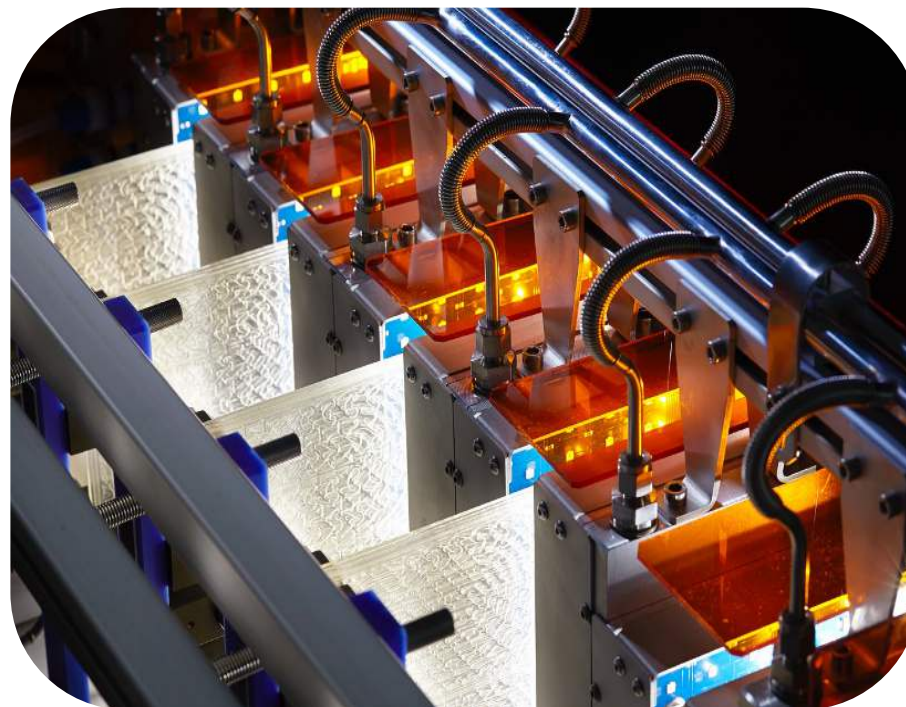




PARIS FLOW TECH



**YOUR BEST PARTNER IN
CONTINUOUS FLOW CHEMISTRY**

**PARIS FLOW TECH IS THE LEADING FRENCH TECHNOLOGY
PLATFORM IN CONTINUOUS FLOW CHEMISTRY**

1ST APPLICATION QUALIFIED LAB (AQL) IN FRANCE



FLOW CHEMISTRY: A REVOLUTION IN THE CHEMICAL INDUSTRY

SAFER REACTIONS

Increased safety for hazardous reactions (exothermic, gas formation)

INCREASED PRODUCT QUALITY

Better control over the reaction conditions

COSTS

Reduced maintenance costs and less waste products

MINIMIZED FLOOR AREA IN PRODUCTION PLANTS

Smaller volume of reactor necessary compared to batch

INTEGRATED SYNTHESIS

Allow for continuous work up and purification

OUR EXPERTISE IN FLOW CHEMISTRY

WE SUPPORT YOU AT ALL LEVEL IN THE DEVELOPMENT OF YOUR FLOW CHEMISTRY

PROOF OF CONCEPT (POC)

Transposition batch to flow
Innovative chemical activation (electro-, photo-, plasma chemistry)
Optimization of reactions on Corning reactors

SCALE UP

Up to several 100g per day on the platform
CORNING Advanced-Flow systems allow for production up to tons/year



