Knowledge based society

Focus on

- Data and information
- Collaboration
- Lifelong learning

=> Shared responsibility
What does VUB offer today?

1. Teaching the Skills needed
   - Expert knowledge
   - Lifelong learning
   - Intercultural skills
   - Multimedia literacy

2. Sharing the Talent
   - Providing Mobility (real or virtual)
   - Providing Research Capacities
   - Providing Collaboration Networks
Facts and Figures
In a nutshell

- Belgian public-private university
- 180 years of history
- 2 Fields Medals
- 2 green campuses – 8 faculties
- 1 university hospital
- 12,200 students – 23% international
- 120 nationalities
- 1,385 PhD-students
- 50,000 alumni of which 2,800 PhDs
- 3,000 staff of which 2,000 academics
- 700 professors
- 150 research groups – about 20 spin-offs
- 100 patent families – 35 inventions
Eight faculties

- Arts and Philosophy
- Law and Criminology
- Medicine and Pharmacy
- Physical Education and Physiotherapy
- Psychology and Educational Sciences
- Economic, Political and Social Sciences and Solvay Business School
- Engineering Sciences
- Science and Bio-engineering Sciences
Campus Etterbeek

- 7 faculties
- sports facilities
- student restaurant
- organized housing support
- library
- medical care
- counseling
- language center
- career center
Campus Jette: university hospital

- Faculty of Medicine and Pharmacy
- University Hospital
- Nursing School
- Research Groups

721 beds
288,335 consultations
52,931 hospitalisations
3,500 staff
Education
VUB: a unique educational concept

- Pioneer in education
- High accessibility of staff
- Excellent student/staff ratio
- Strong student-tailored educational trajectory
- Blended learning
- Hands-on experience
- Multidisciplinary
Vision on education

- strong individuals
- commitment to sustainable society
- world citizens
- independent, inquiring attitude
- employability
Student satisfaction

Course Evaluation Survey
2011-2012

very good: 31%
good: 56%
mediocre: 6%
bad: 3%
very bad: 0%
not relevant: 4%
Programmes
Programmes

Dutch taught

• 29 Bachelor’s
• 49 Master’s
• 24 Advanced Study Programmes
• 8 Teacher Education Programmes

English taught

• 24 Master’s
• 15 Advanced Study Programmes

• 36 PhD Programmes
• 3 Doctoral Schools
Joint programmes

Brussels University Alliance

Faculty of Engineering of

ULB Université Libre de Bruxelles + Vrije Universiteit Brussel = Bruface

Brussels Faculty of Engineering

ULB Université Libre de Bruxelles

KU Leuven

Université catholique de Louvain

TEKNISKA HÖGSKOLAN
HÖGSKOLAN I JÖNKÖPING

RWTH Aachen

University of Groningen

Manchester University

Tilburg University

Universität Wien
PhD guidance: 3 Doctoral Schools

Human Sciences
Natural Sciences and Engineering
Life Sciences and Medicine

www.vub.ac.be/phd/english/DoctoralSchools.html

Aim: Good guidance and support
Ownership
Interactivity/build a community
Broaden experience

How: Tailor made training programme to own needs
In strategic alliance with UGent
Not compulsory
Sharing the talent...

- An international English-taught portfolio
- High-level international students
- High-level international professors and researchers
- Internationally-renowned research teams
- International networking
- Structured mobility
International networking

- 400 bilateral agreements
- International Research Projects (EC, Belgian & Flemish government, etc)
- Long tradition in development cooperation
English taught Master programmes

Trends 2004-2012

- Non EEA
- BE
- EEA-BE
International students

Overall registrations (Belgian vs international students)

- International: 3,460
- Belgian: 11,336

77% International
23% Belgian
Research
Our top scientists…
make the difference

• € 77 million research resources
• 150 research groups
• 2000 publications/year
• 105 active patent families
• 35 inventions in 2012
Spin-off portfolio

ICT

- INSILICO
- SoftKinetic
- Collibra

Life Sciences

- bcell

Other

- VUMICA
- Vuhonite
- ELSYCA
- FBGS
- Espase
- Portonova
- Blue Planet
Incubators

