

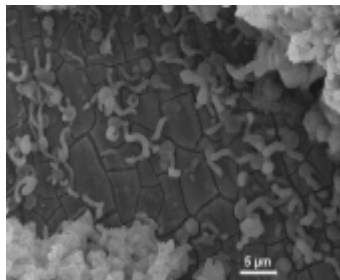


KEY TECHNOLOGIES

Biodegradation of Materials

Key words: *corrosion, biofilms*

Some bacteria settle on the surface of materials, hence speeding up their degradation. Called biodegradation, the phenomenon has been studied for several years. The studies of biodegradation have been useful in understanding the mechanisms of fast destruction and in preventing it when possible. The component materials may be metallic or cement. These studies are conducted on materials that are immersed in water.



Biofilm

HUMAN POTENTIAL

► Biocorrosion is an emerging discipline where experts (researchers or technicians) able to address simultaneously the physicochemical and biological aspects of biodegradation must be available at the same site. Few teams of this kind exist in Europe. The symbiosis between both disciplines can be found at the CRITT (*Centre Régional d'Innovation et de Transfert de Technologie*, regional centre for innovation and technology transfer). Several laboratories can also provide their expertise:

. **LUSAC** (*Laboratoire Universitaire des Sciences Appliquées de Cherbourg*, the Cherbourg university laboratory of applied science) www.eic.unicaen.fr/lusac

. *Laboratoire de microbiologie de l'environnement*, the laboratory of environmental microbiology www.unicaen.fr/unicaen/index.html

. *Laboratoire de microbiologie alimentaire*, the laboratory of food microbiology www.unicaen.fr/unicaen/index.html

. *Laboratoire de recherche en zétamétrie*, the laboratory of zetametrics research

www.bureau.pharmacie.unicaen.fr/deprat/labzeta.htm

. **LCS** (*Laboratoire de Catalyse et de Spectrochimie*, the laboratory of Catalysis and Spectrochemistry) www.unicaen.fr/unicaen/index.html

METHODS, SKILLS, AND EXPERTISE

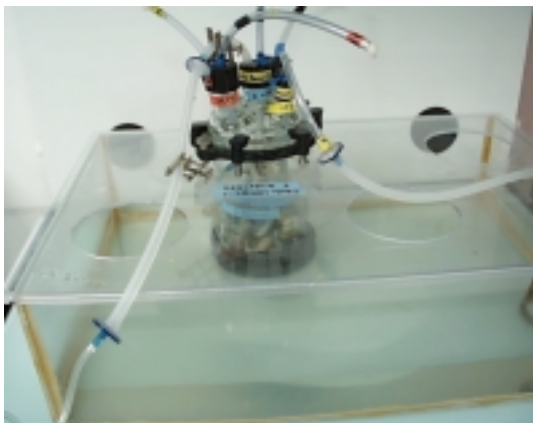
The research consists in characterising the bacteria to blame for the observed degradation at the site, duplicate the reported phenomena in the lab, and suggest countermeasures to slow degradation speed.

SPECIAL EQUIPMENTS

The biocorrosion laboratory equipped with:

- . High impedance voltmeter
- . Laminar flow exhaust hoods
- . H₂S hood
- . Epifluorescence + imaging optical microscope
- . Instrumented stereoscopic microscope
- . Autoclave





Réactor

SUPPORT TO BUSINESS SET-UP PROJECTS IN BASSE NORMANDIE

The Basse Normandie Region has rolled out all its resources to support business projects in the following areas:

- ▶ General funding
- ▶ Business project support
- ▶ Training programs
- ▶ Corporate user services at operations site
- ▶ Technology transfer to companies: www.gravir.org and www.crittbn.com

CONTACTS

For general scientific and technical information

■ **M. Dominique KERVADEC**
Ecole d'Ingénieurs de Cherbourg
 Site Universitaire
 Rue Louis Aragon - BP 78
 50130 CHERBOURG-OCTEVILLE FRANCE

Phone: **33 (0)2 33 01 42 06**
 Fax: 33 (0)2 33 01 42 01
 email: dkervadec.eic@chgb.unicaen.fr

■ **Mme Isabelle DUPONT**
CRITT BNC - BP 6
 50130 OCTEVILLE FRANCE

Phone : **33 (0)2 33 01 40 50**
 Fax: 33 (0)2 33 01 40 59
 email : dupont@crittbn.com

For economic or industrial information

■ **Normandie Développement**
 57 Avenue de Bretagne - BP 1083
 76173 ROUEN CEDEX FRANCE 1

Phone : **33 (0)2 35 03 06 04**
 Fax: 33 (0)2 35 03 07 86
 email : ndrouen@normandydev.com

For further information:

Browse our website to find out all about the many opportunities in Normandy, at www.normandydev.com or send an email to ndcaen@normandydev.com or ndrouen@normandydev.com