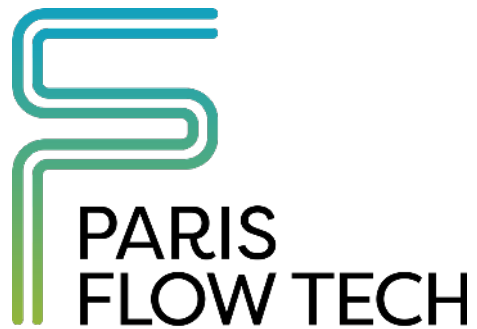
ONLINE ANALYSIS & ANALYTICAL TOOLS

In line GC analysis
Fully dedicated analytic park: GC-MS, LC-MS, NMR, Spectroscopy

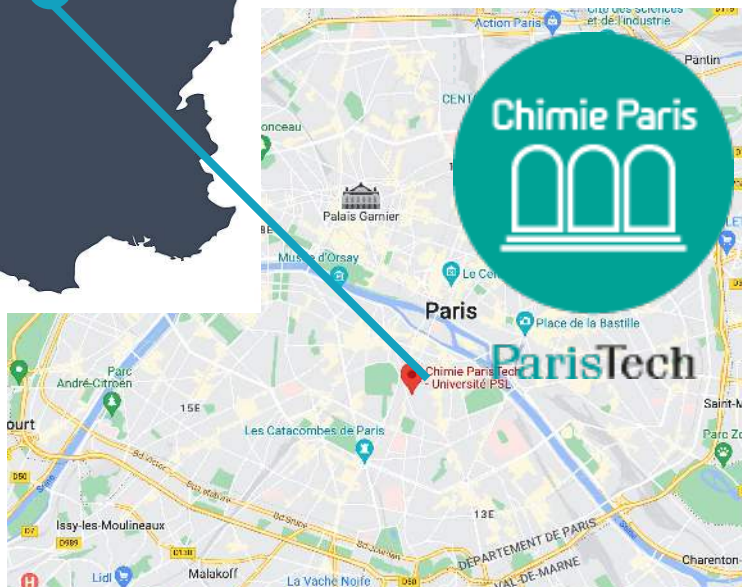
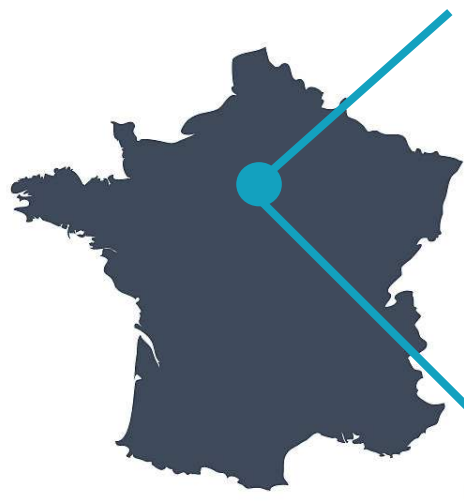
AUTOMATED SYSTEMS