ICAB
Incubation Center Arsenaal Brussels

IICB
Innovation & Incubation Center Brussels (Zellik)
Faculties
Faculties

• Law and Criminology
• Economic and Social Sciences and Solvay Business School
• Psychology and Educational Sciences
• Arts and Philosophy
• Science and Bio-engineering Sciences
• Medicine and Pharmacy
• Engineering
• Physical Education and Physiotherapy
Faculty of Science and Bio-engineering Sciences

Long Term Vision = International

• Today: 45% Ma-students international
  48% PhD-students international
• All courses Ma-level taught in English
• Focus on exchange of researchers
• Internationalisation of staff (Odysseus)
Faculty of Science and Bio-engineering Sciences

Focus on Interdisciplinarity in Research and Education

- Medicine
- Geography
- Chemistry
- Engineering
- Physics
- Biology
- Computer Sc
- Mathematics
- Biotechnology
- Pharmacy
- Sociology

- Earth System Sciences
- Robotics and Language Evolution
- Analytical and Environmental Chemistry
- Molecular and Biochemical Pharmacology
- Tropical Biodiversity and Ecosystems
- Computational Biology
- Space and Society...
Department Bio-Engineering Sciences – DBIT

http://www.bioingenieur.be

Faculty of Science and Bio-Engineering Sciences
Structure of the Department

Department of Bio-engineering Sciences (DBIT)

Educational Board

Flemish Masters

Master of Science in de Bio-ingenieurswetenschappen: Chemie en bioprocesstechnologie

Biochemische biotechnologie

Chemische biotechnologie

Medische biotechnologie

Moleculaire biotechnologie

Agrobioomtechnologie

English Masters

Master of Science in Biomolecular Sciences

Master of Science in Molecular Biology (Interuniversity Programme Molecular Biology: IPMB)

Voedingsbiotechnologie

Universiteit Gent

Universiteit Gent
Structure of the Department

Executive Board:

Prof. Dr. ir. Luc De Vuyst
Prof. Dr. ir. Jan Steyaert
Prof. Dr. ir. Joeri Denayer
Prof. Dr. ir. Geert Angenon
Prof. Dr. ir. Gert Desmet
Prof. Dr. ir. Stefan Magez
Prof. Dr. Edilbert Van Driessche

Chairman
Pro-chairman
Educational matters
Human resource matters
Contacts with the Faculty of Engineering
PR
Internationalisation
Teaching

Prof. Dr. ir. Geert Angenon
Prof. Dr. Steven Ballet
Prof. Dr. Sonia Beeckmans
ir. Johan Brants (industry)
Prof. Dr. ir. Ken Broeckhoven
Prof. Dr. Daniël Charlier
Prof. Dr. Pierre Cornelis
Prof. Dr. Patrick De Baetselier
Prof. Dr. Henri De Greve
Prof. Dr. ir. Joeri Denayer
Prof. Dr. ir. Gert Desmet
Prof. Dr. ir. Luc De Vuyst
Prof. Dr. Jean-Pierre Hernalsteens
Prof. Dr. ir. Frédéric Leroy
Prof. Dr. ir. Remy Loris
Prof. Dr. Dominique Maes
Prof. Dr. ir. Stefan Magez

Prof. Dr. Joris Messens
Prof. Dr. Serge Muyldermans
Prof. Dr. ir. Eveline Peeters
Prof. Dr. ir. Geert Raes
Prof. Dr. Han Remaut
Prof. Dr. Bruno Pot (industry)
Prof. Dr. ir. Jan Steyaert
Prof. Dr. Patrick Vanderheyden
Prof. Dr. Edilbert Van Driessche
Prof. Dr. ir. Jo Van Ginderachter
Prof. Dr. ir. Nico Van Nuland
Prof. Dr. Georges Vauquelin
Prof. Dr. ir. Guido Verniest
Prof. Dr. ir. Wim Versées
Prof. Dr. Wim Vrancken
Prof. Dr. Stefan Weckx
Prof. Dr. ir. Ronnie Willaert
Research Units DBIT

