

NNT2018



18-20 SEPTEMBER 2018
BRAGA, PORTUGAL

PROGRAM

NNT 2018 | International Conference on Nanoimprint and Nanoprint Technology

**COME, SHARE, DISCUSS,
LEARN & ENJOY!**

Unparalleled learning and networking experiences.

NNT 2018, the 17th International Conference on Nanoimprint and Nanoprint Technologies, the world's leading symposium on nanoimprint and nanoprint, will take place September 18-20, 2018, at INL, the International Iberian Nanotechnology Laboratory.

NNT 2018 offers an exciting scientific programme with Keynote Speakers, Tutorials, Elevator and Discussion Sessions, and Special and Social Events.

Make the most out of your visit at the **NNT 2018** by participating in the plenary and technical sessions, networking during breaks, and relaxing with other attendees during the social activities.

Please, check the programme below.



DAY 1 | TUESDAY, SEPTEMBER 18 2018

09:00 - 14:00

EXHIBITORS SET-UP

14:00 - 15:00

Registration

15:00 - 16:00

Exhibition

16:00 - 17:00

TUTORIAL 1: *Science communication*

Elisabeth Nilsson, Lund University, Sweden

17:00 - 18:00

TUTORIAL 2: *Intellectual property*

Ulf Håkansson, AWA Patent, Sweden

18:30 - 20:00

JOIN US AT THE WELCOME RECEPTION

09:00 - 09:30
Opening Session

Emerging Innovation | Session #1
Chair: L. Montelius

09:30 - 10:00
Talk 1.1 KEYNOTE 1:
Nano-materials research and development in Europe
Marcel van de Voorde, Univ. Tech. Delft (emeritus), Belgium

10:00 - 10:40
Talk 1.2 TUTORIAL 1:
Material considerations for nanoimprint lithography
Jay Guo, Univ. of Michigan, USA

10:40 - 11:10
Coffee-Break

**Stamps, Processes, Materials
for Nanofabrication | Session #2**
Chair: H. Lee, J. Choi

11:10 - 11:25
Talk 2.1 *Hierarchical micro-nano surface topographies
by combined photo and nanoimprinting lithography*
Jaime J. Hernandez, IMDEA Nanoscience, Spain

11:25 - 11:40
Talk 2.2 *Hybrid fabrication process via UV nanoimprint and
EB lithography using UV-curable positive-tone EB resist*
Takao Okabe, Tokyo University of Science, Japan

11:40 - 11:55
Talk 2.3 *Investigating multilayer
multimaterial nanoimprinting*
Michael Mühlberger, Profactor, Austria

11:55 - 12:10
Talk 2.4 *3-D mold profile correction for resin
shrinkage in NIL process*
Kenta Watanabe, Osaka Prefecture University, Japan

12:10 - 12:25
Talk 2.5 *Computational study on viscosity
modulation in ultra-thin resin*
Masaaki Masuda, Osaka Prefecture University, Japan

12:25 - 12:40
Talk 2.6 *Roll to roll pilot line for continuous production
of mechanically enhanced antireflective surfaces*
Isabel Rodriguez, IMDEA Nanoscience, Spain

12:40 - 14:15
Lunch

Applications 1 | Session #3
Chair: Y. Hirai, H. Hauser

14:15 - 14:55
Talk 3.1 TUTORIAL 2: *From NIL to production: upscaling
challenges with VCSELs and LEDs*, Marc Verschuuren,
Philips SCIL Nanoimprint Solutions, The Netherlands

14:55 - 15:10
Talk 3.2 *Enabling volume production of novel
microoptic and nanophotonic devices*
Martin Eibelhuber, EVGroup, Austria

15:10 - 15:25
Talk 3.3 *High-speed fabrication of large-scale micro-patterned
thermoplastic films for industrial applications*
Nastasia Okulova, Danapak Flexibles A/S, Denmark

15:25 - 15:40
Talk 3.4 *Inline monitoring system for high-speed roll-to-roll
hot embossing of micrometer and sub micrometer structures
using seamless direct laser interference patterning treated
sleeves*, Andreas Rank, TU Dresden, Germany