Innovative technology for screening (microlab)
Home-made reactors

LOCATION PARIS, FRANCE

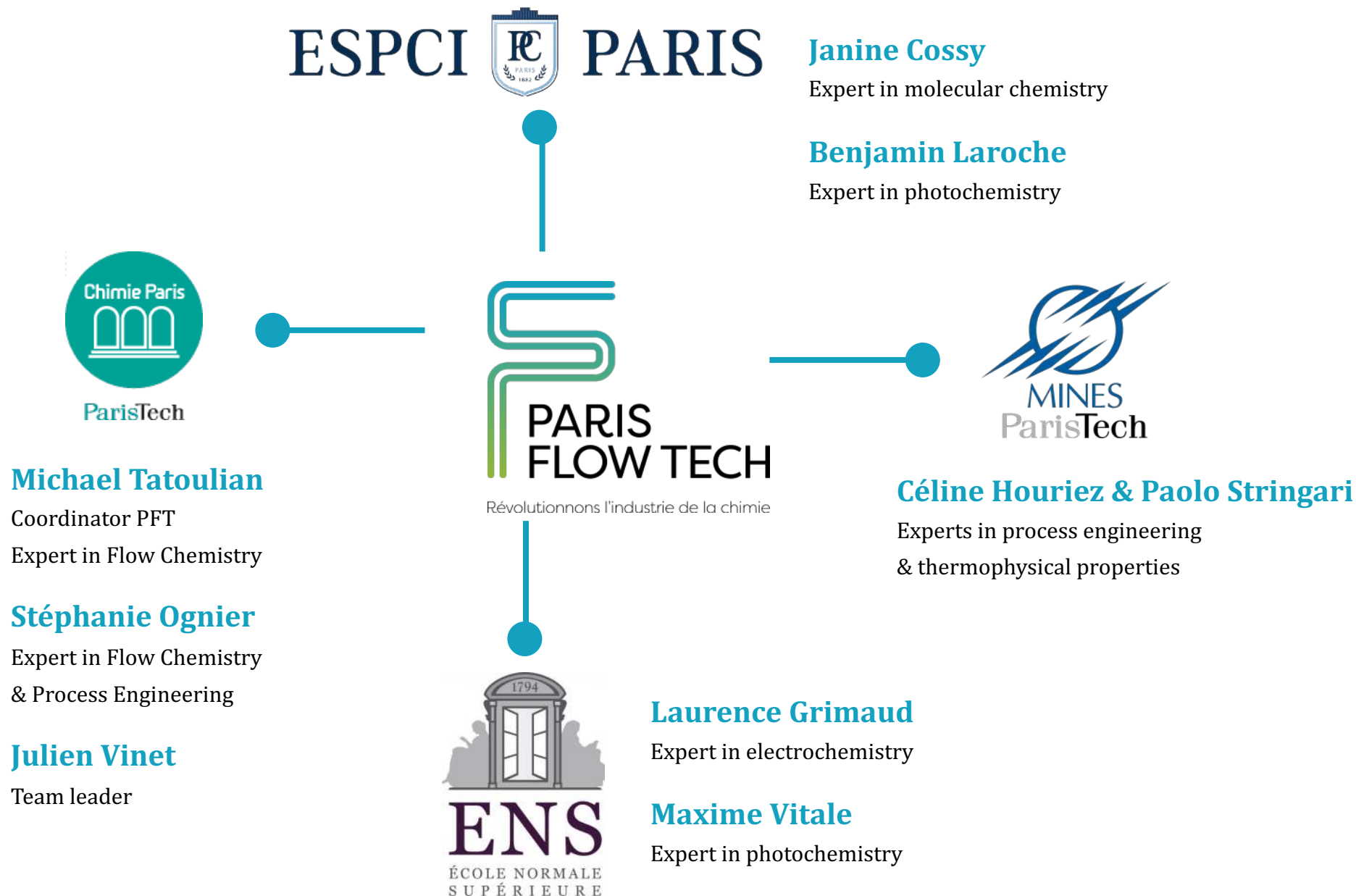


Révolutionnons l'industrie de la chimie

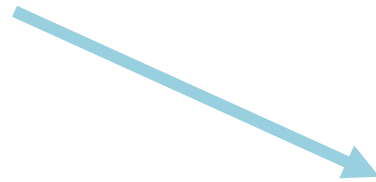
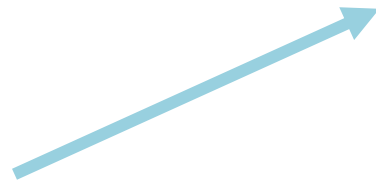


OUR EXPERTISE IN FLOW CHEMISTRY

A CONSORTIUM OF EXPERTS TO SUPPORT YOUR PROJECT



AVAILABLE TECHNOLOGIES ON THE PLATFORM



AVAILABLE TECHNOLOGIES

FOR REACTION TESTING AND OPTIMISATION



- 10 PLATES / 2 SKID
- -30°C TO 200°C
- POC ON RAPID REACTIONS WITH SHORT RESIDENCE TIMES (<MIN)