- CHIS: Chemical Engineering
- CMIM: Cellular and Molecular Immunology
- IMDO: Industrial Microbiology and Food Biotechnology
- MBFA: Molecular and Biochemical Pharmacology
- MICR: Microbiology
- ORGC: Organic Chemistry
- PLAN: Plant Genetics
- SBB: Structural Biology Brussels
- SPRO: Protein Chemistry
• Prof. Dr. ir. Gert Desmet\textsuperscript{1}, Prof. Dr. ir. Joeri Denayer\textsuperscript{2}, Prof. Dr. ir. Ken Broeckhoven

• Focus:
  Studies on development of improved/miniaturized (bio)-analytical separation technologies and on transport modeling

1. Development of new nanotechniques for the fast separation and characterization of bio-molecules
2. Adsorptive separation processes for chemical industry
3. Chromatography in solution (HPLC using monolithic columns, coated capillaries for LC, sub-micron lithographic etching)
4. Nanotechnology for chromatography
5. Modeling of chemical processes
• Use of new materials to improve and speed-up bio-analytical methods
• Development of new instruments
• Main interests are in the domains of:
  – DNA-microarray screening
  – nano-channel solution chromatography for separation of biological mixtures (shear-driven flow chromatography)
  – pressure-driven chromatography through ordered arrays of micro-pilars for applications in proteomics and environmental technology
• Microfluidics technology + ultra-high pressure instrumentation + high-throughput experimentation, combined with computer modeling and computational fluid dynamics
**CMIM: Cellular and Molecular Immunology**

- Prof. Dr. ir. Stefan Magez\(^2\), Prof. Dr. ir. Jo Vanginderachter\(^3\), Prof. Dr. ir. Geert Raes\(^3\), Prof. Dr. Serge Muyldermans\(^1\)

- **Focus:**
  Study of cellular and molecular aspects of the immune response against inflammatory diseases

1. Camel antibody group
   **History:**
   - discovery of camelid heavy-chain antibodies (VHH)
   - development of methodology to clone VHH repertoire of immunized dromedary/llama in phage display vectors, and to select the antigen-specific VHH of interest
CMIM: Cellular and Molecular Immunology

1. Study of ontogeny, structure-function relationship and applicability of unique camel heavy-chain antibodies: use of nanobodies for diagnosis (probes in biosensors) and for therapy (tumor-targeting)

2. (Immuno)-parasitology group trypanosomiasis; leishmaniasis; malaria → new strategies for diagnosis, treatment (Nbs for drug targeting) and vaccination → structural biology of molecular interactions leading to parasite invasion
3. Myeloid cell group
   Study of MCs (macrophages, dendritic cells, monocytes) in tissues and tumors:
   - molecular characterization of MCs
   - immunoregulatory functions of MCs
   - MCs in inflammatory diseases
     → infectious diseases (sleeping sickness)
     → (liver) inflammation
     → cancer
     → atherosclerosis; rheumatoid arthritis; pulmonary inflammation (through collaborations)
• Prof. Dr. ir. Luc De Vuyst, Prof. Dr. ir. Frédéric Leroy, Prof. Dr. Stefan Weckx

• Focus:
Research on fermented food and functional starter cultures, development of a healthy diet

1. Qualitative and quantitative study of starter cultures (lactic acid bacteria) with particular functionalities, e.g.
   – bacteriocin-producing starters for cheese, sausage, sourdough
   – aroma-producing starter cultures for cheese
   – exopolysaccharide-producing strains for fermented milk drinks, yoghurt
2. Species diversity, population dynamics, meta-metabolomics of complex food fermentation ecosystems (dairy products, meat products, cereals, vegetables/tropical fruits, cocoa, sour beers)

3. Food qualitomics

4. Physiology and modeling of food-compatible microorganisms such as lactic acid and acetic acid bacteria, coagulase-negative staphylococci, yeasts, and bacteria from the colon ecosystem (bifidobacteria, lactobacilli, propionic/butyric acid producing bacteria)

5. Functionality of probiotica and prebiotica in the colon ecosystem
MBFA: Molecular and Biochemical Pharmacology

- Prof. Dr. Patrick Vanderheyden
- Focus: Study of cellular receptors for hormones, neurotransmitters and related drugs

