INSTITUTE OF AGROPHYSICS
P A S

Joint scientific and educational programs and projects of the Institute of Agrophysics, PAS with Polish and foreign scientific institutions

Outline

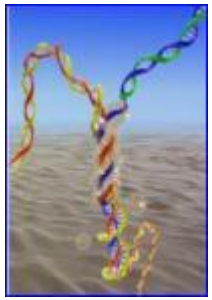
1. Mission and strategic aims
2. Structure and scientific potential
3. Education
4. Cooperation
5. Achievements
6. Projects

Mission of the Institute of Agrophysics

Science and Development – research and development in the field of agricultural, chemical, biological and physical sciences and their dissemination.








Mission of the Institute of Agrophysics

Education – people education for science and economy in order to make them ready to solve problems of modern agriculture.

Mission of the Institute of Agrophysics

Cooperation

- organization and participation in interdisciplinary scientific research,
- partnership with economic and local government for the sustainable use of agricultural resources,
- creation of regional, European and global bioeconomy.

Strategic aims:

1. **Conducting high-quality research in the field of agrophysics as a science dealing with the processes and physical properties associated with agricultural plant production.**

2. **Conducting interdisciplinary high-quality research in physics, physics-chemistry and biology of soil and crops.**

Structure and scientific potential

Departments

Department of Physical Properties of Plant Materials

Department of Physical Chemistry of Porous Materials

Department of Soil-Plant System

Department of Metrology and Modelling of Agrophysical Processes

Department of Microstructure and Mechanics of Biomaterials

Department of Natural Environment Biogeochemistry

Laboratories

Regional Laboratory of Renewable Energy

Interdepartmental Laboratory of Numerical Modeling

Centre of Research & Innovation

Scientific potential

~100 employees

~60 scientists

- **12 full professors**
- **10 extraordinary professors**
- **24 adiunct**
- **17 assistants and technicians**

30 PhD students

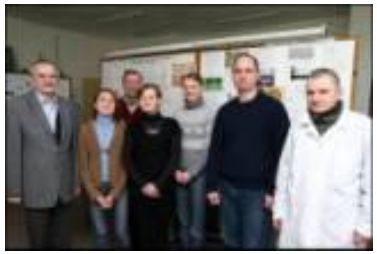
Scientific potential

Cathegory A (2013-2016)

Institute is funded by Ministry of Sciences and High Education (about 65%) and by projects (about 35%)

Education






Education

Institute conduct PhD studies

- **in discipline agronomy-agrophysics**
- **6-8 PhD students are accepted per year**
- **6-8 PhD are promoted per year**

Programme:

Basic lectures

- **agronomy/agrophysics**
- **shaping the soil environment**
- **tillage and plant**
- **applied physics**

