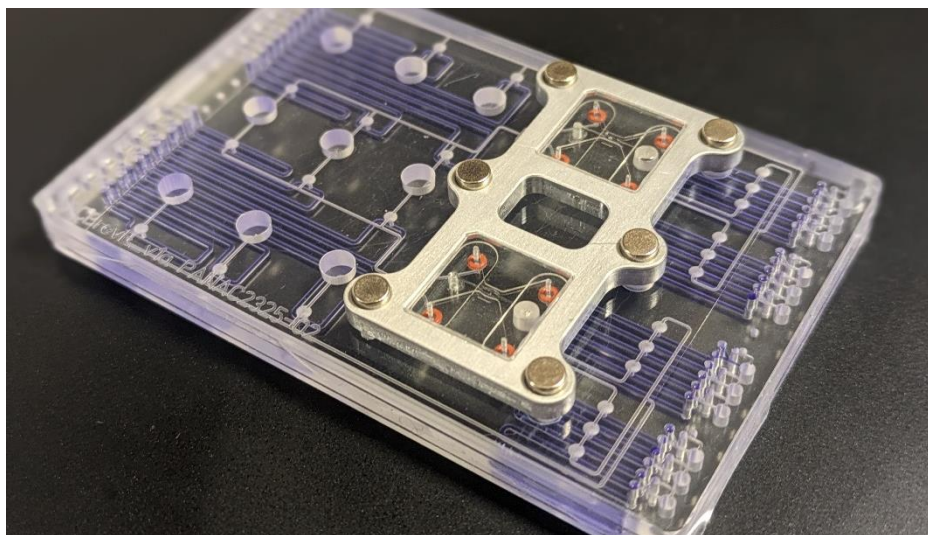


MICROFLUIDIQUE / ORGANE-SUR PUCE

Stage Ingénieur Système Microfluidique pour la Culture Cellulaire Automatisée



Les organes sur puce (OoC) représentent une avancée majeure en biologie et médecine, permettant de reproduire des environnements physiologiques complexes in vitro. Ces dispositifs microfluidiques innovants offrent des perspectives prometteuses pour la recherche et le développement de traitements médicaux, notamment en procréation médicalement assistée (PMA).

Les techniques de PMA, comme la fécondation in vitro (FIV), nécessitent des manipulations précises des cellules et sont coûteuses et complexes. Elles requièrent du matériel de pointe et une main-d'œuvre qualifiée. L'automatisation peut réduire les erreurs humaines, assurer des conditions constantes et minimiser le stress sur les cellules, augmentant ainsi les taux de réussite.

Dans ce contexte, le Département des Technologies pour l'Innovation en Santé (DTIS) au CEA-LETI à Grenoble propose un stage en microfluidique qui aura pour objectif de développer un nouveau système de culture automatisée de cellules basé sur une boucle de recirculation.

Vos activités incluront :

- La conception de dispositifs microfluidiques à l'aide de logiciels de CAO
- La mise en place d'un environnement de test
- L'utilisation d'un logiciel de pilotage avec des scripts Python
- L'expérimentation microfluidique afin de caractériser les dispositifs microfluidiques
- L'analyse et l'interprétation des résultats

Microfluidique
Ingénierie
Organ-on-Chip
PMA

Profil recherché

- ▶ **Ingénieur ou Master 2** en ingénierie (**physique**, chimie, génie mécanique, ou équivalent)
- ▶ Une expérience antérieure en **microfluidique** est préférable
- ▶ Goût prononcé pour l'expérimentation, **rigueur, sens de l'observation et autonomie**,
- ▶ Le poste nécessite une **ouverture d'esprit, de la curiosité et de la créativité, une mentalité pratique et un esprit d'équipe**.



Durée : 6 mois
Début : Début 2026
Lieu : CEA-Leti
Grenoble (38)



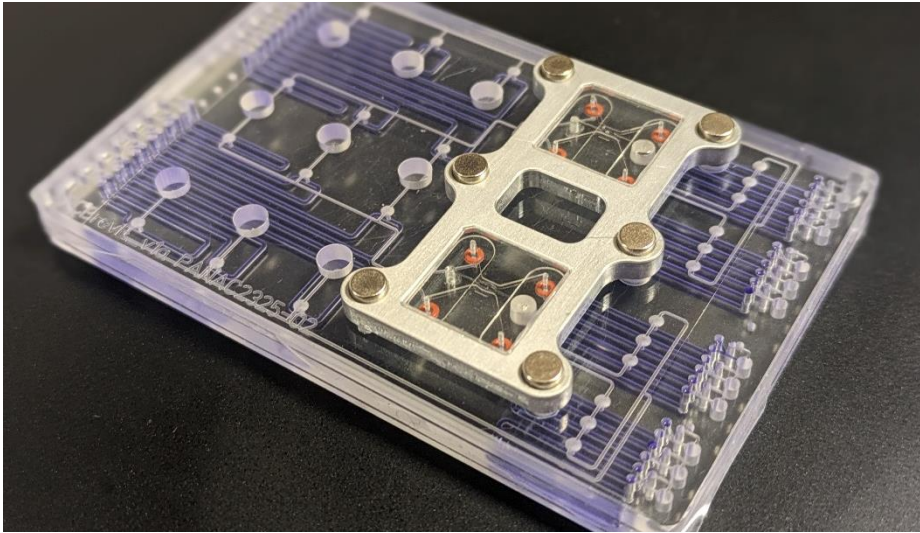
Pour candidater, contactez :

Ayse SEPETCI

Remco DEN DULK

MICROFLUIDIC / ORGAN-ON-CHIP

Internship in Microfluidic System Engineering for Automated Cell Culture



Organ-on-a-chip (OoC) technologies represent a major advancement in biology and medicine, enabling the reproduction of complex physiological environments *in vitro*. These innovative microfluidic devices offer promising prospects for research and the development of medical treatments, particularly in the field of assisted reproductive technology (ART).

