# VITALISING ICT RELEVANCE IN AGRICULTURAL LEARNING

*Wageningen University & Research (WUR), Wageningen, The Netherlands*

## *Information Technology Group (INF)*
### *-Smart Systems and System of Systems for Life Sciences-*

*Cagatay Catal, Bedir Tekinerdogan*

**VIRAL**

Kick-off meeting, Banja Luka

21-23.01.2020.

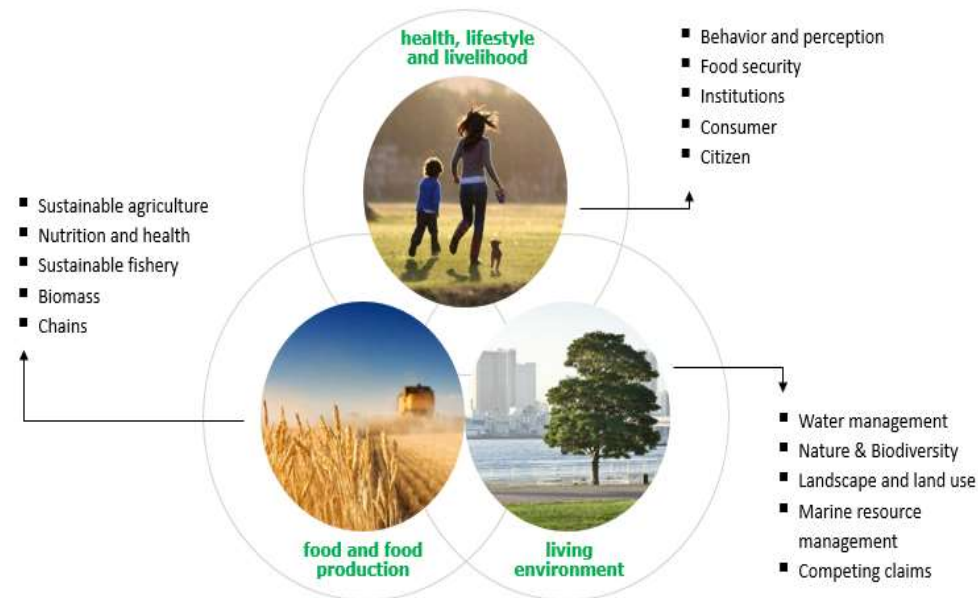# Wageningen University & Research (WUR)

**Mission:**
- ➢ To explore the potential of nature to improve the quality of life

**Domain:**
- ➢ Healthy food and living environment
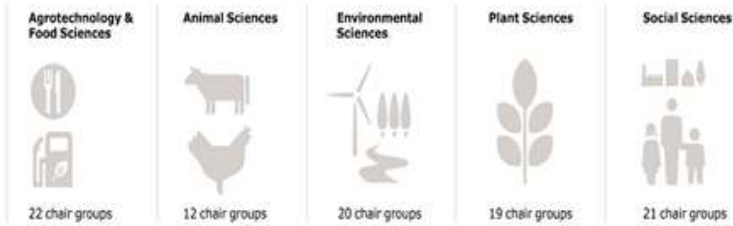
**WUR Core Areas / Sub-domains:**
- ➢ Food and food production
- ➢ Living environment
- ➢ Health, lifestyle and livelihood





health, lifestyle and livelihood
- Behavior and perception
- Food security
- Institutions
- Consumer
- Citizen

- Sustainable agriculture
- Nutrition and health
- Sustainable fishery
- Biomass
- Chains

food and food production

living environment
- Water management
- Nature & Biodiversity
- Landscape and land use
- Marine resource management
- Competing claims

**5** departments

**94** chair groups

| Agrotechnology & Food Sciences | Animal Sciences | Environmental Sciences | Plant Sciences | Social Sciences |
|---|---|---|---|---|
| 22 chair groups | 12 chair groups | 20 chair groups | 19 chair groups | 21 chair groups |

professors **238**

- Rector magnificus
- President of the Executive Board
- Dean of Education
- Chair holders  95
- Personal professors  72
- Special/endowed professors  68

**Number of employees** in fte

Wageningen Research Foundation | Wageningen University

| 2002 | Male | 2,561 | | 1,518 |
| | Female | 1,064 | | 818 |
| 2002 | Total **5,961** | | **3,625** | **2,336** |

| 2018 | Male | 1,514 | | 1,373 |
| | Female | 977 | | 1,267 |
| 2018 | Total **5,131** | | **2,491** | **2,640** |
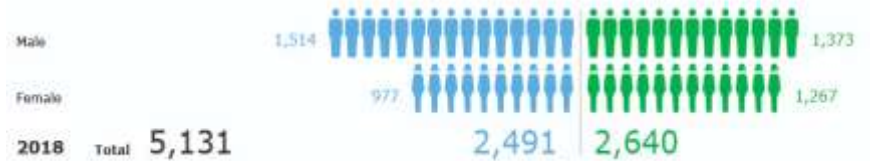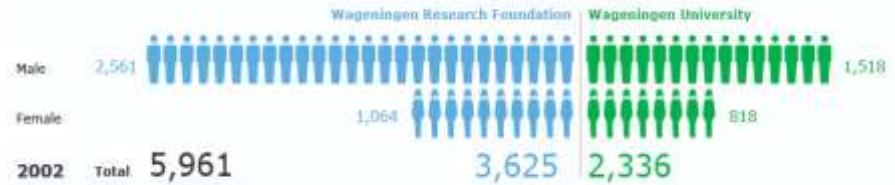
**Number of students** excluding PhD students