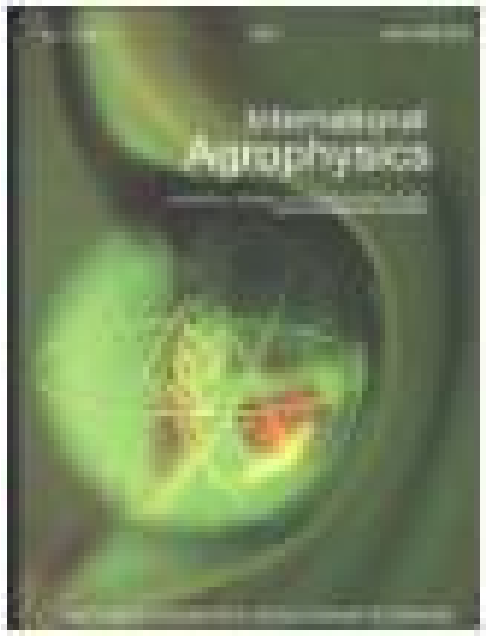
Extended lectures

Optional lectures

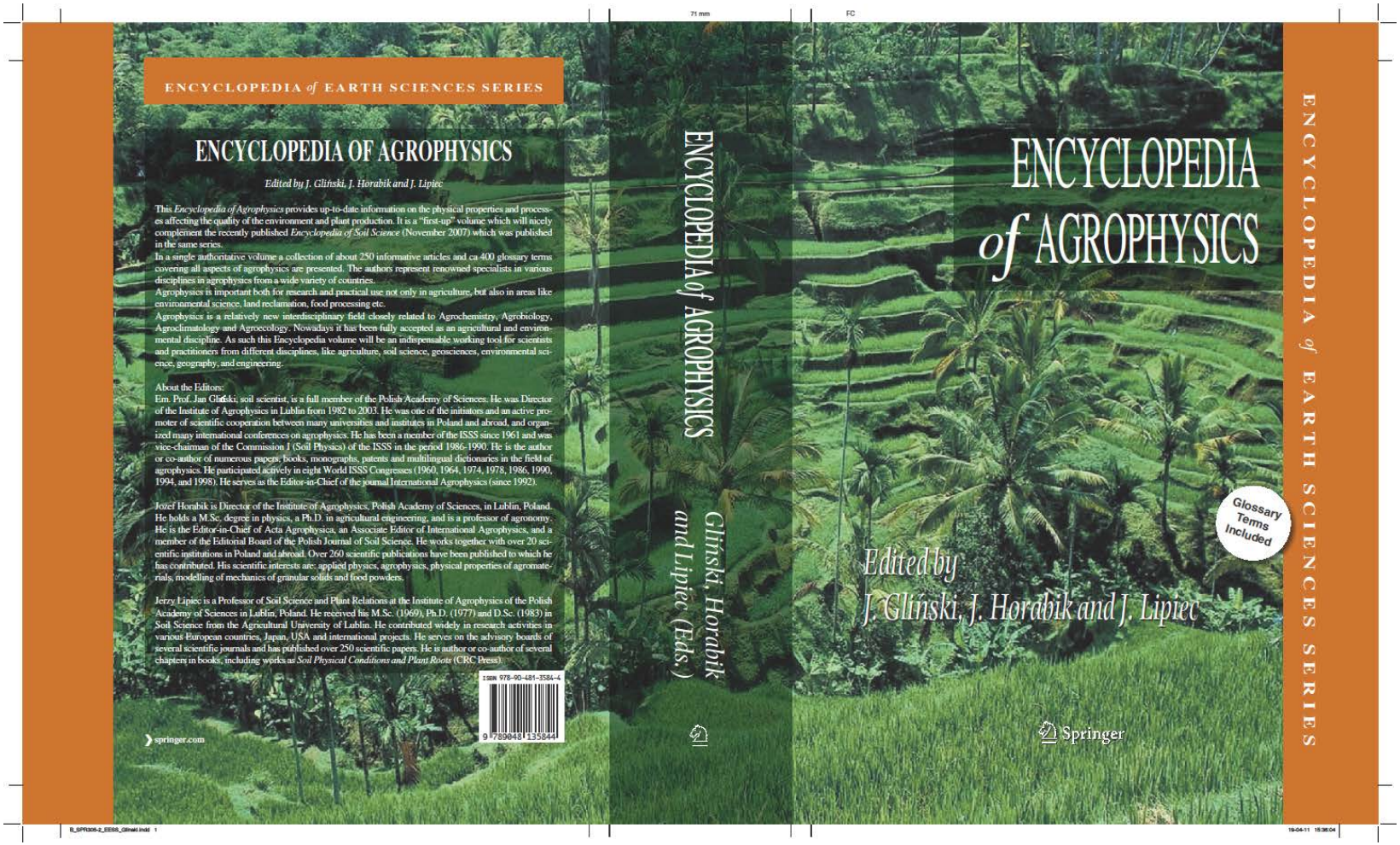
In the institute many scientists held research fellowships

Dissemination

International Agrophysics (IF ~ 1.1)



