UNIVERSITEIT GENT

Aquaculture research activities at the Laboratory of Microbiology, Fac. Sciences: past & present

Geert HUYS and Paul DE VOS

www.lm.ugent.be

Opportunities for cooperation between ChinAquaNet and Ghent University
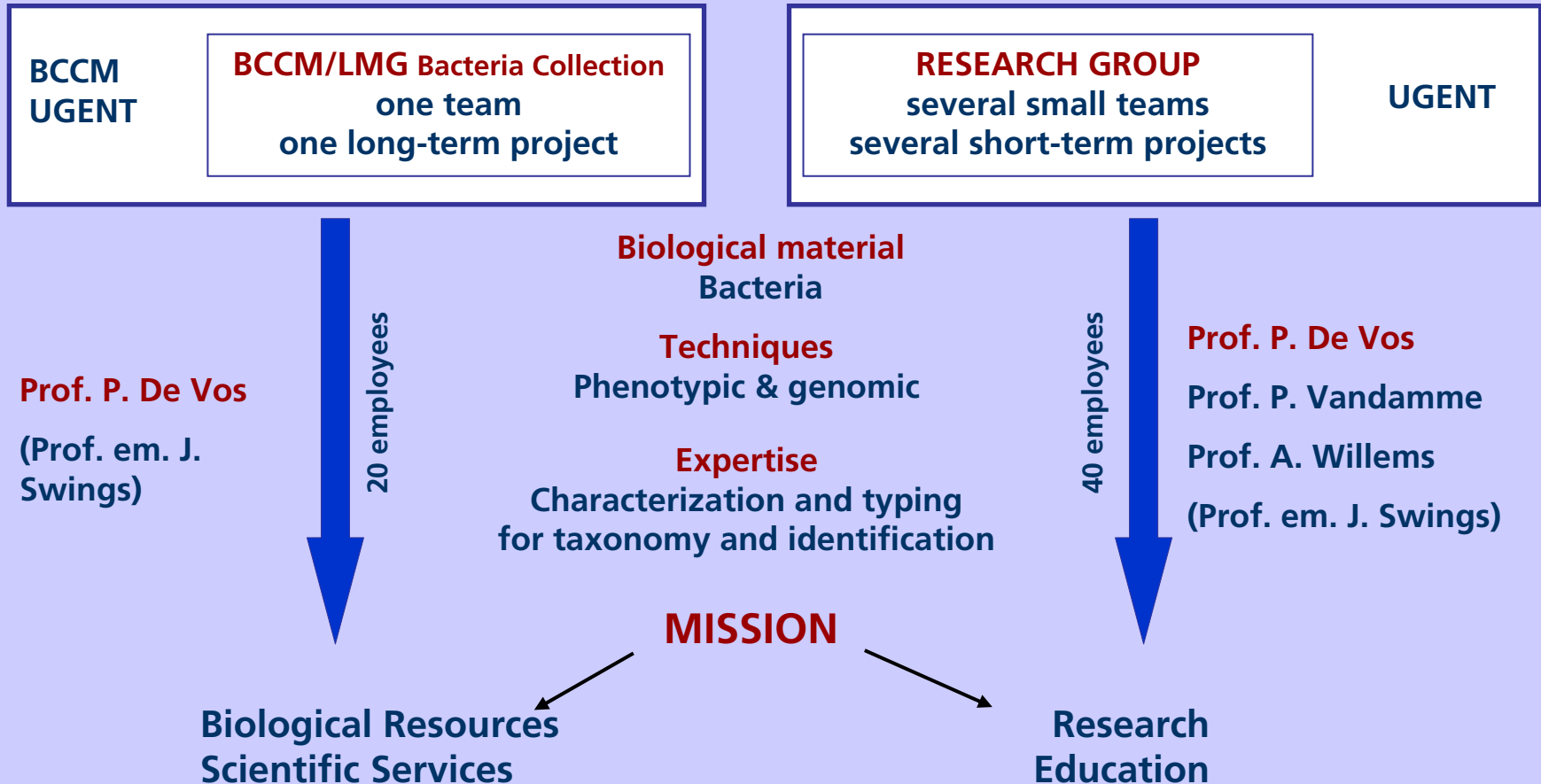
Ghent, August 31, 2007

http://lm.ugent.be

http://www.belspo.be/bccm

One laboratory ... 2 missions in a unique synergy

BCCM UGENT

BCCM/LMG Bacteria Collection
one team
one long-term project

RESEARCH GROUP
several small teams
several short-term projects

UGENT

20 employees

40 employees

Biological material
Bacteria

Techniques
Phenotypic & genomic

Expertise
Characterization and typing
for taxonomy and identification

Prof. P. De Vos

(Prof. em. J. Swings)

