New Challenges in the Physics of the Brain: February 14-19, 2016

Organizers: Alain Goriely, Antoine Jérusalem, Julian Andres Garcia-Grajales, and Ellen Kuhl Talks are either 90 minutes (lecture), 20+5 minutes (seminar), or 15+5 minutes (student talk)

9:00-9:10 9:10-10:40 Jayamohan Jayaratnam: Brain physiology: a neurosurged Riyi Shi: Functional mechanics 16:45-17:10 François Rousseau: On early brain development from MR Michael Deem: Performance, Flexibility, and Modularity in 7:35-17:55 Silvia Budday: On cellular mechanisms during cortical fold 17:55-18:15 BREAK BR:15-18:35 Amelia Joy Thompson: Tissue mechanics in early brain de 8:35-19:00 Svein Kleiven: Biomechanics of traumatic head injuries TUESDAY: Fluid and Electrochemistry 9:00-10:30 Yiannis Ventikos: Cerebral fluid mechanics 11:00-12:30 Alain Goriely: Brain electrochemistry 16:45-17:10 John C Vardakis: Exploring the fully dynamic multi-comparative fluid 17:40-18:05 BREAK and POSTER SESSION Patrick Selvadurai: Poro-Hyperelasticity: role of fluids in second 18:30-18:55 Jose Maria Pena: Data analysis of functional connectivity WEDNESDAY: Head models and traumas 17:00-17:25 Nele Famaey: Head protection - experimental and numerative fluids in second 17:45-18:05 Dries De Kegel: Compression of bridging veins into head 17:45-18:05 Dries De Kegel: Compression of brain tissue in impacts ar Roy Burek: how an impact to the head can lead to neuron Michael Krieg: The role of spectrin and tau in the neuronal	I data Adult Human Brains ing evelopment
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THURSDAY: Axon mechanics and Multiscale	
9:00-10:30 Kristian Franze: Axon mechanics	
11:00-12:30 Antoine Jérusalem: Multiscale computational mechanobio	ogy of TBI and SCI
16:55-17:20 Pierre Recho: Growth, collapse, and stalling in a mechanic	cal model for neurite motility
17:20-17-40 BREAK	
17:40-18:00 Rijk de Rooij: Modeling the Role of Dynein Motors in Axon	al Elongation
18:00-18:25 Julian Andres Garcia-Grajales: Mechanical modelling of at	conal growth
18:35-18:55 Helene Gautier: The mechanical control of neuronal matur	
FRIDAY: Head models and Functional mechanics	
9:00-10:30 Michael Gilchrist : Head models and helmets	
11:00-12:00 Ellen Kuhl: Modeling brain morphogenesis (Ellen will n	
shorter version of ellen's lecture may be given by alain	ot be able to attend, a