

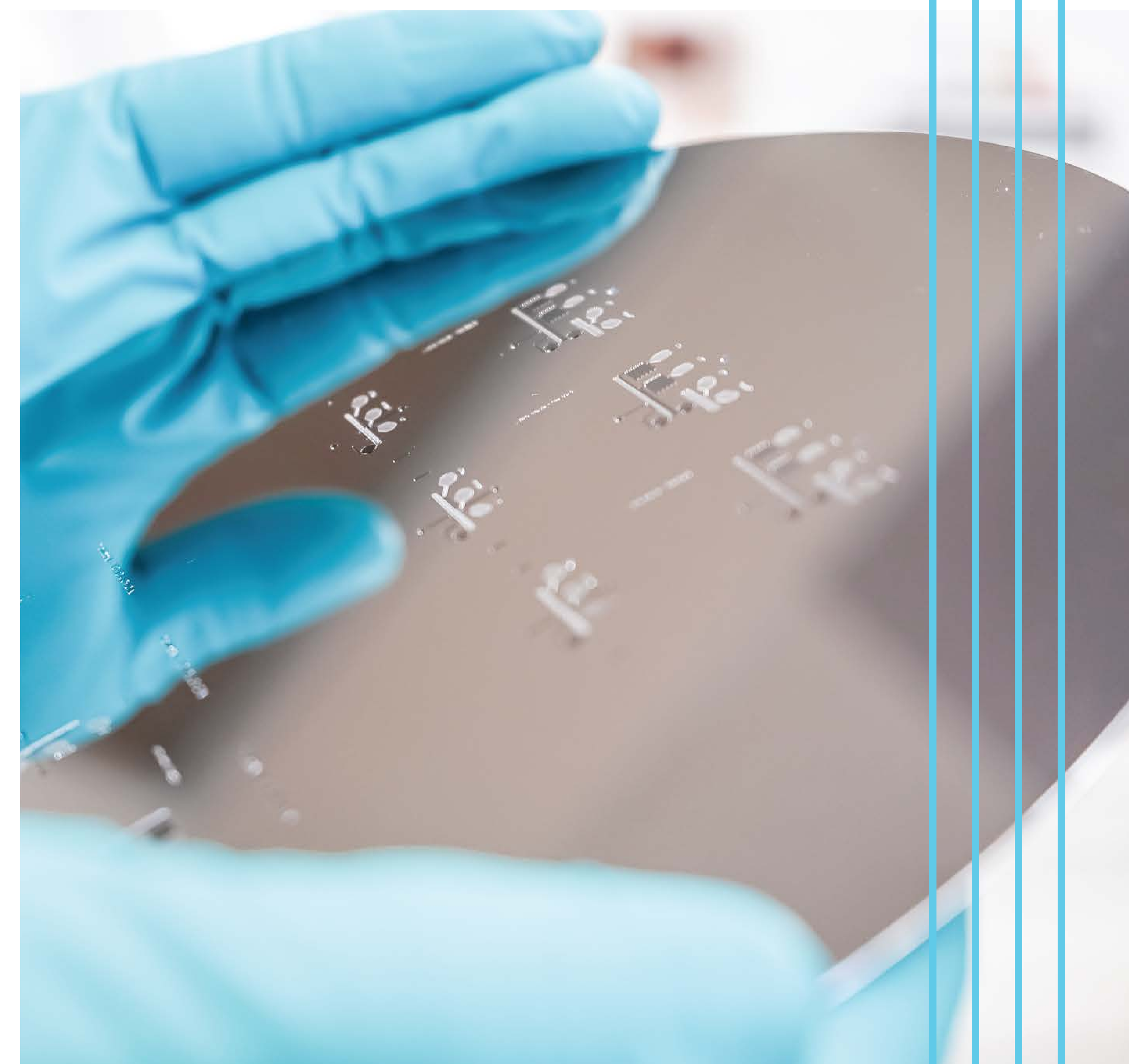
ORGAN-ON-A-CHIP

Microfluidic devices hosting living cells for drug development, disease modelling, personalised medicine, and developmental studies

Organ-on-chip devices are microfabricated channels or structures that host living cells or tissues and replicate the functionality of living organs. Organ-chips are attractive as ex vivo models that allow precise tuning of dynamic fluid flows, high spatiotemporal resolution of nutrient/stimuli delivery and outflow sampling, the introduction of mechanical cues, and online real-time sensing of multiple parameters.

