

#Polymers  
#AgriculturalResources  
#Surfaces

# PBS

« Polymères, biopolymères,  
surfaces »

[pbs.univ-rouen.fr](http://pbs.univ-rouen.fr)

RESEARCH  
laboratory



Staff over  
**80**

Founded in  
**1974**

**60**  
publications  
per year

The PBS laboratory is a joint research unit (UMR 6270) recognized and backed by both the CNRS, the University of Rouen Normandie, and the INSA Rouen Normandie. This laboratory is integrated into the Doctoral School of chemistry and into the Norman Interest Network in biomedicine and chemistry.

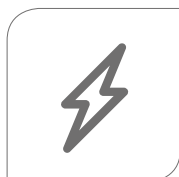
## Research fields

- ✓ High performance Polymers
- ✓ Polymers from agricultural resources
- ✓ Adaptive and/or smart polymers

## Application areas



Health



Energy



Agri-food



Cosmetics

# Know-how and expertise

## ✓ High performance Polymers

Researches of high performance polymers, suitable for extreme environmental conditions and exhibiting some specific properties. Development of strategies of macromolecular chemistry, coupled or not with physical, physico-chemical and biological approaches.

## ✓ Polymers from agricultural resources

Plastics are part of the every day world and they are used in different industrial sectors. The depletion of oil resources worldwide and ecological considerations offer real opportunities for bioplastics. PBS explore new for the synthesis routes for polymers from agricultural resources.

## ✓ Adaptive polymers

The adaptive polymers [also named smart polymers] have to possess some properties necessary to the targeted application, and surface appropriate properties for interaction with the environment they are in. To modulate the cellular proliferation, i.e. inhibit, favor or orientate it, to vector, are important challenges for the pharmaceutical and cosmetic industries, which PBS aims to take up.

## 🤝 A wide range of collaborations

PBS collaborates with several companies and countries all over the world: Arkema, Bayer, Carmat, EDF, L'Oréal... // England, Canada, Spain, United States, Greece, Ireland, Italy, Maghreb, Poland, Ukraine...

## Facilities

### State-of-the-Art equipment

Total carbon and nitrogen analyzer ; dynamic mechanical analysis (DMA) ; thermogravimetric analysis (TGA) ; laser particle analyzer with zeta-potential module ; size exclusion chromatography (SEC) and Flow Field Fractionation (F4) coupled to multiangle laser scattering (MALLS) ; ellipsometer with waveguide modes ; fluorescence spectroscopy ; surface plasmon spectroscopy (SPS) with contact angle module ; plastics processing : extruders, blow molders, mixer for nanofillers, granulator, injection machine, presses ; mechanical testing devices ; quartz crystal microbalances for sorption measurements ; atomic force (AFM)

and Brewster angle (BAM) microscopies ; water and gas permeameters ; rheometers ; viscosimeters ; triple detection gel permeation chromatography (GPC) ; modulated differential scanning calorimetry (MDSC).

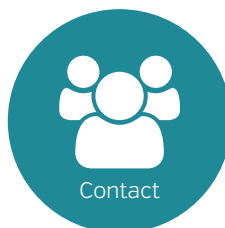
### PISSARO, a national facility for proteomics

It is one of the 5 best national facilities in France, certified ISO. Its activities are in particular focused and the research on new biomarkers and new therapeutical targets.

## Keep in mind

INSA Rouen Normandie is the first public engineering technical university of Normandy. The 10 different engineer education tracks, the 7 masters in research and the 2 masters in applied sciences are deeply connected to its 8 research laboratories.

**INSA Rouen Normandie provides two education tracks directly connected to the PBS lab: engineer in fine chemicals, master in chemistry.**



Contact

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