Ivan Trenchev	
	Protein Folding Prediction in 3D Cubic Lattice in HP Model	
12:40–14:00	Lunch	
14:00–16:00	Hot Topics Workshop (SYS)	Panel:Diekman, Cazanci, Shipman
16:00–16:40	Tea/coffee, poster session	
16:40–18:20	Hot Topics Workshop (SYS)	Panel: Dumont, Wieden
19:00–22:30	Official Dinner; SYS awards	
Thursday 23 June 2016		
09:00–09:20	John J H Miller	Michael Chapwanya
	Efficient Numerical Methods for Solving Large Henri-Michaelis-Menten Systems	
09:20–09:40	Emilie Peynaud	
	Discontinuous Galerkin Solver for the Unsteady Advection-Reaction-Diffusion Equation. Applications to Root Growth Model	
09:40–10:00	GholamrezaHojjati	
	Efficient Geometric Numerical Methods for Differential Systems	
10:00–10:20	Mohammad Javidi	
	Stability Analysis of a Fractional Order Food Chain Model	
10:20–10:40	Nikolai Kutev	
	Stability of Solitary Waves in Biomembranes and Nerves	
10:40–11:00	Tea/coffee	
11:00–11:20	Anton Stoilov	Caner Kazanci
	Bioinformatics Measurements with High Performance Computing	
11:20–11:40	HosseinPourbashash	
	The Babesiosis Disease in Bovine and Tick Populations Model and its Global Analysis	
11:40–12:00	HosseinKheiri	
	A Model for Tuberculosis with Endogenous Reactivation and Exogenous Reinfection	
12:00–12:40	Lunch	
12:40–20:30	Excursion	