

Micro-transfer printing course

Micro-transfer printing (MTP) is a cutting-edge technology in heterogeneous integration that enables the transfer of microscale structures and devices from one substrate to another with high precision and accuracy. This process involves the use of specialized machinery, mechanisms, and software that are specifically designed for micro-transfer printing.

Overview and learning outcomes

Explore the field of micro-transfer printing (μ TP), a pioneering technology in heterogeneous integration. This course delves into the intricacies of transferring microscale structures and devices between substrates. These state-of-the-art techniques are not only relevant today but are poised to become pivotal in diverse research domains and technological platforms. Dive into the specialized machinery, mechanisms, and software designed exclusively for micro-transfer printing. If you're ready to explore this captivating field, this course offers the perfect starting point.

Embark on a comprehensive exploration of the machinery, mechanisms, and technology that underpin micro-transfer printing. Immerse yourself in the diverse range of semiconductor material systems, including GaAs, InP, GaN, and Si, and their application potential. Through a blend of expert lectures and in-lab demonstrations, you'll not only grasp the core principles of micro-transfer printing but also learn how to integrate them into your specific area of work or research.

Course components

- MTP machine and mechanisms
- Alignment guidelines
- Coupon and print
- Lab demo and fabrication visit
- InP, GaAs, GaN and Si based MTP technology

Highlights

- 2-day in-person course at Tyndall National Institute, Cork/Ireland
- Lectures and lab work
- Catering provided
- Lab access charges may be applied. Contact us for further information.

Organisers

- James O'Callaghan, Elisabeth Wintersteller
Tyndall National Institute
- Alin Fecioru, Raja Fazan Gul
X-Celeprint

Contact:



in partnership with:



HOST INSTITUTION



PARTNER INSTITUTIONS



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Programme

Day 1

from 08:45 to 20:00 (local time)

- Micro-transfer printing ecosystem
- Tour in Photonics Packaging Lab
- Tour in Tyndall FlexiFab
- MTP fundamentals - machine, print mechanisms and alignment
- Course dinner

Day 2

08:45 to 14:15 (local time)

- The coupon, the print and the target
- Pre-print fabrication and integration
- Post-print fabrication and integration
- How to collaborate with Tyndall National Institute and X-Celeprint
- Discussion, wrap-up and Q&A panel

Theory and concepts are introduced in lectures and practically demonstrated during lab tours.

Target audience

This course is tailored to the needs of graduates and seasoned professionals in both academic and industrial spheres. It presents an opportunity to acquire indispensable proficiencies in the realm of micro-transfer printing. While an educational background in science or engineering is very advantageous, this course welcomes individuals from diverse backgrounds who harbor a curiosity for this cutting-edge technology. A fundamental grasp of semiconductor technology is recommended but not obligatory.

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