Dissemination



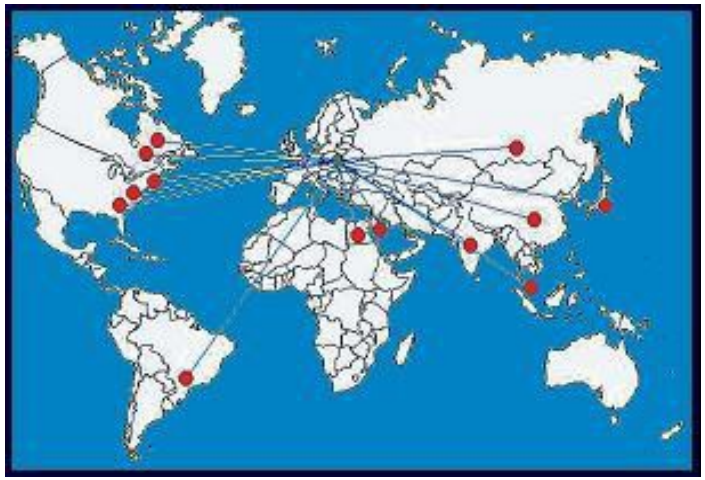
INSTITUTE OF AGROPHYSICS PAS

Cooperation

Scientific cooperation

Institute of Agrophysics has scientific agreement with 130 Polish scientific institutions
- Institutes, Universities, another High Schools etc.

Scientific cooperation



Institute of Agrophysics collaborates with 34 scientific institutions from around the world in the frame of scientific agreement and with 20 institutions only in the frame of programs and/or projects.

Cooparation

International cooperation in the frame of different programmes and/or projects, for example:

- **Bio-Based Industries Consortium**
- **HORIZON 2020**
- **European Space Aagency**
- **FACCE JPI MACSUR**
- **COST**

Achievements

Results of scientific activities

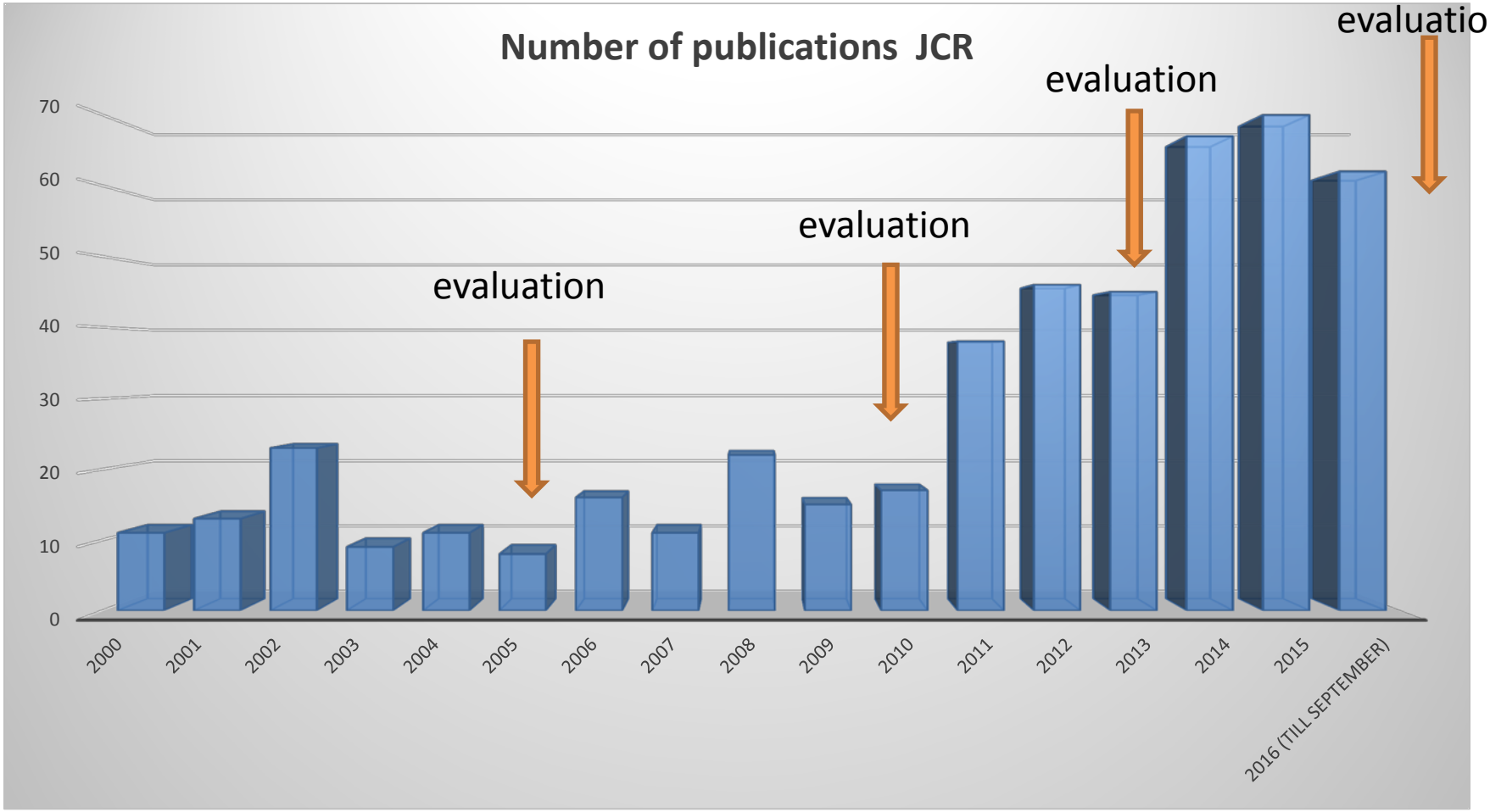
Annually, the scientists from the Institute publish about 70 publications in journals (with Impact Factor) listed in Journal Citation Reports.

