

## Public talk

**Nils Thürey**  
TU Munich  
Germany



### How to Win an Oscar with Fluid Simulations

Nils Thürey's work is in the field of computer graphics: he models physical behaviors of fluids such as water and smoke to enable computer created virtual effects to look like the real thing. These phenomena are very expensive to simulate computationally, so Nils' research explores the use of deep learning methods to generate the effects more quickly and more realistically. Before assuming his professor position at TUM, Nils did a PhD at the LSS in Erlangen, held a post-doc position in Zurich, and worked in the visual effects industry. He was awarded a technical Oscar for the development of an algorithm which aids in editing explosion and smoke effects for film.



Friday, September 7, 15:00 at H12 in  
Cauerstraße 11, 91058 Erlangen

## Location

The CoSaS 2018 will take place at the University of Erlangen-Nürnberg. The conference room H12 is located at Cauerstraße 11 in 91058 Erlangen.

For venue and travel information please have a look at  
<https://www.cosas2018.fau.de/venue-and-travel-information/>



## Contact

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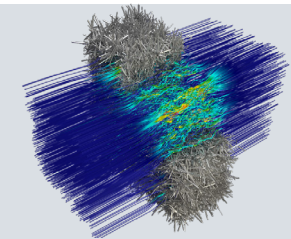
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**DFG** Deutsche  
Forschungsgemeinschaft

Department Informatik

## CoSaS 2018 International Symposium on Computational Science at Scale September 5-7, 2018



### Invited speakers

Martin Berzins, The University of Utah, Saltlake City  
Xing Cai, Simula Research Laboratory & University of Oslo  
Edmond Chow, Georgia Institute of Technology, Atlanta  
Anshu Dubey, Argonne National Laboratory  
Laura Grigori, INRIA, Paris  
Jan Hesthaven, EPFL, Lausanne  
Thierry Poinsot, CERFACS, Toulouse



<https://www.cosas2018.fau.de/>

<b>13:00</b>	<b>Opening &amp; Welcome</b>
<b>13:15 – 15:30</b>	<b>Session 1</b>
<i>Edmond Chow: Asynchronous Iterative Methods (50 min)</i>	
<i>Christian Klingenberg: EXAMAG (30 min)</i>	
<i>Harald Köstler: ExaStencils (30 min)</i>	
<b>15:30 – 16:00</b>	<b>Coffee break</b>
<b>16:00 – 18:00</b>	<b>Session 2</b>
<i>Thierry Poinsoot: Massively Parallel Simulation of Instabilities in Propulsion Systems (50 min)</i>	
<i>Gerhard Wellein: ESSEX-II (30 min)</i>	
<i>Axel Klawonn: EXASTEEL-2 (30 min)</i>	
<b>18:00</b>	<b>Welcome reception</b>

## General information

The HPC symposium “Computational Science at Scale (CoSaS)” will take place from September 5-7, 2018 in Erlangen, Germany. This symposium is organised within the scope of the DFG priority program Software for ExaScale Computing (SPPEXA).

SPPEXA addresses fundamental research on the various aspects of HPC software for the era of ubiquitous massive parallelism. The objectives are to bring together the projects of SPPEXA that are focussed on large scale numerical simulation with applications in science and engineering. CoSaS will be a forum for the exchange of results and ideas in the area of HPC and to review the results of SPPEXA in an international setting.

The programme will consist of high-level invited talks and a poster session. We also plan a best poster award including a monetary prize and a certificate.

<b>9:00 – 10:30</b>	<b>Session 3</b>
<i>Martin Berzins: A Portable Applications Driven Approach to Scalability on Present and Future Exascale Systems (50 min)</i>	
<i>Alexandru Calotoiu/Sebastian Rinke: ExtraPeak (30 min)</i>	
<b>10:30 – 11:00</b>	<b>Coffee break</b>
<b>11:00 – 12:30</b>	<b>Session 4</b>
<i>Xing Cai: Heterogeneous Computing: Programming, Performance and Applications (50 min)</i>	
<i>Rolf Krause/Gabriel Wittum: EXASOLVERS (30 min)</i>	
<b>12:30 – 13:30</b>	<b>Lunch break</b>
<b>13:30 – 15:00</b>	<b>Session 5</b>
<i>Anshu Dubey: The FLASH Code and Two Decades of Science (50 min)</i>	
<i>Guido Kanschat: ExaDG (30 min)</i>	
<b>15:00 – 15:30</b>	<b>Coffee break</b>
<b>15:30 – 17:30</b>	<b>Poster session I</b>
<b>17:45 – 20:00</b>	<b>Poster session II</b>

## Poster session

The poster session will include a Poster Blitz:

- Each poster is to be presented by 2 slides within 1 min.
- The poster prizes will be awarded by the audience and by a jury.
- There will be three prizes both for the jury and audience awarded posters (250 €, 150 € and 100 €).
- The prize will be handed to the presenter of the poster directly (cash) during the award ceremony.

<b>9:00 – 10:30</b>	<b>Session 6</b>
<i>Laura Grigori: Scalable &amp; Robust Linear Solvers (50 min)</i>	
<i>Christian Engwer: EXA-DUNE (30 min)</i>	
<b>10:30 – 11:00</b>	<b>Coffee break</b>
<b>11:00 – 13:00</b>	<b>Session 7</b>
<i>Jan Hesthaven: Parallel-in-Time Methods for Transport-Dominated Problems (50 min)</i>	
<i>Ulrich Rüde: Terra-Neo (30 min)</i>	
Poster awards	
Closing	
<b>13:00 – 14:00</b>	<b>Lunch break</b>
<b>14:00 – 18:00</b>	<b>LSS anniversary</b>
20 years of Computational Science and Engineering at FAU	
<i>Nils Thuerey: How to Win an Oscar with Fluid Simulations</i>	
<b>Get-together: LSS over the years</b>	
<b>18:30</b>	<b>Dinner</b>