15:40 - 16:00
Coffee-Break

Applications 1(cont.) | Session #4
Chair: J. Taniguchi, H. Schiff

16:00 - 16:30
Talk 4.1 INVITED: *Ultrafast S&R nanopatterning*
Massimo Tormen, ThunderNIL, Italy

16:30 - 16:45
Talk 4.2 *Nanostructuring of complex surface presented
on 3D printed implants and lenses*
Michael Haslinger, Profactor GmbH, Austria

16:45 - 17:00
Talk 4.3 *Tumor cell migration and screening in
nanoimprinted 3D biomimetic platforms
with porous topography*
Stella Pang, City University, Hongkong

17:00 - 18:15
POSTER SESSION

19:30
CONFERENCE DINNER IN BRAGA

Industrial | Session #5 Chair: S. Chou, H. Schiff

09:00 - 09:30

Talk 5.1 INVITED: *Directed assembly of nanoelements*
Ahmed A. Busnaina, Nanoscale Science
and Engineering Center, USA

09:30 - 09:50

Talk 5.2 INVITED: *Process and process integration requirements
for high volume manufacturing of semiconductor devices using NIL*
Jin Choi, Canon CNT, USA/Japan

09:50 - 10:10

Talk 5.3 INVITED: *High-volume production systems for
nanoimprinting on large-area glass and display applications*
Jan Matthijs ter Meulen, Morphotonics, The Netherlands

10:10 - 10:25

Talk 5.4 *R2R and R2P manufacturing technology and upscaling
for large area seamless UV-NIL*
Thomas Exlager, Coatema Coating Machinery GmbH

10:25 - 10:40

Talk 5.5 *Substrate Conformal Imprint Lithography high volume
production - tooling, overlay performance, process and materials,*
Marc Verschuuren,
Philips SCIL Nanoimprint Solutions, The Netherlands

10:40 - 11:05

Coffee-Break

Applications 2 Photonics and Solar Cells | Session #6 Chair: M. Verschuuren, J. Guo

11:05 - 11:35

Talk 6.1 INVITED *Nano-structures embedded perovskite solar cells
and photoelectrode for improved performances*
Heon Lee, Korea University, Korea

11:35 - 11:50

Talk 6.2 *Fabrication of inner AR substrate for dye-sensitized
solar cells by solvent-assisted room temperature nanoimprinting*
Na ang, Nagoya University, Japan

11:50 - 12:05

Talk 6.3 *Photonic structures by interference and NIL
for highest efficiency solar cells*
Hubert Hauser, Fraunhofer Institute for Solar
Energy Systems, Germany

12:05 - 12:20

Talk 6.4 *Nanoantenna-based ultrasensitive
immunoassay biosensor*
Stephen Chou, Princeton, USA

12:20 - 12:35

Talk 6.5 *Plasmonic sensor with asymmetrical
three-dimensional nanostructures and high sensitivity*
Stella Pang, City University Hongkong, HK

12:35 - 14:15

Lunch

Emerging Technologies | Session #7 Chair: S. Pang, M. Tormen

14:15 - 14:45

Talk 7.1 KEYNOTE 2: *Paper electronics*
Elvira Fortunato, New University of Lisbon, Portugal

14:45 - 15:00

Talk 7.2 *Direct NIL of colloidal self-organizing
nanowire-/particle inks for flexible, transparent electrodes*
Lukas Engel, Leibniz Institute for New Materials, Germany

15:00 - 15:15

Talk 7.3 *Manufacturing scheme for superpositioning micro- and
nanopatterns enabling microfluidic and beyond*
Mirko Lohse, micro resist technology GmbH, Germany

15:15 - 15:30

Talk 7.4 *Nanoimprint meets microfluidics: metal wires
from capillary filled nanoparticle dispersions*
Barbara Horvath, Paul Scherrer Institut, Switzerland

15:30 - 16:00

Talk 7.5 INVITED: *New NIL processes - an outlook*
Stephen Y. Chou, Princeton, USA

16:00
CONFERENCE ENDING

16:10 - 17:00

BREAK

19:00
BARBECUE