During last 4 years we obtained 60 patents.

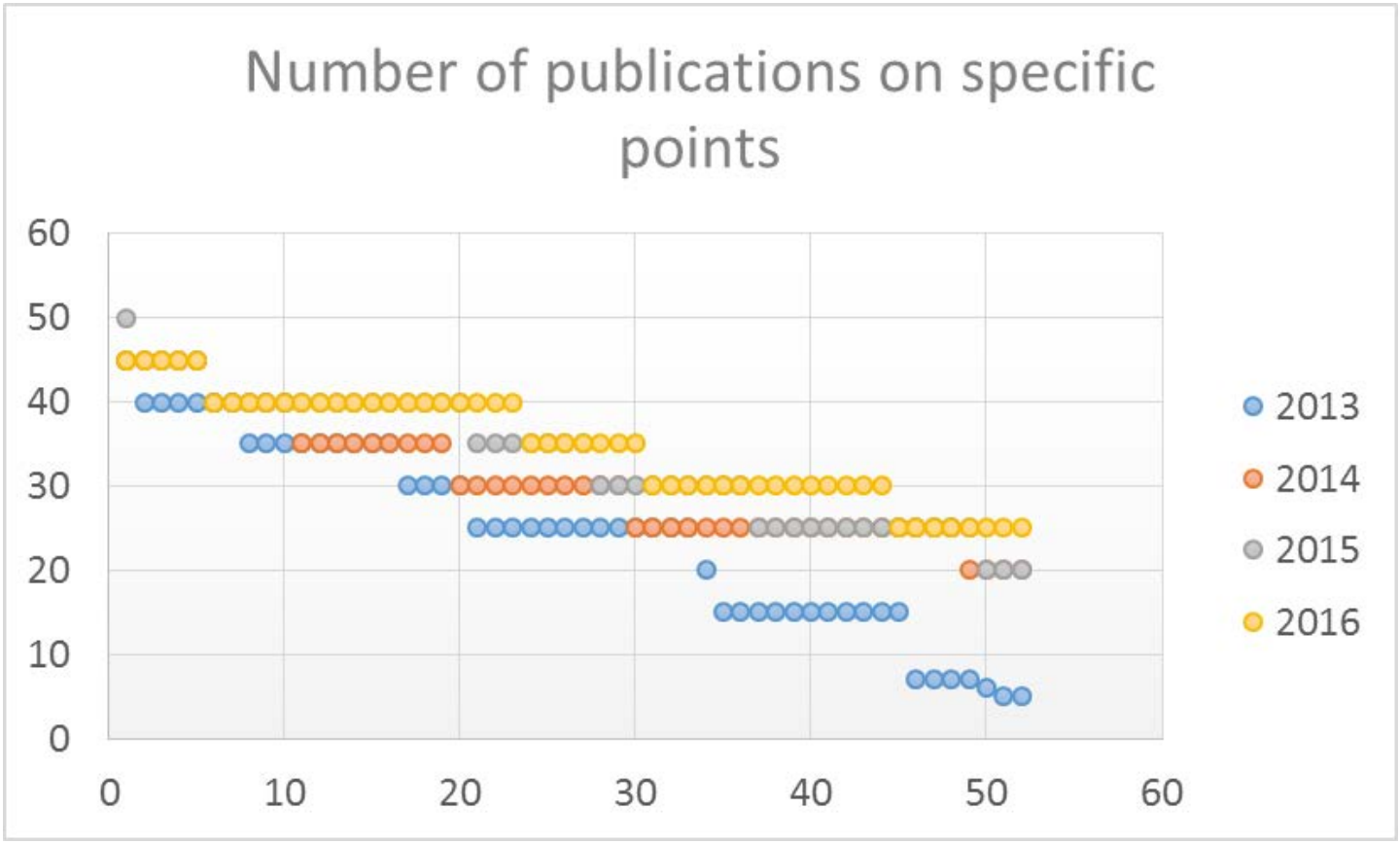
Yearly we carry out about 30 projects.