- 1 PLATES G1
- INTRODUCTION TO CORNING TECHNOLOGY FOR INDUSTRY AND STUDENT



- 8 PLATES / 2 SKID
- -30°C TO 200°C
- POC ON RAPID REACTIONS WITH RESIDENCE TIMES OF FEW MINS
- OPTIMIZED PRODUCTION : 100G / HOUR
- PHOTOCHEMICAL MODULE (8 X 20 LEDS $\lambda=365, 385, 405, 470, 610, 4000K$)



- 2 PLATES
- -30°C TO 200°C
- TESTING ON LARGER CHANNELS IF NECESSARY
- FIRST SCALE UP FOR OPTIMIZED REACTION : KG / HOUR

OUR TECHNOLOGIES ARE SCALABLE

INDUSTRIAL FLOW REACTORS AVAILABLE AT CORNING

SCALING



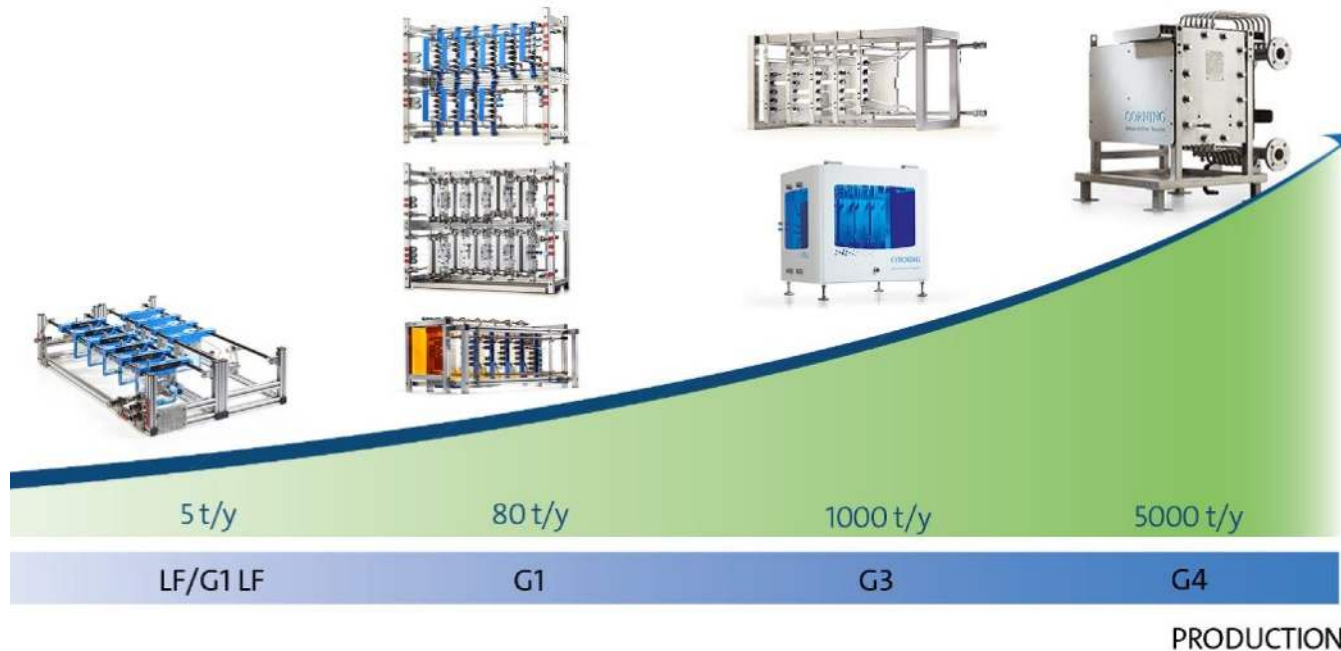
CORNING | Advanced-Flow™ Reactors

A FEW GRAMS

MULTI G – KG / DAY

MULTI KG / DAY