Prof. P. De Vos

Prof. P. Vandamme

Prof. A. Willems

(Prof. em. J. Swings)

MISSION

Biological Resources
Scientific Services

Research
Education

Research priorities @ LM-UGent

'BACTERIAL DIVERSITY' in the field of

AQUACULTURE

- **Food microbiology**
- **Industrial microbiology**
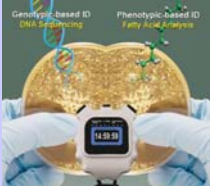- **Clinical and veterinary microbiology**
- **Intestinal microbiology**
- **Soil microbiology**
- **Aquatic microbiology**

Aquaculture research topics @ LM-UGent

- **Molecular identification of aquaculture-associated bacteria**
  - Pathogens: *Vibrio* and *Aeromonas*
  - Probiotics: *Bacillus*
  - Methods: **gene sequencing, DNA fingerprinting**

- **Molecular ecology of antimicrobial resistance in aquaculture**
  - **Phenotypic and genotypic characterization** of acquired resistance traits
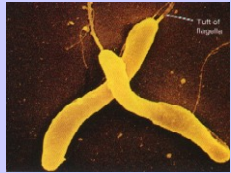 - Identification of **bacterial hosts** and **indicator organisms**
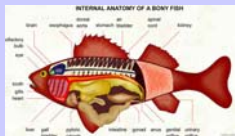
- **Population diversity & dynamics of intestinal microbiota**
  - **Molecular diversity of digestive tract microbiota in aquaculture species**
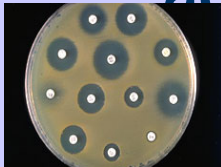
Aquaculture research projects @ LM-UGent

- **Biodiversity of vibrios**
  - **Taxonomic description of new species (20 of 81 *Vibrio* spp.)**
  - **Development of sequenced-based on-line identification system**

- **Hazard analysis of antimicrobial resistance in aquaculture environments**
  - **Oxytetracycline and chloramphenicol**
  - **EU and Southeast Asian aquaculture environments**
  - **EU-ASIARESIST: http://www.medinfo.dist.unige.it/Asiaresist**

- **Biosafety of commercial probiotics**
  - **Identification and resistance determination of dried formulations**

Vibrio2005

MEETING REVIEWS

Vibrio2005: the First International Conference on the Biology of Vibrios

Fabiano L. Thompson,[1]* Karl E. Klose,[2,3] and the AVIB Group†

Microbial Resources Division and Brazilian Collection of Environmental and Industrial Microorganisms (CBMAI),
Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil,[1] and South Texas Center for
Emerging Infectious Diseases[2] and Department of Biology,[3] The University of
Texas at San Antonio, San Antonio, Texas 78249

The First International Conference on the Biology of Vibrios was held at Ghent University, Ghent, Belgium, from 6 to 8 November 2005. One hundred thirty participants from 32 countries attended this meeting (Fig. 1). It was held in an impressive, refurbished medieval monastery, Het Pand, originally established in 1228 by Dominican monks in the heart of the historical city of Ghent. Het Pand is an exceptional venue

VIBRIO 2007
The Biology of Vibrios

Biodiversity   Genetics & Genomics
Diseases & Epidemiology   Ecology & Applications

Nov 28 - Dec 1, 2007
Institut Pasteur
Paris, France

VIBRIO 2005   November 6 - 8, 2005
Ghent, Belgium
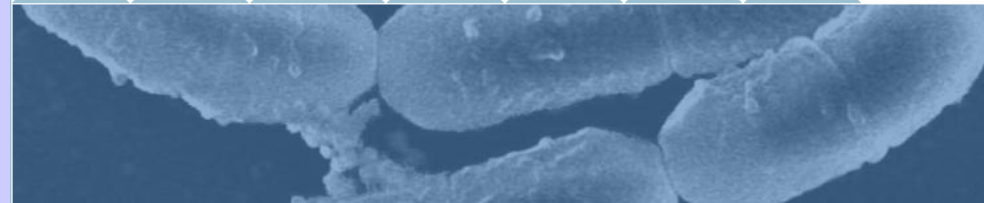
The BCCM™/LMG Bacteria Collection

- **Partner of the BCCM™ consortium (Belgian Coordinated Collections of Microorganisms)**

- **Biological resources**
  - **Holds >22,000 bacterial strains (listed in on-line catalogue)**
  - **Subcollection of app. 400 *Vibrionaceae* type and reference strains**

- **Scientific services**
  - **Supply of strains to academics and industries**
  - **Deposit of strains: public access or safe deposit (patent strains)**
  - **Isolation and identification of bacterial strains**
    - **Service basis or contract research**
    - **Since 2005: new identification service for *Vibrionaceae* using AFLP fingerprinting**
    - **Training of foreign researchers**

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WEBSITES:

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