

Program

Sunday, November 25, 2018

- 16:00 – 21:00 Registration
- from 18:00 *BUFFET SUPPER / Informal get together*
- 19:00 – 19:15 Scientific organizers **Opening and welcome**
- 19:15 – 20:00 Joachim Rädler **Cell migration and gene expression -
single cell studies on artificial micro-
pattern**

Monday, November 26, 2018

- 08:00 *BREAKFAST*
- Micro/Nanostructuring of surfaces (I)**
- 09:00 – 09:45 Pascal Jonkheijm **Cell-instructive biointerfaces with
dynamic complexity**
- 09:45 – 10:30 Christof Niemeyer **Multiscale DNA systems to investigate
living cells**
- 10:30 – 11:00 *COFFEE BREAK*
- Micropatterns for cell biology (I)**
- 11:00 – 11:45 Shalini Low-Nam **Molecular binding events, phase
transitions, and signal integration
during T cell activation**
- 11:45 – 12:30 Kheya Sengupta **T cells on engineered substrates: The
impact of T cell receptor clustering is
enhanced by integrin engagement**
- 12:30 **Conference Photo** (in the foyer of the lecture hall)
- 12:35 *LUNCH*

Program

Monday, November 26, 2018

Micro/Nanostructuring of surfaces (II)

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|---------------|--|--|
| 14:00 – 14:45 | Shalom Wind | Nanoscale architectures for probing cellular mechanoresponse |
| 14:45 – 15:00 | Agnes Dobos | High-resolution 3D printing of biomimetic microenvironments to study T-cell activation |
| 15:00 – 15:15 | Mario Mairhofer | Functionalized nanostructures for cell culture and cell-based assays |
| 15:15 – 16:00 | Poster flash talks (1 min each / 1 slide) | |
| 16:00 – 16:30 | <i>COFFEE BREAK</i> | |

Manipulating proteins on the nanoscale

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|---------------|-----------------------|---|
| 16:30 – 17:15 | Ana Teixeira | Spatial signalling in cell-to cell communication |
| 17:15 – 17:30 | Joschka Hellmeier | DNA origami as a nanoscale platform for T-cell activation |
| 17:30 – 17:45 | Elena Ambrosetti | Characterization of nanoscale protein clusters at the cell membrane with DNA nanotechnology |
| 17:45 – 18:00 | Martin Humenik | Hybrid spider silk nanostructures |
| 18:15 | <i>DINNER</i> | |
| 19:15 – 21:15 | Poster session | |

Program

Tuesday, November 27, 2018

08:00 *BREAKFAST*

Cells on structured biointerfaces (I)

09:00 – 09:45 Josep Samitier Martí **Nano-patterns distributions for tissue engineering**

09:45 – 10:30 Raghavendra Palankar **Dissecting platelet function and dynamics using nano- and micropatterned arrays**

10:30 – 11:00 *COFFEE BREAK*

Cells on structured biointerfaces (II)

11:00 – 11:45 Elena Martínez **Nanopatterns of surface-bound EphrinB1 ligand to tune EphB2 receptor clustering**

11:45 – 12:00 Marga Lensen **Micropatterned, nanocomposite biomaterials based on bioinert PEG-hydrogels and bioactive nanohydroxyapatite and gold nanoparticles**

12:00 – 12:15 María Teresa Alameda **Design smart multifunctional surfaces by using micro-nano hierarchical topographies**

12:15 – 12:30 Jordi Comelles **Hydrogels with independently controlled topography and stiffness**

12:30 *LUNCH*

Program

Tuesday, November 27, 2018

14:00 **Trip / „NetWalking“**

(Leisurely hike in the vicinity with a visit to a coffeehouse.)

Micropatterns for cell biology (II)

16:30 – 17:15 Jacob Piehler **Surface micropatterning for quantitative protein interaction analysis in cellular signaling**

17:15 – 17:30 Noemi Linden **Conformation-specific MHC I protein clusters detected by a two-hybrid antibody micropattern assay**

17:30 – 17:45 Peter Lanzerstorfer **Analysis of EGFR downstream signaling by live cell micropatterning**

17:45 -18:00 Gergő Fülöp **Probing lipid interactions of plasma membrane proteins: A micropatterning approach**

18:15 *HERAEUS DINNER at the Physikzentrum
(cold & warm buffet, free beverages)*

19:15 – 20:30 **Interactive session**

Program

Wednesday, November 28, 2018

08:00 *BREAKFAST*

Micro/Nanostructuring of surfaces (III)

09:00 – 09:45 Karen Martinez **Arrays of high-aspect ratio nanostructures for biological applications**

09:45 – 10:30 Graham Leggett **Quantum optical proteins: Nanofabrication, strong coupling and synthetic biology**

10:30 – 10:55 *COFFEE BREAK*

10:55 – 11:15 **Poster awards and poster award talk**

Micro/Nanostructuring of surfaces (VI)

11:15 – 11:30 Yoojin Oh **Force spectroscopy and recognition imaging: Quantifying binding strength and affinity on the single-molecule level**

11:30 – 12:15 Jose Moran Mirabal **Lipids at micro- and nanostructured interfaces – from phase segregation to biosensing**

12:15 – 12:30 Scientific organizers **Summary and closing remarks**

12:30 *LUNCH*

End of the seminar and FAREWELL COFFEE / Departure

*Please note that there will be **no** dinner at the Physikzentrum on Wednesday evening for participants leaving the next morning.*