

The current period poses immense challenges for the society, particularly in the fields of health, energy, access to water and environment. Innovation in these strategic areas require major technological and scientific advances. Our fields of study, i.e. milli- micro- and nanofluidics, complex fluids under flow, soft matter and flow chemistry, are at the center of scientific progress to overcome these challenges.

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## MICROFLUIDICS ENABLE MANIPULATION OF SMALL VOLUME OF FLUIDS USING NEW TECHNOLOGIES

**The IPGG Microfluidique Carnot Institute supports companies in their R&D projects to offer them a competitive edge by developing new fluidic solutions.**

The IPGG Microfluidique Carnot Institute brings together 24 academic teams with complementary expertise in physics, chemistry and biology. This collection of talents and expertise allow us to offer a wide range of scientific skills. Our Institute is particularly active in these topics:

- single cells technologies
- Lab-On-a-Chip (LOC)
- Organ-On-a-Chip (OOC)
- evolutionary biology and chemistry, origin of life
- flow chemistry
- ion based energy harvesting and storage
- environment and water purification
- microorganisms for health and environment
- e-skin, soft and flexible electronics
- new class of polymers such as vitrimers

The Carnot aimed at leveraging the industry's competitiveness.

**Handling at a micrometric scale allows for faster work, at lower costs, in a cleaner and safer environment.**

Microfluidics enables companies to reduce their costs, manufacturing time and environmental impact. The Carnot IPGG Microfluidique laboratories are involved in many industrial applications.

### Target markets

- Pharmaceutical industry
- Chemicals
- Diagnostics
- Environment
- Energy
- Luxury goods

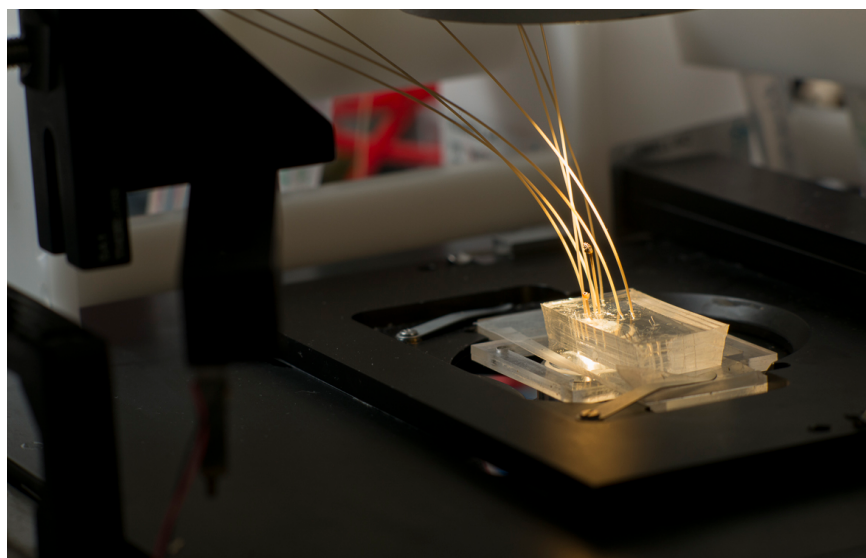


## High-tech equipment in the service of companies

The Carnot Institute provides four technological platforms for companies:

- a microfabrication platform designed to enable users to fabricate microfluidic chips from design to manufacture and characterization in the least time possible
- a flow chemistry platform composed of reactors with various and innovative activation modes (plasma, electrochemistry, photochemistry, microwave, ball mill...)
- an proteomics platform fully equipped with mass spectrometers
- a platform for the characterisation of mechanical and rheological properties

Partners benefit from support and skills of technical and research staff on each platform.



## Key figures

Permanent staff  
(full-time equivalent): 219  
PhD Students: 155

Partnership incomes  
with industry: €4,4M  
Global budget: €29,9M

## Contacts

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