INDUSTRIAL QUANTITY



AVAILABLE TECHNOLOGIES

FOR PRESSURE & HEAT REACTIONS



PHOENIX

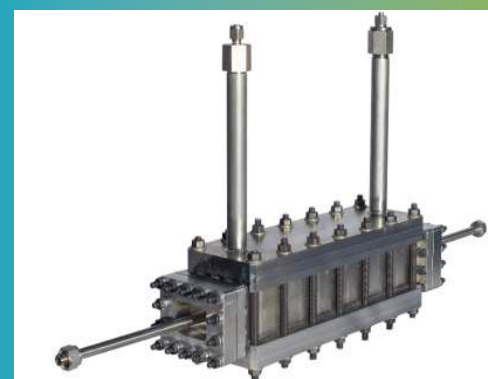


- LIQ OR GAS REACTIONS
- HIGH PRESSURE (100 bars)
- HIGH TEMPERATURE (350°C)
- GAS FLOW: up to 50 ml/min

SCALE UP



KHIMOD K1



- LIQ OR GAS REACTIONS
- HIGH PRESSURE (100 bars)
- HIGH TEMPERATURE (350°C)
- VOLUME: 100 mL
- FLOW: 10 L/min

AVAILABLE TECHNOLOGIES ON THE PLATFORM



COMMERCIAL REACTORS

HOME-MADE REACTORS

AVAILABLE TECHNOLOGIES

A UNIQUE ALL-IN-ONE MICROFLUIDIC PLATFORM AT IPGG

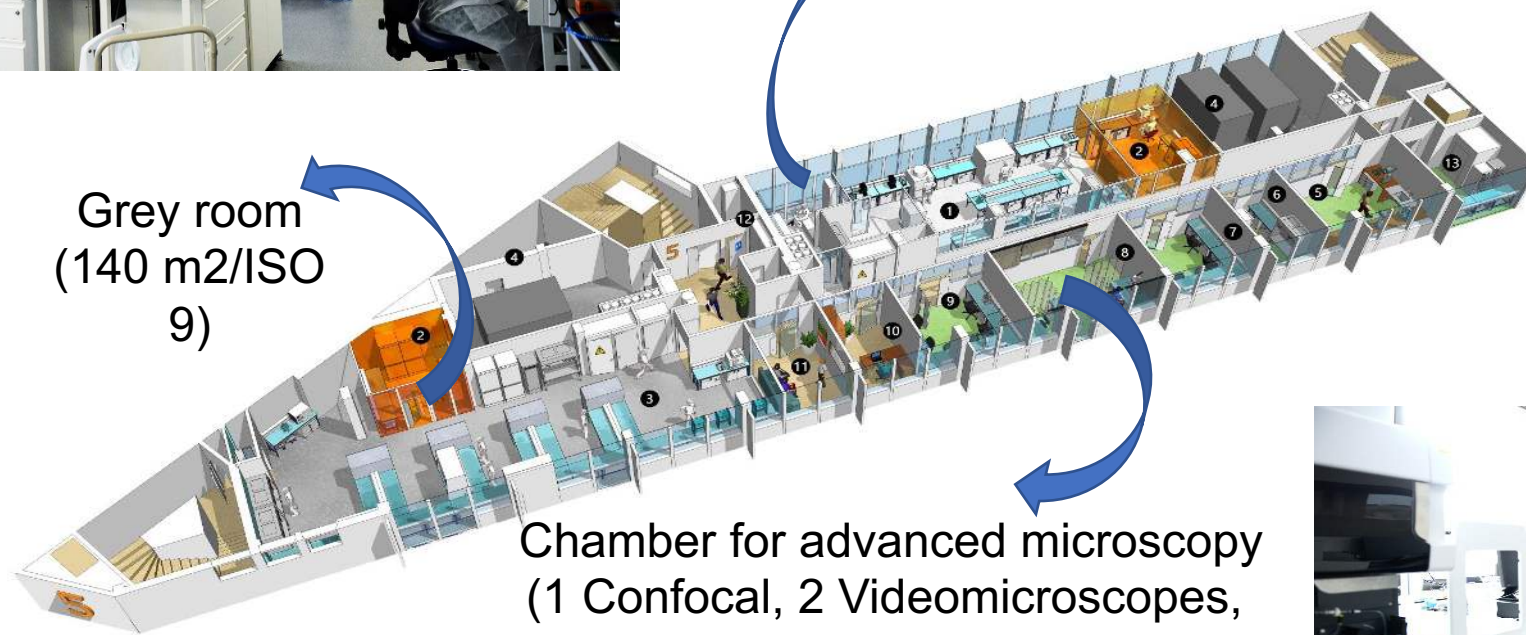
HOME-MADE REACTORS – MICROFLUIDIC SYSTEMS



