

Research Accelerator Programme

“UV nanoimprinting of microfluidics, microoptics and bionic flexible devices in batch or roll-to-roll”

Where: JOANNEUM RESEARCH, Weiz, Austria

When: 16-17 September 2024

Application deadline: 1st August 2024

Summary

UV nanoimprinting is a versatile tool to fabricate components for numerous applications. This RAP will provide a condensed introduction in the to various steps involved in the fabrication of nano-patterned surface, microoptic or microfluidic devices on small- and large-scale productions. The topics relate to various technologies offered by Joanneum Research within the INFRACHIP project. More details on the covered topics are here:

<https://infrachip.eu/flexible-microoptics-fab/>

<https://infrachip.eu/r2r-uv-nanoimprinting/>

<https://infrachip.eu/flexible-microfluidics-fab/>

Costs for travel, accommodation and access to infrastructure are covered by INFRACHIP project for up to 6 applicants. Preference is given to PhD students and junior researchers with a PhD completed in the last 2 years, but others are also welcome to apply.

Programme

For theoretical introduction to microfluidics, microoptics and UV-nanoimprinting we will provide videos covering the theoretical aspects of the programme topics and an online Q/A – session with our experts prior the arrival in Weiz.

On the 16th and 17th of Sept. the participants will get a lab-based training including the following topics:

- **Hands-on training material optimization and characterization**
 - Polymer resin adjustment in terms of surface tension and viscosity
 - Surface manipulation in terms of surface energies
 - Film fabrication and characterization by AFM and Ellipsometry
- **Hands-on training on UV-imprinting**

- Fabrication of stamp
- Manual UV-imprinting
- Demonstration of Step-and-Repeat
- Demonstration of Roll-to-Roll upscale production

Calendar

| When | What | Where |
|-------------------|--|---|
| Day #1, Morning | Welcome and lab tour, Polymer and surface manipulation | Seminar room and labs in Weiz II and IV |
| Day #1, Afternoon | Polymer and surface characterization | Chemistry and characterization labs |
| Day #2, Morning | Fabrication of stamp and manual imprinting | Chemistry lab |
| Day #2, Afternoon | Demonstration of up-scale production | Roll-to-Roll Lab |

To apply, please fill the form on the dedicated RAP website page:

<https://infrachip.eu/research-accelerator-programme>

In case of troubles, please contact us – contact@infrachip.fr