

PROGRAM

27 - 28 May 2021 – **PRELIMINARY VERSION**

PRN
2021

Polymer
Replication
on Nanoscale

Thursday 27 May 2021

Individual pre-conference meetings (09:00-11:30)
(organized mutually between interested participants)

11:30-12:30 Lunch break (individually)

PRN 2021 Conference

12:30-12:50 Welcome online – chat opens 20 min early

12:50-13:10 Per Magnus Kristiansen (INKA FHNW, Switzerland)
"Welcome to the Polymer Replication on Nanoscale 2021"

Session 1: Mastering, Tooling and Integration (13:10-15:00)

Chair: Per Magnus Kristiansen (FHNW, Switzerland)

13:10-13:40 Host: Per Magnus Kristiansen (FHNW, Switzerland)
"TITLE TO BE ANNOUNCED" (*pending*)

13:40-14:00 Jerome Werder (FHNW, Switzerland)
"TITLE TO BE ANNOUNCED" (*pending*)

14:00-14:20 Nan Zhang (UCD, Ireland)
"Development of a novel high-performance self-lubricating micro/nano mould based on 2D material nanocomposite"

14:20-14:50 Invited: Ronald Holtz (FHNW, Switzerland)
"TITLE TO BE ANNOUNCED" (*pending*)

14:50-15:00 Laurent Feuz (FHNW Switzerland)
Launch of the PRN image award

15:00-15:10 Nan Zhang (UCD) & Per Magnus Kristiansen (FHNW)
Announcement of a Special Issue of micromachines

15:10-15:30 coffee break

15:30-16:00 Invited: Reinhard Voelkl (Süss Microoptics, Switzerland)
"TITLE TO BE ANNOUNCED"

Session 2: Nanoimprint Lithography (16:00-18:00),

Chair: Helmut Schift (PSI, Switzerland)

16:00-16:20 Celestino Padeste (PSI, Switzerland)
"Polymer supports for serial protein crystallography at X-ray free electron lasers"

16:20-16:40 Benjamin Gallinet (CSEM, Switzerland)
"Nanoimprint and metallo-dielectric coatings for high field of view diffractive optical couplers and narrowband filters"

16:40-17:00 Yuyang Zhou (UCD, Ireland)
"Development of coronavirus-resistant films by combining nanomaterials with nanoimprinting"

17:00-17:20 Shahana Bishnoi (DTU, Denmark)
"Microfabrication of shape and size specific hydrogels to serve as artificial red blood cells"

17:20-17:50 Invited: Jim Watkins (Univ. Amherst, USA)
"Hierarchical Carbons and Ceramics via Polymer Replication at the Nanoscale: Integration of Nanoimprinting, Self-Assembly, and Flash Photothermal Processing"

17:50-18:00 Closing by Laurent Feuz (FHNW, Switzerland)
"TITLE TO BE ANNOUNCED" (*pending*)

18:30-19:30 Virtual beer & networking

Friday 28 May 2021

Session 3: Industrial Replication Technologies I (09:00-10:50)

Chair: Per Magnus Kristiansen (FHNW, Switzerland)

09:00-09:30 Invited: Thomas Mortelmans (PSI, Switzerland)
"Thermoplastic 3D nanofluidic devices for biosensing"

09:30-09:50 Nekane Lozabo (Eurecat, Spain)
"Microtexturation of liquid silicone rubber surfaces by injection moulding using hybrid polymer inlays"

09:50-10:10 Guggi Kofod (Rel8 Asp, Denmark)
"A traceability system for injection molding"

10:10-10:30 Carlos Sáez (Eurecat, Spain)
"Replication of hierarchical nanostructures on Polycarbonate via Isothermal injection moulding using NIL-textured films"

10:30-11:00 Selected people from the INKA Team (FHNW, Switzerland)
"Virtual Lab Tour – insights into our infrastructure & applied R&D in the field of functional polymer surfaces – and beyond"

11:00-11:20 coffee break

Session 4: Industrial Replication Technologies II (11:20-12:40)

Chair: Laurent Feuz (FHNW, Switzerland)

11:20-11:40 Invited: André Bernard (matriq AG, Switzerland)
"The watermark for plastics: creating the digital twin"

11:40-12:00 Helmut Schift (PSI, Switzerland)
"How to keep a good skin without peeling: bonding of a roll-to-roll extrusion coated film on a back injection molded polymer body"

12:00-12:30 Invited: Rafael Taboryski (DTU, Denmark)
"Roadmaps for large area nano-pattern replication"

12:30-14:10 Lunch break

Session 5: Metrology, Simulation and Modeling (14:10-16:00)

Chair: Jerome Werder (FHNW, Switzerland)

14:10-14:40 Tamara Aderneuer (CSEM Muttenz, Switzerland)
"Advanced metrology of freeform micro-optical elements"

14:40-15:10 Nikolaos Lempesis (HE-FR/EPFL, Switzerland)
"Controlling wettability through modeling-based surface topography engineering"

15:10-15:30 Jelle Snieder (TU Delft, The Netherlands)
"Simulating the Layer Thickness in Roll-to-Roll UV Nanoimprint Lithography"

15:40-15:50 Announcement of Best Talk Awards

15:50-16:00 Closing by Per Magnus Kristiansen (FHNW, Switzerland)
"Polymer Replication on Nanoscale – quo vadis 2022-2025?"

16:00 This is the end of PRN2021