- 8 ENGINEERS
- AREA: 550 M2
- LITHOGRAPHY
- MICROSCOPY
- BIOLOGY LAB

Grey room
(140 m²/ISO
9)

Clean room (110 m²)



Chamber for advanced microscopy
(1 Confocal, 2 Videomicroscopes,
1 Spinning-disk)



AVAILABLE TECHNOLOGIES

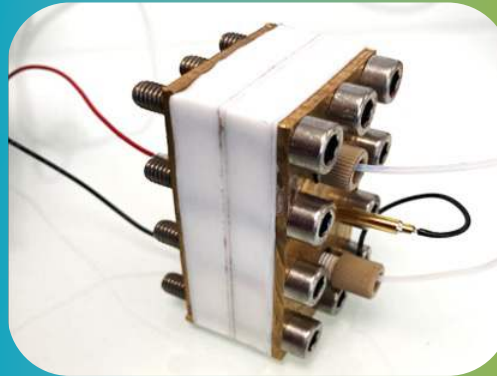
HOME-MADE REACTORS – PHOTO, ELECTRO- AND PLASMA CHEMISTRY

PHOTOCHEMISTRY



System versatility:
wavelength, light intensity,
different electrodes

ELECTROCHEMISTRY

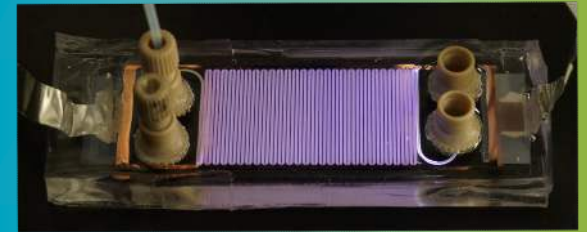


Adaptability to different
reactor size/shape



Energy and cost saving

PLASMA CHEMISTRY



Plasma chemistry: catalyst-
free, enable new reactions

AVAILABLE TECHNOLOGIES ON THE PLATFORM

HOME-MADE REACTORS - MICROLAB



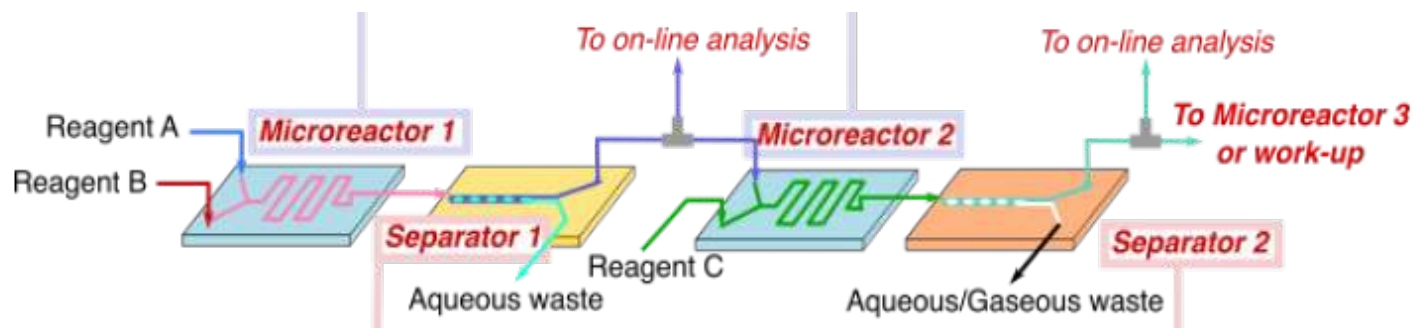
Automated pumping
system

Home-made reactors

Analytical park
fully dedicated