Right now details

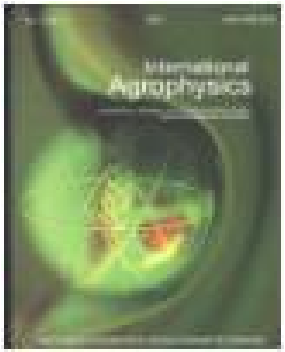
Results of scientific activities

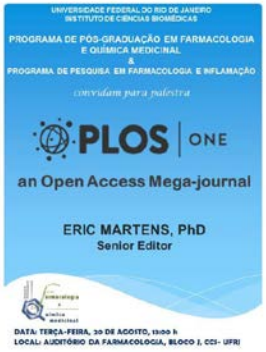


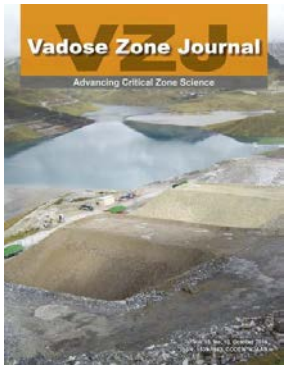
Results of scientific activities

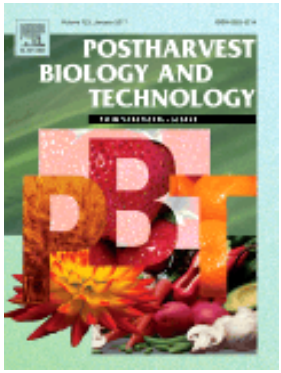


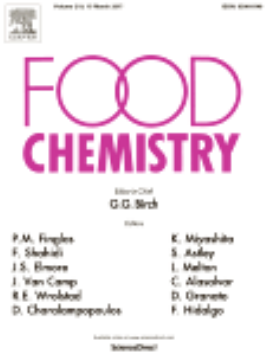
Journals - examples

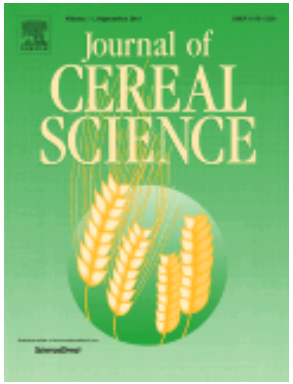












Examples of projects

Who is funding research in Poland?

