Measuring and Modelling Cell Migration 2018

Thursday, February 22nd

8:00-9:00	**Registration** Universitätszahnklinik Medizinische Universität Wien Sensengasse 2A (via main entrance) A - 1090 Wien
9:00-9:15	Welcome (Coordinators)

Part 1: Mechanistic unravelling of cell migration in vitro
Chair: Nadieh Kuijpers; Co-chair: Galiya Sakaeva

09:15-10:00	**Keynote lecture 1**	**Pekka Lappalainen** "Generation of contractile actomyosin bundles in migrating cells"
10:00-10:07	**Flash talks**	**Nadieh Kuijpers** "Cytoskeletal interactions during epithelial cell migration"
10:07-10:14		**Anne Pora** "Mechanophysical regulation of the keratin network in migrating cells"
10:14-10:21		**Galiya Sakaeva** "Epithelial cell migration depends on rear end stress fiber tension"
10:21-10:28		**Wenhong Li** "The molecular basis for filopodia structure, dynamics and functional mechanics"

10:30-11:00	**The mentor's lecture**	**Alexander Bershadsky** "Dynamic cross talk between microtubules, actomyosin cytoskeleton and integrin-mediated adhesions"

11:00-11:30	**Coffee break**	

11:30-12:15	**Keynote lecture 2**	**Michael Sixt** "Leukocyte navigation in complex environments"
12:15-12:22	**Flash talks**	**Rutuja Patwardhan** "EGF triggers Rho excitability in migrating keratinocytes"
12:22-12:29		**Vera Belyaeva** "bZIP transcription factors counterbalance each other to tune the cell cortex for macrophage invasive migration"
12:29-12:36		**Tanja Maritzen** "The endocytic adaptor protein Stonin 1 modulates focal adhesion dynamics"
12:36-12:43		**Georgi Dimchev** "Morphodynamics of cell edge protrusion in Lamellipodin (Lpd) knockout cells"
12:43-12:50		**Julia Ghelman** "SKAP2 as new regulator of oligodendroglial migration"

12:50-12:57		**Dmytro Kotsur** "Tracking the dynamics of keratin filaments"
12:57-13:04		**Roman Yakobenchuk** "Image analysis of integrated cytoskeletal network dynamics"
13:04-13:11		**Federico Saltarin** "Dissecting spatio-temporal Rho GTPase signaling network"

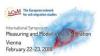| 13:15-15:00	**Lunch break, 1st poster session (poster 1 – poster 25), tools of the trade**

Part 2: Measuring devices and techniques in cell migration
Chair: Nikos Fatsis-Kavalopoulos; Co-chair: Roman Yakobenchuk

15:00-15:45	**Keynote lecture 3**	**Martial Balland** "Aspects of the mechanics of single cell migration"
15:45-15:52	**Flash talks**	**Nikos Fatsis-Kavalopoulos** "Methods to study cell to cell interactions using microfabrication and 3D printing"
15:52-15:59		**Lea Tomášová** "Advanced cell migration assays"
15:59-16:06		**Deva Kusuluri** "The adhesion GPCR VLGR1 is part of focal adhesion complexes and regulates cell migration"
16:06-16:13		**Giovanni Cappello** "Is extracellular matrix a pressure sensor?"

16:15-16:45	**Coffee break**

16:45-17:30	**Keynote lecture 4**	**Ulrich Schwarz** "Modelling cell spreading on micropatterned substrates"
17:30-17:37	**Flash talks**	**Katerina Lomanov** "Real-time tracking of keratinocyte migration and analysis of cell membrane shape changes"
17:37-17:44		**Fengwei Yang** "Tracking migrating cells"
17:44-17:51		**Kritika Sahni** "Migration component dynamics in epithelial cell motility"
17:51-17:58		**Maike Werner** "Substrate curvatures larger than cell size direct mesenchymal stem cell migration"

18:00-18:30	**The mentor's lecture**	**Benny Geiger** "The mechanobiology of invasive migration of metastatic cancer cells"

Part 3: Observing cell migration in vivo
Chair: Laura Bornes; Co-chair: Wenhong Li

09:00-09:45	**Keynote lecture 5**	**John Condeelis** "Cell migration phenotypes involved in tumour cell dissemination during metastasis"
09:45-09:52	**Flash talks**	**Laura Bornes** "Monitoring of cancer cell migration in living animals"
09:52-09:59		**Shaghayegh Derakhshani** "Measles virus infected dendritic cell migration in a 3D in vitro human airway test system"
09:59-10:06		**Vitaly V. Ganusov** "Difficulties with predicting migration of genetically manipulated lymphocytes in monkeys using SPECT scanning technology"
10:06-10:13		**Andrea Imle** "Lymphocyte migration in 3D environments shapes HIV-1 spread"

10:15-10:45	**The mentor's lecture**	**Jacco van Rheenen** "In vivo imaging of migration and metastasis"

10:45-11:15	**Coffee break**	

11:15-12:00	**Keynote lecture 6**	**Peter Friedl** "Multiscale analysis of cancer and immune cell migration in vitro and in vivo"

12:00-12:07	**Flash talks**	**Maria Akhmanova** "Modeling epithelial tissue deformation by a migrating cell"
12:07-12:14		**Marcos Gouveia** "Keratin dynamics: Solving PDEs inside moving domains using phase field methods"
12:14-12:21		**Dirk Alexander Kulawiak** "Modeling contact inhibition of locomotion of colliding cells: Migrating on micropatterned substrates"
12:21-12:28		**Christian Schmeiser** "The filament based lamellipodium model – Cell-cell interaction"
12:28-12:35		**Stephanie Portet** "Transport of intermediate filaments in cells"

12:35-14:30	**Lunch break, 2nd poster session (poster 26 – poster 50), tools of the trade**	

Part 4: Data extraction and modelling

Chair: Dmytro Kotsur; Co-chair: Davide Cusseddu

14:30-15:15	**Keynote lecture 7**	**Victor Small (presented by Florian Schur)** "The cytoskeleton and cell migration: milestones along the way"
15:15-15:22	**Flash talks**	**Davide Cusseddu** "Understanding spatio-temporal dynamics of the cytoplasmic network during cell migration"
15:22-15:29		**Victor Juma** "Spatio-temporal dynamics of RhoA-myosin signalling pathway"
15:29-15:36		**Shore Salle Chota** "Shaping membranes and actin fibres by forces"
15:36-15:43		**Thorsten Auth** "Complex self-propelled deformable rings: cell-like shapes and motility patterns"

15:45-16:15	**The mentor's lecture**	**Rudolf Merkel** "Physics of cell migration"

16:15-16:45	**Coffee break, group photo and poster award**

16:45-17:30	**Keynote lecture 8**	**Jacques Demongeot** "Discrete mesh approach in cell migration and proliferation modelling - Examples in gastrulation, feather induction and wound healing"

17:30-18:00	**The mentor's lecture**	**Anotida Madzvamuse** "Recent advances in mathematical modelling of cell migration"

18:00-18:15	**Closing of the meeting**	Coordinators

19:30-23:30	**Conference dinner**	**Standing dinner incl. guided rooftop tour** Naturhistorisches Museum Wien - Sauriersaal Burgring 7 A - 1010 Wien