I.A.

MICROLAB (PATENTED TECHNOLOGY) IS A LAB-ON-CHIP THAT ALLOWS FOR FLOW SEQUENTIAL SYNTHESIS



- GC / GC-MS
- MICRO GC
- LC / LC-MS
- UV / IR
- NMR 400 & 500 MHZ
- ONLINE ANALYSIS...
- PREDICTION OF RESULTS, PROCESS OPTIMISATION

AN OFFER ADAPTED TO INDUSTRIALISTS

- The presence of dedicated staff makes it easy to adapt to your needs



THE TEAM & CONTACTS

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Coordinator

Mariane Ighilahriz

Corporate Relations

Maxime Vitale

Expert in photochemistry

Stéphanie Ognier

Expert in Flow Chemistry
& Process Engineering

Janine Cossy

Expert in molecular chemistry

Benjamin Laroche

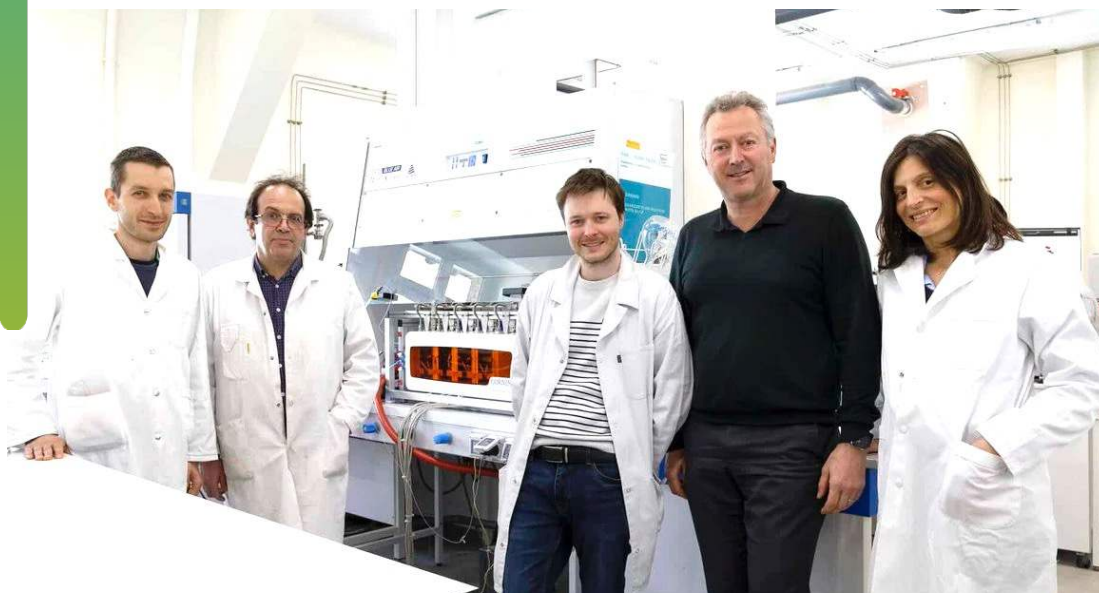
Expert in photochemistry

Laurence Grimaud

Expert en electrochemistry

Paolo Stringari

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