1. Identification and characterization of receptors; in vitro experiments (radioligand-binding) with intact cells/purified membranes
2. Unraveling mechanisms of receptor regulation by physiological and pathophysiological conditions
3. Interaction between natural products from plants, animal venoms and functional foods with receptors and their ligands
4. Physiological and clinical relevance of membrane proteins with a potential role in signal transmission
MICR: Microbiology

- Prof. Dr. ir. Eveline Peeters, Prof. Dr. Daniël Charlier

- Focus:
Studies on selected model systems that are suitable to approach general molecular biology questions, and engineering of micro-organisms into organisms with useful properties

1. Molecular physiology, regulatory mechanisms and metabolic control in model bacteria, and extremophilic bacteria and archaea

2. Molecular mechanisms of gene expression and regulation in bacteria/archaea (DNA-protein interactions; chromosome rearrangements; adaptation to extreme temperature/pressure)

3. Rational redesign of microbial physiology for production of biochemicals (e.g. biofuels)
• Prof. Dr. Steven Ballet, Prof. Dr. ir. Guido Verniest

• Focus:
  Organic synthesis of new, bioactive compounds in the domains of peptides and chemistry of natural products

1. Design and synthesis of new molecules that mimic the action of natural peptides: “peptidomimetics” → small molecules with improved pharmacological profiles in humans (peptide-based pain killers, receptor ligands, radiopharmaca, ...)

2. Design, synthesis and structure determination of natural products with applications in agrochemistry and medicinal chemistry
Prof. Dr. ir Geert Angenon

Focus: Coupling fundamental plant molecular-genetic with applied research, relevant to biotechnology industry and agriculture

1. Study of DNA repair/recombination mechanisms and development of ways to influence these processes
2. Study of amino acid biosynthetic pathways and their regulation in food and feed crops
3. Study of adaptation mechanisms of plants to biotic and abiotic stress (e.g. drought and salt tolerance development)
SBB: Structural Biology Brussels

- Prof. Dr. ir. Jan Steyaert\textsuperscript{1}, Prof. Dr. ir. Wim Versées\textsuperscript{1}, Prof. Dr. Remy Loris\textsuperscript{2}, Prof. Dr. Nico Van Nuland\textsuperscript{5}, Prof. Dr. Han Remaut\textsuperscript{3}, Prof. Dr. Henri De Greve\textsuperscript{3}, Prof. Dr. Joris Messens\textsuperscript{4}, Prof. Dr. Dominique Maes\textsuperscript{6}, Prof. Dr. Peter Tompa\textsuperscript{7}

- Focus:
  Analysis of structure-function relationship and dynamics in biomolecules (enzymes and proteins in general, DNA) at molecular scale, and interactions between them

- Integrated research between different groups

1. – Chaperone-assisted X-ray crystallography (xaperones) making use of antigen-binding fragments of nanobodies
   – structure-function relationship of nucleoside- and nucleic acid-modifying enzymes
   \(\rightarrow\) “rational drug design”
2. Application of structural biology/biophysical techniques for the analysis of protein structure and molecular recognition
- bacterial toxin-antitoxin (TA) modules that are involved in stress physiology and multi-drug resistance
- intrinsically disordered proteins
- lectin-sugar interactions at atomic scale

3. Structural molecular biology of bacterial cell surfaces and host-pathogen interactions with the aim of developing new generation virulence-targeted antimicrobials
- *Helicobacter pylori* adhesion
- chaperone-usher pili assembly
- bacterial curli (biofilm formation)
4. Understanding pathways that tightly control redox homeostasis of cells under stress – protein purification expertise – oxidoreductases using thiol-disulfide chemistry – oxidative stress signaling in plants – arsenate reductase (detoxification of soils)

5. Study of protein-protein interactions that lead to intracellular network formation, important for signal transduction – protein-protein interactions involving modular domains – study of transient protein complexes by NMR

7. VIB group leader/VIB director: Peter Tompa, focusses on structurally disordered proteins (IDPs) – structural biology of IDPs (e.g. IDR of chaperones) – structure of “oversized” proteins – alter, replace and mutate binding motifs in IDPs
SPRO: Protein chemistry