At INL, we develop organ-chips to simulate multiple human organs and tissues including the gut, skin, and central/peripheral nervous system, as well as models of cancer and metastasis breast, lung, colorectal.

Remarkably, we can sensorise these type of devices to measure relevant physiological parameters including barrier integrity, neuron action potential, and cell multi-omics in real-time.



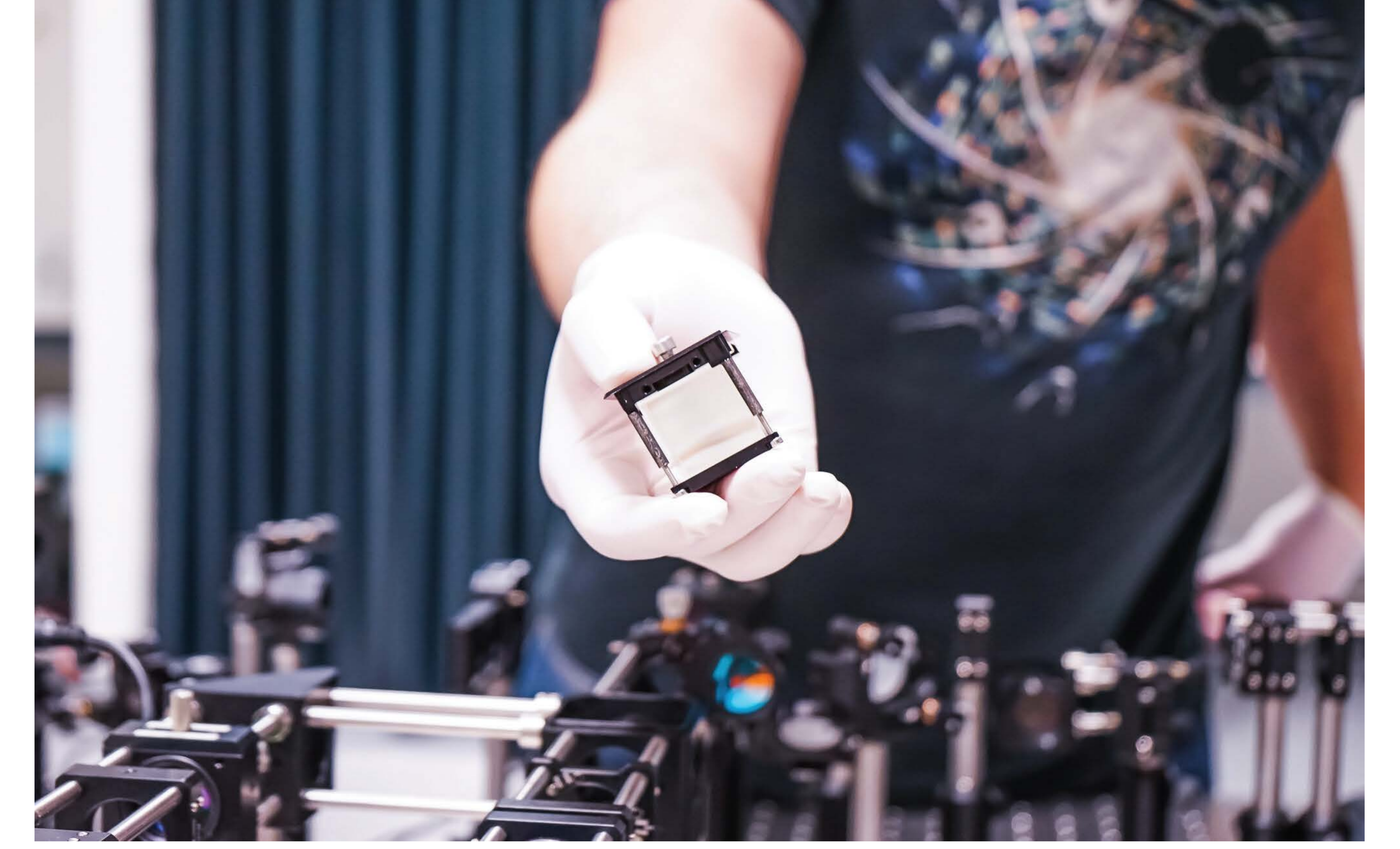
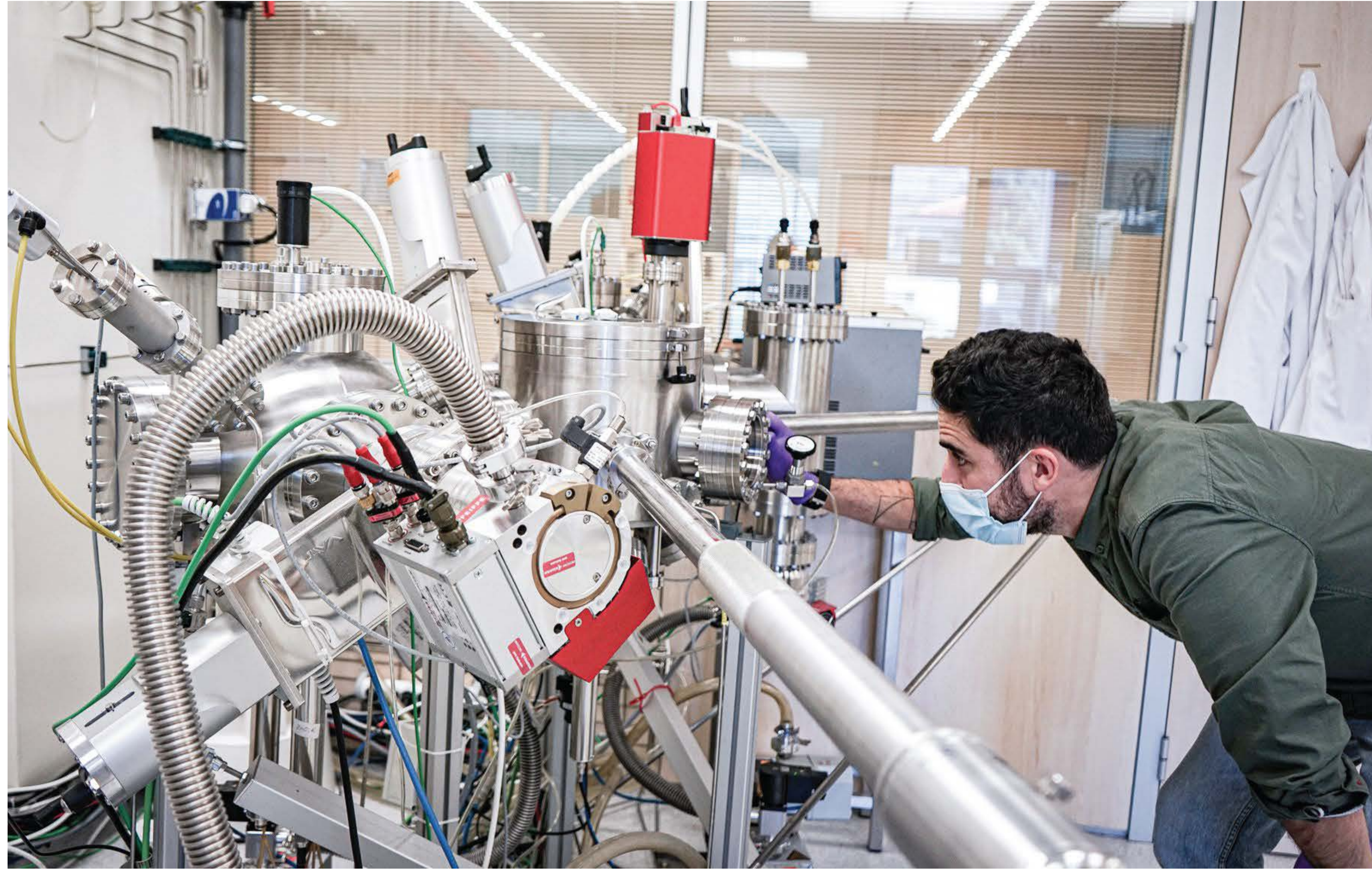
+ Features

