

Knowledge Security Experiences and Practices at AgroParisTech

Laurent Buisson,
Dean and Executive Director
AgroParisTech

AgroParisTech 

université
PARIS-SACLAY

AgroParisTech: Facts and Data (1)

AgroParisTech can be seen as the College of Agricultural and Environmental Sciences of Universit  Paris-Saclay (80 %) with 6 other locations in France

- Our missions: education, research, outreach, entrepreneurship and innovation
- Our disciplines
 - Plant Sciences
 - Animal Sciences
 - Agronomy
 - Food Sciences
 - Ecology
 - Data Science and AI
 - Nutrition and Health Sciences
 - Biotechnology and Green Chemical Engineering
 - Forestry
 - Microbiology
 - Soil Sciences
 - Water Engineering
 - Remote Sensing
 - Ecotoxicology
 - Economics and Social Sciences
 - Bioclimatology
 - Statistics and Mathematics
- Our values: international cooperation, student/scientific exchanges and open science

AgroParisTech: Facts and Data (2)

- 2,500 master students
- 400 PhD students
- 22 research labs
- Close partnerships with 2 national research organizations (INRAE and CNRS) in 21 joint labs
- 950 faculty members (AgroParisTech and partner universities) or research faculty members (INRAE and CNRS)
- 1,100 staff members (AgroParisTech, partner universities, INRAE and CNRS)

Knowledge Security in Life Sciences: General French Context, Framework and Guidelines

- Threats on national interests and security : 2013 national guidelines ✓
 - Economic
 - Conventional military
 - Mass destruction : nuclear, ballistic, chemical and biological
 - Terrorism
- Information and digital systems security ✓
- Foreign countries influence : French Senate 2021 report ✓
 - Taking into account other countries experience (UK, Germany, Australia...)
 - Systemic strategies of a few countries for interference
 - Story telling, reputation and image : instrumentalization in human and social sciences

Knowledge Security in Life Sciences at AgroParisTech

Threats (1)

- Economic threats
 - Captation of key technologies and know how for strategic economic sectors : genetics, plant and food sciences, water management, sensors, data sciences, global markets
- Mass destruction and terrorist threats
 - Microbiology, toxicology, crops and livestock protection
- Instrumentalization of [human and social] sciences / soft power
 - Restrictions and constraints on academic freedom to control education, research and the public opinion
 - Attacks to shift the balance between supply and demand
 - Attacks on reputation of products/production, public/private players or stakeholders based on fake allegations related to social or environmental impact, animal welfare, human health...

Knowledge Security at AgroParisTech

Threats (2)

- Information Systems or Digital Systems Security
 - As any other institution of higher education AgroParisTech is under attack
 - Impacts on
 - Finances: blackmail, fraudulent wire transfers, identity fraud
 - Communication: web site, fake news
 - Legal responsibility and liability in terms of data: theft, selling, leaks or publication of high value and/or personal data
 - Organization: attacks on networks, servers or applications
 - Spying: knowledge security

Knowledge Security in Life Sciences at AgroParisTech

Scientific capacity protection (1)

- Strengths
 - Defense and security administrator closely connected with government agencies
 - Restricted access area in some sensitive labs
 - Criteria : nature of threats, international reputation, economic partnerships, intellectual property, knowledge dynamics, dual use technologies, concentration of seldom skills and know how, position of the head of the lab
 - Access control of facilities, international exchange, foreign fellowships and graduate education watch/control
 - Monitoring of academic exchanges by the government
 - Information system security assessment => roadmap
 - Low level of pressure through foreign students enrollments, fees and tuitions !

Knowledge Security in Life Sciences at AgroParisTech

Scientific capacity protection (2)

- Weaknesses
 - Limited funding for higher education and research => High « purchasing power » of some non-European Interests
- Opportunities / work in progress
 - Extending the protection of our scientific capacity to the human and social sciences
 - Increasing the awareness and commitment of students, faculty and staff members
 - Newsletters, serious games, best practices of cooperation with some non-European countries
 - Compatibility between knowledge security and open science (*cf.* intellectual property protection)
 - Developing the culture of cybersecurity in the institution
 - Non-European funding transparency
 - Academic Freedom as a condition for cooperation with some non-European partners

Thank you !



Visit our new campus Agro in Paris Saclay !