- Prof. Dr. Sonia Beeckmans, Prof. Dr. Edilbert Van Driessche
- Focus: Purification and physicochemical characterization of proteins (from bacteria, yeasts, plants, animals)

1. Isolation and organization of enzymes from energy metabolism pathways (metabolons)
2. - Lectins from tropical flora
   - Carbohydrate-binding proteins from fish (lectins and natural antibodies)
   - Surface lectins from *E. coli* (find methods to prevent adhesion)
Research Units DBIT

- Highly performant, modern and advanced equipment in all fields of research
- Extensive collaborations with national and international research groups
- Collaborations with industrial partners
- Peer-reviewed publications in renowned international scientific journals
- Patents
- Spin-offs
email addresses & websites

- **CHIS**
  - Gert Desmet: gdesmet@vub.ac.be

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  - Stefan Magez: stemagez@vub.ac.be
  - Serge Muyldermans: svmuylde@vub.ac.be

- **IMDO**
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  - Frédéric Leroy: fleroy@vub.ac.be

- **MBFA**
  - Patrick Vanderheyden: pvandhey@vub.ac.be

- **MICR**
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  - Eveline Peeters: espeeter@vub.ac.be

- **ORGC**
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  - Guido Verniest: gvernies@vub.ac.be
email addresses & websites

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- **SBB**
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  - Wim Versées: wversees@vub.ac.be
  - Remy Loris: reloris@vub.ac.be
  - Henri De Greve: hdegreve@vub.ac.be
  - Joris Messens: jmessens@vub.ac.be
  - Nico Van Nuland: nvnuland@vub.ac.be
  - Dominique Maes: dommaes@vub.ac.be
  - Peter Tompa: ptompa@vub.ac.be
- **SPRO**
  - Sonia Beeckmans: sbeeckma@vub.ac.be
  - Edilbert Van Driessche: edvandri@vub.ac.be
English Master programmes of DBIT

Molecular Biology

Biomolecular Sciences
Master of Science in Molecular Biology (IPMB)

Interuniversity Programme Molecular Biology

With financial support of:
Courses:
professors (VUB, KULeuven, UA, ITM, UGent)

Practicals:
IPMB assistant
MSc. Steven Odongo
Aims:

- The training of young scientists from different countries in different fields of molecular biology.

- Provide participants with the intellectual tools needed to develop a molecular biological approach to solve problems countries of the South are facing.
IPMB – Intended Learning Outcomes

A graduate should:
ILO-1 possess a broad and advanced knowledge of biological processes at the molecular level and of the functioning of living organisms;
ILO-2 have developed advanced knowledge on, and insight into the applicability of molecular biology to improve human health, animal production or plant production;
ILO-3 be able to use ICT in data mining, data processing and scientific communication;
ILO-4 master the practical skills to plan and perform research in molecular biology;
ILO-5 be able to operate as a member of a multidisciplinary team;
ILO-6 be able to contribute, through molecular biological research, to solving problems developing countries are facing;
ILO-7 have developed a critical mind allowing him/her to consider and reflect on known and new theories within the speciality;
ILO-8 be able to appraise scientific and social aspects of applied molecular biology;
ILO-9 be able to present personal research, thoughts, ideas, and opinions, both written and orally, to peers and to a general public;
ILO-10 have acquired the knowledge to contribute to set up nationwide and international cooperations (South-South, South-North);
ILO-11 be able to disseminate the acquired knowledge in his/her country and region through activities in education and research;
ILO-12 be aware of ethics in research and publication.
Origin of trajectory starters since 2006

- Africa: 103
- Asia: 51
- South/Central America: 13
- Europe: 9
Origin of trajectory starters since 2006

- Scholarships:
  - VLIR-UDC: 67
  - BTC: 24
  - Erasmus Mundus: 0
  - Country: 32
  - None: 20

- Origin of students:
  - Africa
  - Asia
  - Europe
  - South/Central-America

- Countries:
  - Vietnam
  - Syria
  - Sri Lanka
  - Philippines
  - Palestine
  - Pakistan
  - Nepal
  - Lebanon
  - Iran
  - Indonesia
  - India
  - Bangladesh

