

Nano-Biology - Summer School 2011 - 07.9.-11.9.2011

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Date: 08.06.2011

Agenda

Wednesday, 07.9.2011		Title & Speaker
until	12:15	Arrival, check-in, registration
	12:30	Lunch
	13:45	Welcome and general information
	14:00	"Mechanics matters - a tale of cells, materials and forces" Rudolf Merkel (Forschungszentrum Jülich, Germany)
	15:00	"Mechanical properties of living cells measured by AFM" Manfred Radmacher (Universität Bremen, Germany)
	16:00	Break
	16:30	"Mechanics of small systems: from nanodrums to elastic mapping of cells" Andreas Janshoff (Universität Göttingen, Germany)
	17:30	Poster session
	19:30	Dinner: "Badischer Abend" – evening with local gastronomic specialties
Thursday, 08.9.2011		
	7:45	Breakfast
	9:00	"Inorganic nanocrystals as tunable platforms for imaging and sensing" Hedi Mattoussi (Florida State University, U.S.A.)
	10:00	"Biosensing based on upconverting nanoparticles" Otto Wolfbeis (Universität Regensburg, Germany)
	11:00	Break
	11:30	"Stamps, chips and probes for biological interfaces" Emmanuel Delamarche (IBM Zürich Research Laboratory, Switzerland)
	12:30	Lunch
	14:30	Guided city tour or hike (moderate, but bring sturdy footwear and - just in case - rain gear)
	17:30	Poster session
	18:30	Dinner
	20:00	"Nanohumanities" , special lecture by Paul Youngman (University of North Carolina-Charlotte, U.S.A.)

Friday, 09.9.2011		
	7:45	Breakfast
	9:00	“High resolution imaging by structured illumination and image inversion interferometry” Rainer Heintzmann (Universität Jena, Germany)
	10:00	“Observing the cellular nanoscale with STED(-FCS) microscopy” Christian Eggeling (Max Planck Institute for Biophysical Chemistry, Göttingen, Germany)
	11:00	Break
	11:30	“Live cell imaging of the intersection of mechanical and chemical signals” Gaudenz Danuser (Harvard Medical School, Boston, U.S.A.)
	12:30	Lunch
	14:00	“Spatio-temporal signaling mechanisms to the cytoskeleton during neurite outgrowth” Olivier Pertz (Universität Basel, Switzerland)
	15:00	“Magnetic tweezers: From single enzyme dynamics to mechanics of DNA nanostructures” Ralf Seidel (TU Dresden, Germany)
	16:00	Break
	16:30	“Nanomechanics with optical tweezers: kinesin motors work against protein friction” Erik Schäffer (TU Dresden, Germany)
	17:30	Poster session
	19:30	Barbecue
Saturday, 10.9.2011		
	7:45	Breakfast
	9:00	“Oligonucleotide analogues in nanobiotechnology and biotechnology” Tom Brown (University of Southampton, U.K.)
	10:00	“Modification of DNA nanostructures with functional units” Barbara Sacca (TU Dortmund, Germany)
	11:00	Break
	11:30	“Fluorescent DNA architectures for chemical bioanalytics and imaging” Hans-Achim Wagenknecht (Karlsruhe Institute of Technology, Germany)
	12:30	Lunch
	14:00	“Functionalisation and Microstructuring of Cell Substrates using Designer Polymers” Jörg Lahann (University of Michigan, U.S.A.)
	15:00	Farewell address and end of course
		Departure