- Continuous media perfusion
- Time-resolved sampling
- Integrated sensors (e.g. TEER, SERS)
- Direct on-chip microscopy imaging

+ Suggested applications

- Drug screening & toxicology
- Disease modelling (cancer, metastasis, inflammation)
- Personalised medicine
- Fundamental cell, tissue, disease, and developmental studies

TRL
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YOUR WORLDWIDE PARTNER FOR SCIENCE & INNOVATION



Shaping the future together in Clean Energy, Food, Health, Smart Digital NanoSystems, Sustainable Environment and Advanced Materials & Computing.

01 SCIENCE

Discover our areas of research and expertise, where we dive into nanoscience and intermix various disciplines to transform it into nanotechnology.

02 TECHNOLOGY

By nourishing on our multiple disciplines in house and with partners, we develop and deploy solutions to the market.

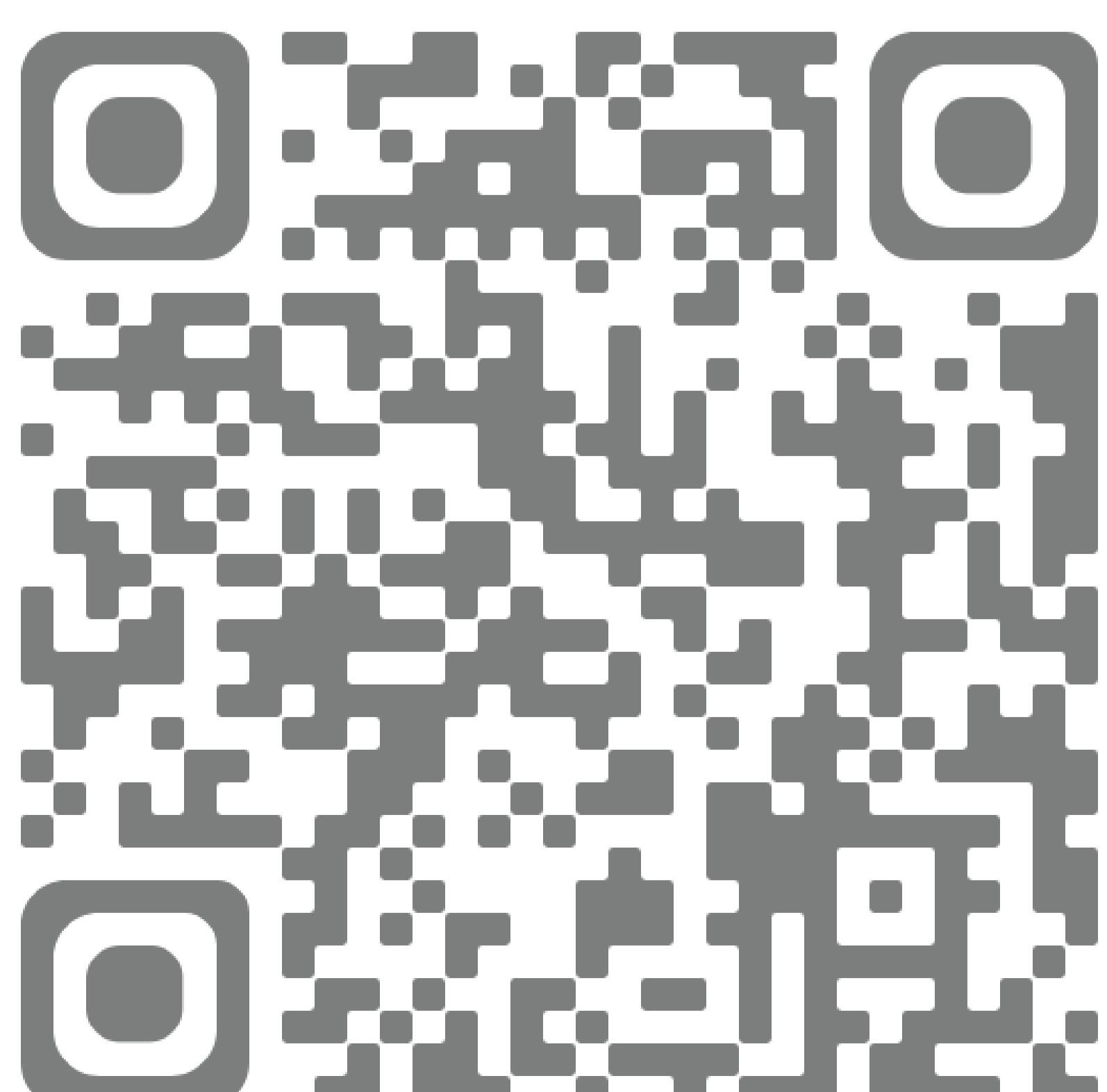
03 SERVICES

INL has state-of-the-art scientific equipment which can be used by internal and external stakeholders within the research, technology, and innovation fabric. You can access this open facility with expert support, either remotely or in-person, for full-service or for independent use after initial in-house training.

04 SOCIETY

INL is committed to disseminating to all audiences the nanotechnology concepts, to bring society closer to our scientific developments. Visit our website and explore our activities and events.

For more information:



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