- Other countries:
  - Zambia
  - Uganda
  - Tanzania
  - Rwanda
  - Nigeria
  - Malawi
  - Kenya
  - Ghana
  - Ethiopia
  - Egypt
  - Cameroon
Elements IPMB programme

- courses
- practicals
- visits
- Master thesis
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Responsible/Teachers**</th>
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<th>PH</th>
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## Course Title

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University Development Cooperation
Vlaamse Interuniversitaire Raad (VLIR)  
Flemish Interuniversity Council

Created in 1976

The VLIR promotes dialogue and cooperation among the Flemish universities on the one hand and between the universities and the public authorities on the other

- Forum for discussion, exchange of ideas and experiences (thinktank and policy advice)
University Development Cooperation

Flemish universities involved in VLIR

- University of Antwerp
- Hasselt University
- KU Leuven
- Ghent University
- Vrije Universiteit Brussel
Division of tasks between VLIR-UOS and Flemish universities

• **VLIR-UOS:**
  - Overall policy and programmation
  - Selection of the projects and programmes
  - Follow-up and Evaluation
  - Accountable towards financing public authority

• **Universities:**
  - Proposals
  - Implementation
20 partner countries
General objectives of VLIR-UOS

Capacity building in the South...
...to support the universities in the South to fulfill their role as actors in the development of their region and country (research, education and service to society)
...to encourage South-South cooperation
...to further develop expertise development in the North
...such that relevant expertise within the Flemish universities can be maintained...
...through a co-operation model
IUC programme at UCLV

Own Initiative at the Universidad Central ‘Marta Abreu’ de las Villas (UCLV), Santa Clara:

“Research on surface lectins of pathogenic *E.coli* and on lectins in animal feed in Cuba”

1998–2001

Local promoter: prof. Eduardo Cruz Muñoz  
Flemish promoter: prof. Edilbert Van Driessche  
Flemish expert in Cuba: Dr. Vet. Françoise De Cupere
Results:

• Equipment, consumables and books
• Training of Cuban staff member in SPRO lab (1) and in Spain (1)
• Collaborative research on lectins from Cuban plants that might be used in animal feed (*Pueraria*, *Pterocarpus*, *Dychrostachis*, *Moringa*, ...)
• Flemish Bio-engineering students making part of their MSc thesis at UCLV (2 in 2000, and 2 in 2002)
• Lecturing in Analytical Biochemistry, Physical Chemistry of Macromolecules, Bioinformatic Tools (15 class hours) for PhD and MSc students by E. Van Driessche and S. Beeckmans
OI projects between UCLV and other Flemish Universities:

• With KU Leuven:
  “Development of transgenic lines with resistance to *Mycosphaerella fijiensis* (Black Sigatoka disease) by genetic transformation of banana and plantain varieties with commercial potential”
  Flemish promoter: prof. Rony Swennen

• With UGent:
  “Towards a sustainable Cuban agriculture: evaluation of plant extracts as biological herbi- and pesticides”
  Flemish promoter: prof. Patrick Van Damme
  Flemish expert in Cuba: Dr. Vet. Françoise De Cupere

Prelude to an IUC programme at UCLV
Institutional cooperation with UCLV

2003–2013

Flemish coordinator: prof. Edilbert Van Driessche
Local coordinator: prof. Angel Rubio González
Local programme manager: prof. Luis Hernandez
ICOS-VUB: Françoise De Cupere

Project 1: ICT-infrastructure and e-administration (UGent)
Project 2: ICT in education (VUB)
Project 3: Information culture development (UA)
Project 4: Capacity building for communication in English for academic purposes in international collaboration (CeBeCE) (KU Leuven)
Project 5: Improving the quality of education and research programmes in plant and animal sciences (VUB)
Project 6: Strengthening postgraduate education and research in pharmaceutical sciences (KU Leuven)
Project 7: Environmental education and development of clean technologies (UGent)
Project 8: Strengthening research and PhD formation in computer sciences and its applications (VUB)
IUC programme at UCLV

Phase 1 – focus on:
• improvement of ICT infrastructure
• implementation of ICT in education, research, administration, scientific information gathering
• curriculum development
• upgrading/updating of existing courses, and introduction of new ones
• capacity building in English for academic purposes in an international context