| Period | Total | Dutch | Non-Dutch |
|---|---|---|---|
| 2002-2003 | 4,571 | 3,712 | 859 |
| 2018-2019 | 12,007 | 9,479 | 2,528 |
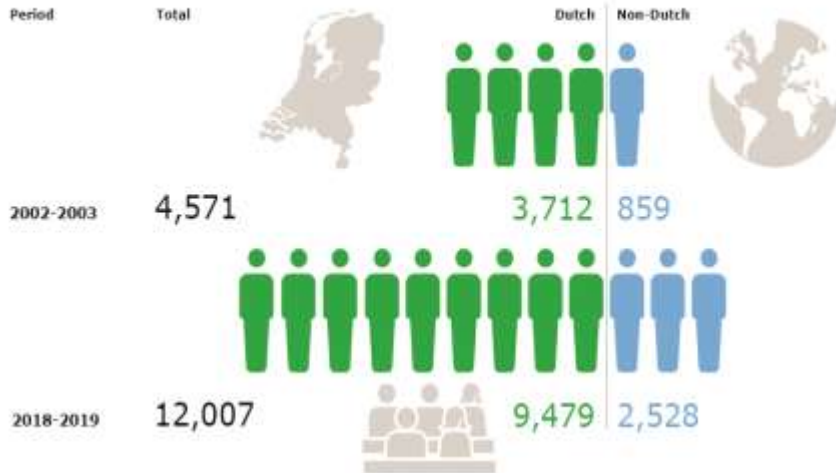
## Rankings

WUR ranking in QS World University Rankings 2019
*Agriculture and Forestry*
**1**

WUR ranking in QS World University Rankings 2019
*Environmental Sciences*
**7**

WUR ranking in National Taiwan University Ranking, World Universities 2019
*Agriculture*
**1** (6 years running)

WUR ranking in Times Higher Education World University Rankings 2018-2019
**64**

WUR ranking in Keuzegids in full time university education 2019
**1** (14 years running)

WUR ranking in Shanghai Ranking of World Universities 2019
*Food Science & Technology*
**2**

WUR ranking in National Taiwan Ranking 2019
*Environment & Ecology*
**1**

WUR ranking in National Taiwan Ranking 2019
*Plant Sciences & Animal Sciences*
**3**

WUR ranking in Shanghai Ranking of World Universities 2019
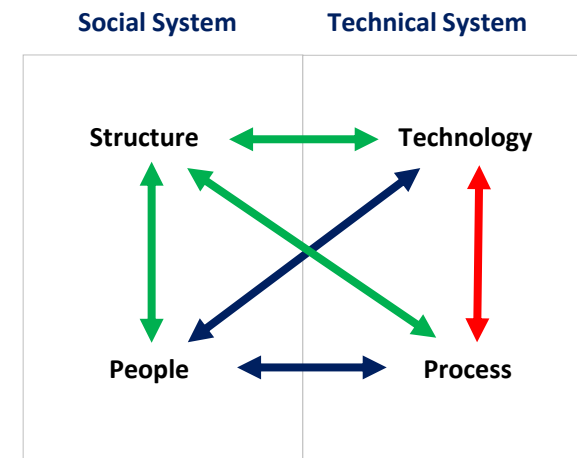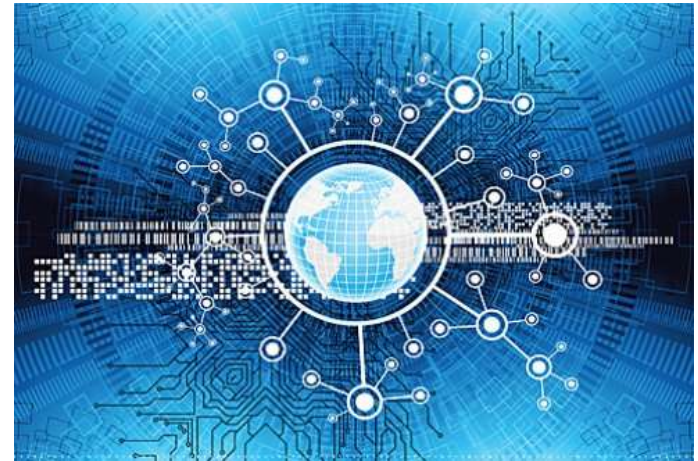*Agricultural Sciences*
**1**

# INF Research Themes

Smart System Research requires:

- **Software Engineering**
  - We need to understand, build and analyze systems, smart systems….

- **Data Science**
  - We need to use data for our decision making, big data….

- **Socio-Technical Systems**
  - We need to understand the behavior of people in developing, maintaining, and using smart systems…

# Some ICT Projects of INF

1. **Smart Indonesian Agriculture: Development, Logistics and Evaluation for Animal Protein Production**
   - INREF project, **1.2 Million €,** *INREF:* Development-oriented Interdisciplinary Research and Education Fund of Wageningen University
   - Promoter/Co-Promoter for 2 PhD students: Infrastructure development PhD 7, Disease and production monitoring using Big Data - PhD9

2. **Health Monitoring for People with Intellectual Disabilities using Machine Learning**
   - Radboud University Medical Center, 1 PhD student

3. **Systematic Malware Detection and Analysis of Software-Intensive Systems**
   - SPARC schema, IIT Roorkee, Ministry of Human Resources Development
   - The design of cyber secure systems and the analysis using ML have been carried out in isolation so far. We will provide an holistic approach that adopts both an engineering design perspective and ML perspective

4. **IOF 2020, Internet of Farming, Horizon 2020 Project**

5. **Scenario Evaluation for Sustainable Agro-forestry Management (SESAM-INREF)**

6. **Data Driven Precision Agriculture Services and Skill Acquisition (Dragon - EU)**

7. **Scalable big data analytics for fostering precision agriculture and livestock farming (Cybele – Horizon 2020 Project)**

# Thank you !



VITALISING ICT RELEVANCE IN
AGRICULTURAL LEARNING