ART techniques, such as *in vitro* fertilization (IVF), require precise cell manipulations and are costly and complex. They demand cutting-edge equipment and skilled labor. Automation can reduce human errors, ensure constant conditions, and minimize stress on cells, thereby increasing success rates.

In this context, the Department of Health Innovation Technologies (DTIS) at CEA-LETI in Grenoble offers an internship in microfluidics aimed at developing a new automated cell culture system based on a recirculation loop.

Your activities will include:

- Design of microfluidic devices using CAD software
- Setting up a test environment
- Using control software with Python scripts for automated fluid driving
- Microfluidic experimentation to characterize the microfluidic devices
- Analysis and interpretation of results

Microfluidics
Engineering
Organ-on-Chip
ART

Required profile

- ▶ **Engineer or Master's Degree in Engineering** (Physics, Chemistry, Mechanical Engineering, or equivalent)
- ▶ **Previous experience in microfluidics** is preferable
- ▶ Strong inclination for **experimentation, rigor, keen observation skills, and autonomy**
- ▶ The position requires **an open mindset, curiosity, creativity, a hands-on mentality, and a team-player attitude.**



Contract Period: 6 months
Start date: Beginning of 2026
Workplace: CEA-Leti
Grenoble - FRANCE



To apply, please contact:

Ayse SEPETCI

Remco DEN DULK



About CEA-Leti

Committed to innovation, CEA-Leti creates differentiating solutions for its industrial partners

CEA-Leti is a recognized global leader in miniaturization technologies. CEA-Leti's teams are focused on developing solutions that will enable future information and communication technologies, health and wellness approaches, clean and safe energy production and recovery, sustainable transport, space exploration and cybersecurity.

For more than 50 years, the institute has built long-term relationships with its industrial partners, tailoring innovative and differentiating solutions to their needs.

Its entrepreneurship programs have sparked the creation of 75 startups. CEA-Leti and its industrial partners work together through bilateral projects, joint laboratories and collaborative research programs.

CEA-Leti maintains an excellent scientific level by working with the best research teams worldwide, establishing partnerships with major research technology organizations and academic institutions. CEA-Leti is also a member of the Carnot Institutes network—a French network of 39 institutes serving innovation in industry.

Join CEA-Leti and benefit from:

- Resources to address major societal challenges
- Multidisciplinary networks to conduct your research
- World-class technological platforms
- An international scientific, high-skills environment
- The strength of a major public research organization



A global presence with offices in France, San Francisco, Brussels and Tokyo

€350

million annual operating budget

1,900

research engineers



3,200

patents in portfolio

600+

publications per years

11,000

square meters of cleanrooms



75+

startups created

ISO 9001

certified since 2000



A great place to study

The 2021 Shanghai Academic Ranking of World Universities named Grenoble-Alpes University **#1** in France for:

- Nanoscience & Nanotechnology
- Metallurgical Engineering
- Water Resources Engineering
- Geography
- Hospitality and tourism management

The university's student population of 59,000 stands out for its diversity and excellence:

- 42% pursuing degrees in a scientific field
- 3,000 PhD students
- 1 in 6 students is a foreigner
- 150 different nationalities

Source: Invest in Grenoble Alpes, Grenoble-Alpes University



Grenoble: 5th most inventive city in the world (*Forbes* magazine)

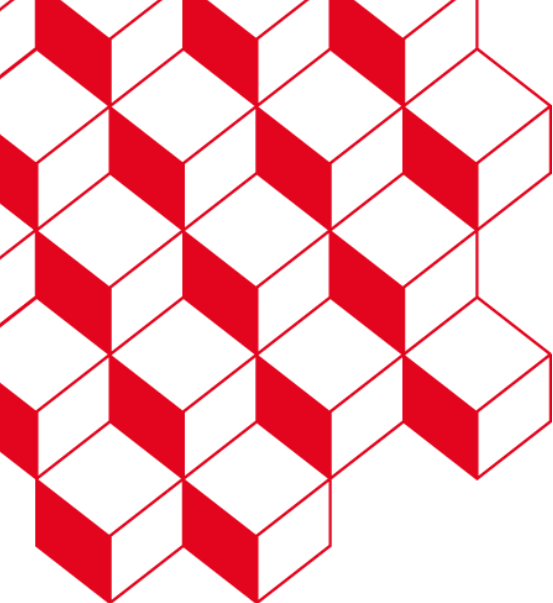
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Grenoble Alpes is ranked #1 in France for its concentration of R&D jobs



25

ski resorts close to the city



Contacts

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Interested in other areas of research?

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