“The role of the infinitely small is infinitely large”

Louis Pasteur
Microbiological resources for sustainable bio-economy

Application in health care, agriculture, food, feed, environment and industry
Huge micro-biodiversity with high biodiscovery potential

- 1.4 million living species
- 6000 Bacteria and Archaea
- Long evolution time of prokaryotes
- Huge plasticity and high sexual and asexual multiplication rate
- Less investigated environments
- 90% non cultivable
Socio-economic benefits through innovative products and services with improved environmental and economic efficiency:

- Health care
- Environment
- Agriculture, food, feed,
- Energy, biotech industry

To sustainable bio-economy

Increased access means
- increased eventual non-monetary benefit-sharing and
- increased possibility of monetary benefit-sharing (commercial success not guaranteed)

R & D in life sciences and biotechnology

Conservation of microbiodiversity = facilitated access to microbiological resources and related information

Open access to microbiodiversity

From microbiological diversity
Appropriate framework and tools to facilitate the road from microbiological resources to socio-economic benefit

To sustainable bio-economy

Exploitation

Global Unique Identifiers

Microbial commons

MOSAICC

Bundle of rights

R & D in life sciences and biotechnology

Conservation of biodiversity in culture collections = organised access to microbiological resources and related information

Research

MOSAICC

Regulated open access to microbiodiversity

Discovery

From microbiological diversity
MOSAICC is a voluntary Code of Conduct. It is developed to facilitate access to microbiological resources (MGRs) and to help partners to make appropriate agreements when transferring MGRs, in the framework of the CBD and other applicable rules of international and national laws.

Global Unique Identifiers (GUIDs) are unique persistent identifiers that complement the labelling of strains, genes or other data elements – including administrative info -, and allow incorporating them in a larger namespace that provides an extended unicity and interoperability to constitute a ID system.
**Bundle of rights**: legal concept for dynamic management of operational and collective choice rights that favours cooperative strategies

- **7. Alienation**
- **6. Exclusion**
- **5. Management/participation**
- **4. Withdrawal**
- **3. Extraction**
- **2. Contribution**
- **1. Access**

**Collective choices**

**Operational choices**

**Microbial commons** are reconstructed “commons” in microbial data, information, and materials to meet the growing need of life sciences for integration of biological information across geographical, legal and disciplinary boundaries to address complex global problems.
MOSAICC: see
http://bccm.belspo.be/projects/mosaicc/

Bundle of rights: read
http://bccm.belspo.be/newsletter/18-05/bccm03.htm

Microbial commons: check
http://www7.nationalacademies.org/usnc-codata/Microbial_Commons_Workshop_v3.pdf

Global Unique Identifiers & tracking: more info at
http://www.straininfo.net
http://www.wfcc.info
http://wdcm.nig.ac.jp/hpcc.html
Thank you