



**NANOTRANS ESR Workshop**  
**University of Vienna**  
**August 20<sup>th</sup>-24<sup>th</sup> 2018**

**Booklet - short version**  
(update August 24<sup>th</sup> 2018)

**Program**

**Monday 20<sup>th</sup>**

14:00	Welcome
14:30	Lecture 1 – Jannes Gladrow <i>Nonequilibrium stochastic thermodynamics: fluctuation theorems and broken detailed balance</i>
16:00	Coffee Break
16:15	Lecture 2 – Simón Ramírez Hinstrosa and Quentin Peter <i>Introduction to phoretic transport</i>
17:45	Cooperation & Discussion Time
18:30	Podcast
19:00	

## **Tuesday 21<sup>st</sup>**

- 9:00 Lecture 3 – Lisa Weiß and Ivan Palaia  
*Colloids as a model system for statistical physics and common misbeliefs about osmotic pressure*
- 10:30 Coffee Break
- 11:00 Lecture 4 – Sara Dal Cengio  
*NANOTRANS meets active Brownian particles*
- 12:30 Lunch
- 14:00 Scientific talk ESR 2 – Jannes Gladrow  
*Holographic wave-shaping using spatial light modulators and applications in microscale thermodynamics*
- 14:45 Scientific talk ESR 3 – Maragadham Selvakumar  
*Novel technique for electrokinetic measurements in colloidal science*
- 15:30 Coffee Break
- 16:00 Scientific talk ESR 6 – Samuel Ntim  
*Structure of room-temperature ionic liquids at metallic interfaces*
- 16:45 Scientific talk ESR 8 – Quentin Peter  
*Diffusiophoresis in nanochannels*
- 17:30 Cooperation & Discussion Time
- 18:30 Podcast
- 19:00

## **Wednesday 22<sup>nd</sup>**

- 9:00 Scientific talk ESR 9 – Ivan Palaia  
*Ion dynamics and shortcuts to adiabaticity in electric double layer capacitors*
- 9:45 Scientific talk ESR 10 – Jérôme Hardouin  
*Living flows in confinement*
- 10:30 Coffee Break
- 11:00 Scientific talk ESR 11 – Simón Ramírez Hinestrosa  
*Modelling diffusio-osmosis and polymer diffusio-phoresis*
- 11:45 Scientific talk ESR 12 – Sara Dal Cengio  
*Geometric ionic diode: the role of confinement*
- 12:30 Lunch

14:00 Scientific talk ESR 13 – Aitor Martín Gómez  
*Introduction to active Brownian filamentous polymers*

14:45 Scientific talk ESR 14 – Lisa Weiß  
*How topology influences polymer transport*

15:30 Coffee Break

16:00 Cooperation & Discussion Time

17:00 Podcast

17:30

### **Thursday 23<sup>rd</sup>**

9:00 ALOOP Workshop  
*How to write a scientific outreach animated video*

10:30 Coffee Break

11:00 ALOOP Workshop  
*Story line writing I*

12:30 Lunch

14:00 ALOOP Workshop  
*Story line writing II*

15:30 Coffee Break

16:00 Cooperation & Discussion Time

17:00 Podcast

17:30

19:00 Social dinner

### **Friday 24<sup>th</sup>**

9:00 Whiteboard video Workshop  
*Storyline writing*

10:30 Coffe Break

11:00 Whiteboard video Workshop  
*Shooting*

12:30 Podcast

13:00 Farewell

## Concept

This workshop is addressed to all NANOTRANS ESRs.

### **Part I (Monday-Tuesday)**

The first part of the workshop consists in 4 lectures, given by ESRs on a voluntary basis. They will focus on subjects the speakers know well and will be important to understand talks in Part II.

### **Part II (Tuesday-Wednesday)**

Every ESR will give a 30 min talk about his/her precise research topic. Presentations will dedicate an adequate amount of time to perspectives of advancement and open problems. A 15 min question time will follow each talk. The environment will be extremely informal, to facilitate discussion.

At the end of each day a 1 h Cooperation & Discussion Time will serve as a cooperation booster: ESRs will interact on a one-to-one basis to look for possibilities to join forces on projects of common interest, or provide help for other fellows' research.

### **Part III (Thursday-Friday)**

A training on scientific video making will be followed by a workshop where ESRs will work together to write a storyline for a 3 min animated video. All parts of the workshop will be conducted by ALOOP, a company based in Barcelona and specialized in scientific outreach, that will later make our video. This video will be an introduction to the science involved within NANOTRANS, for the general public.

The production of smaller, simpler whiteboard-based videos will be encouraged during Friday's workshop: ESRs will have the opportunity to form smaller groups and try to write an educational video, about a specific solved scientific problem they worked on or know particularly well. Cameras and basic stationery material will be available.

## Location

The workshop will take place in Seminar Room (door 6), ground floor, Computational Physics Building.

Computational Physics Building  
University of Vienna  
Sensengasse 8/6  
1090 Vienna  
Austria



universität  
wien

## Contact

Lisa Weiss, Universität Wien [lisa.weiss@univie.ac.at](mailto:lisa.weiss@univie.ac.at)  
Ivan Palaia, CNRS, Université Paris-Sud [ivan.palaia@u-psud.fr](mailto:ivan.palaia@u-psud.fr)  
Sara Dal Cengio, Universitat de Barcelona  
Quentin Peter, University of Cambridge  
Jannes Gladrow, University of Cambridge  
Jérôme Hardoüin, Universitat de Barcelona  
Simón Ramírez Hinestrosa, University of Cambridge  
Aitor Martín Gómez, Forschungszentrum Jülich  
Samuel Ntim, Johannes Gutenberg-Universität Mainz

## Acknowledgements

Many thanks to coordinator Jure Dobnikar and deputy coordinator Benjamin Rotenberg for their valuable help, to project officer Athina Zampara for her support, and to Lisa Masters for her effective assistance with fund management.

**This workshop is funded by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 674979.**