



**SENAI**

*Innovation Institute  
for Green Chemistry*

**INSTITUTO SENAI**  
DE INOVAÇÃO QUÍMICA VERDE

## ***SENAI Innovation Institute for Green Chemistry***

Our mission is to contribute to the strengthening of the Brazilian industry, through the greening of its value chain, based on the principles of green chemistry through the exchange of experiences, research, development and innovation (RD&I).

## *Nationalwide Network Of SENAI Innovation Institutes,*

specialized in 25 different research areas, contributes to the development of new industrial products and processes.

**SENAI**  
**Innovation Institutes**





# Main Industrial Sectors



***Energy • Pharmaceutical and Cosmetic Industry • Petrochemistry •  
Construction • Biofuel • Chemistry • Food and Beverage Industry***

## Outstanding lab structure for the development of projects in RD&I

### **Chromatography**

#### **HPLC**

DAD  
Fluorescence  
Refractive index  
Ion exchange

#### **UPLC**

Mass spectroscopy (triple quadrupole)  
DAD

#### **Supercritical CO2**

FID  
DAD

#### **GC**

Mass spectroscopy  
FID  
NPD

### **Physico-Chemical Analysis**

Titrimetric  
Potentiometric  
TOC  
Refractive index

### **Inorganic Analysis**

Elemental analyzer  
for Carbon, Nitrogen,  
Oxygen and Sulfur  
ICP-OES  
ICP-MS

### **Spectrometry Analysis (UV/Vis/IR)**

### **Photobioreactors**

#### **Fermenter**

#### **Extraction with supercritical CO2**

#### **High pressure reactors**

### **Molecular Biology**

Quantitative PCR  
DNA Sequencer



# Technological Basis

- Green Analytical Chemistry
- Treatment and reuse of wastewater
- Development of new added-value products from waste and other materials
- New technological routes for extraction
- Greening the oil and petrochemical value chain
- Green Nanotechnology application
- Biotechnology

## Expectations for the GEF-UNIDO project

- **Contribute to improve Green Chemistry in Brazil**
  - **Education**
    - Awareness-raising on GC
    - Specialists training on GC
  - **Industry**
    - Contribution to overcome technical and economic challenges of GC

# SIIGC Perspectives

- **Industry**

- Global grants for the development of GC projects for the Brazilian industry

- **Science**

- Development of new processes and products based on GC concept

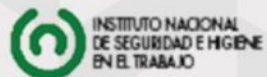


# Partnerships

**INSTITUTO SENAI**  
DE INOVAÇÃO QUÍMICA VERDE



Massachusetts Institute of Technology



instituto de química  
Universidade Federal do Rio de Janeiro



Agroindústria de Alimentos  
Ministério da Agricultura, Pecuária e Abastecimento



## Centro de Pesquisa Nacional:



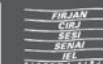
## Centros de Pesquisas Internacionais:



## Universidade:



Sistema  
**FIRJAN**



INFORMA, FORMA, TRANSFORMA.

# Our team

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CURJ  
SESI  
SENAI  
DEL

INFORMA, FORMA, TRANSFORMA.

*Thank you!*