Phase 2 – focus on:
• PhD programmes in Plant biotechnology, Sustainable tropical agriculture, Environmental engineering and industrial safety, New technologies in education, Computer sciences, Automatization, Sustainable energy, Pharmaceutical sciences
• In total, 85 PhDs were defended, based on research, either at UCLV, or at UCLV and a laboratory of a Flemish university
• Further development of collaborative research with Flemish partners
• 800 manuscripts (many joint publications) were published, 300 of them in peer-reviewed international journals or in proceedings
• Computer infrastructure on campus and in municipalities
• External visitation in 2013 – General conclusion: the programme had a highly significant and unprecedented impact on the whole of UCLV in terms of academic programmes and research
• Major challenge: **sustainability**
• Remedy = internationalization: joint PhDs, joint research programmes, networking
Extension IUC programme at UCLV

• Network Cooperation in Cuba – ICT:
  Coordinating University: UCLV
  Partners: Universidad de Pinar del Río
  Universidad de las Ciencias Informáticas (UCI)
  Universidad Oscar Lucero Moya de Holguín
  Universidad de Camagüey ‘Ignacio Agramonte y Lyonaz’ (UC)
  Universidad de Oriente (UO)

• New IUC programme with Universidad de Oriente
• Joint PhD
Strategy for Cuba

- Fit with the Cuban national strategy to increase attention to the development of Eastern (’Oriente’) Cuba
- Give priority to information society (ICT for development) and guaranteeing food security with attention for sustainability, environment and quality of life (public and preventive health).
Strategy for Cuba

• Other important subject is the link between socio-cultural development, tourism development and the role and impact of cultural heritage

• Strengthening of processes of internationalisation
  • Institutional and human capacity building
  • Doctoral programmes => PHD agreements

• Research and innovation & technology transfer
Country programme – tools for cooperation

- National Network
- Institutional University Cooperation
- TEAM & RIP South Initiatives
- Scholarships
**NATIONAL - Network Cuba – ICT for development**

coordinated by **Universidad Central Marta Abreu de las Villas (UCLV)**

Other partner universities:
- Universidad de Pinar del Río
- Universidad de las Ciencias Informáticas (UCI)
- Universidad 'Oscar Lucero Moya' de Holguín
- Universidad de Camagüey 'Ignacio Agramonte y Loynaz' (UC)
- Universidad de Oriente (UO)

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<td>Georges Eisendrath (Vrije Universiteit Brussel)</td>
<td>Roberto Vicente (UCLV)</td>
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<td>P1: Research in ICT related sciences</td>
<td>Ann Nowe (Vrije Universiteit Brussel)</td>
<td>Rafael Bello Pérez (UCLV)</td>
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<td>P2: Open ICT systems and management</td>
<td>Rudy Gevaert (UGent)</td>
<td>Hector Cruz Enríquez (UCLV)</td>
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<td>P3: ICT in support of educational processes and the knowledge management in Higher Education</td>
<td>Marc Goovaerts (Uhasselt)</td>
<td>PL from UCI</td>
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# Institutional University Cooperation with Universidad de Oriente (UO)

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<td>Dieter Roefs (UGent)</td>
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<td>Matheus Froeyen (KU Leuven)</td>
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<td>Ann Cuypers (Uhasselt)</td>
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<td>Rudi Decklerck (Vrije Universiteit Brussel)</td>
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<td>P5: Energy, biofuels and clean technologies for sustainable development</td>
<td>Jan Yperman (Uhasselt)</td>
<td>Angel Luis Brito Sauvanell</td>
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Mutually reinforcing at the department level – TEAM and SI

- Food security
  - livestock production
  - dairy production
  - food & plant biotechnology
  - aquaculture
  - commercialisation
- Relation with climate change & sustainable development
- Health (public health, biomedical applications)
- Pharmacology from natural products
- Environment & clean technologies & energies in the Cienfuegos Bay Area
- Biomechanics & clean technology
- ICT for engineering & technologies
Peter De Lannoy

*South Coordinator*

peter.delannoy@vliruos.be