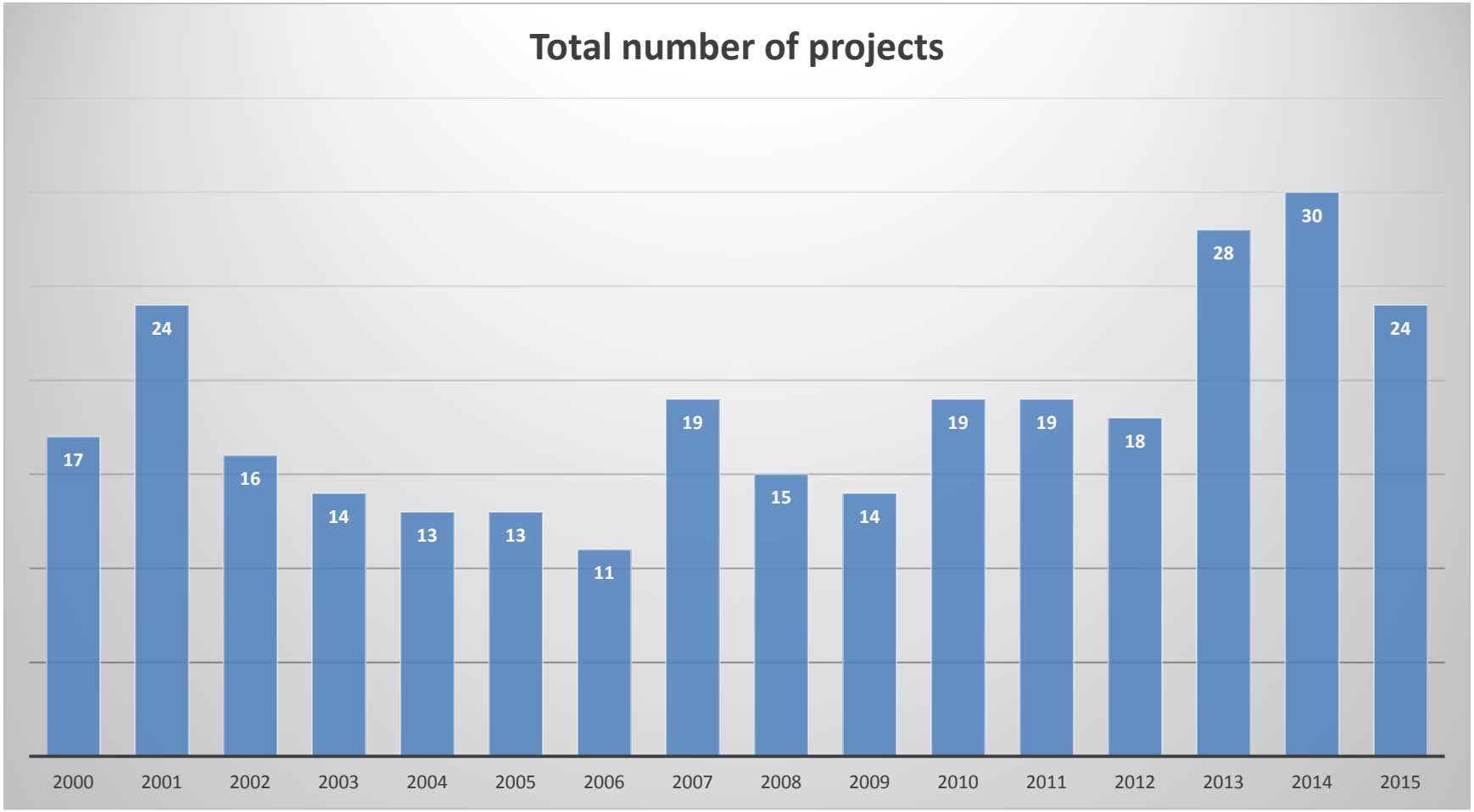
Ministry of Science and Higher Education
Republic of Poland

NATIONAL SCIENCE CENTRE
POLAND

The National Centre for Research and Development

European Commission

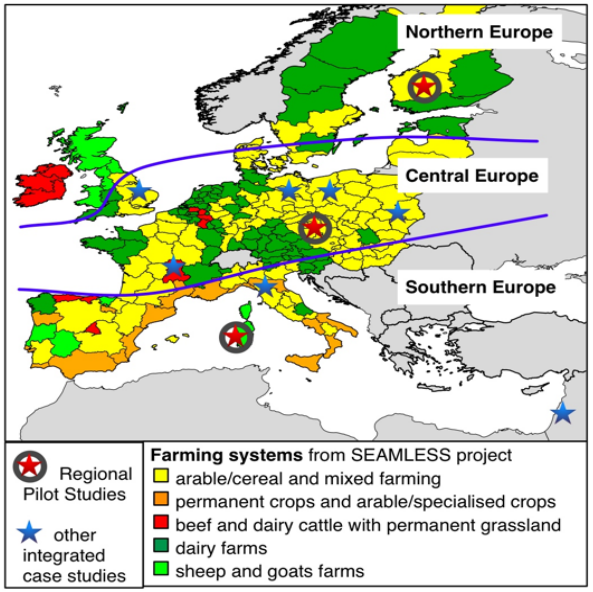
Results of scientific activities



Results of scientific activities

MACSUR Project

Modelling of European Agriculture with Impact of Climate Change for Food Safety



Interreg PL-BY-UA Projects

Education and adaptation of IA PAS laboratories for increase of food quality in PL-BY-UA neighboring areas

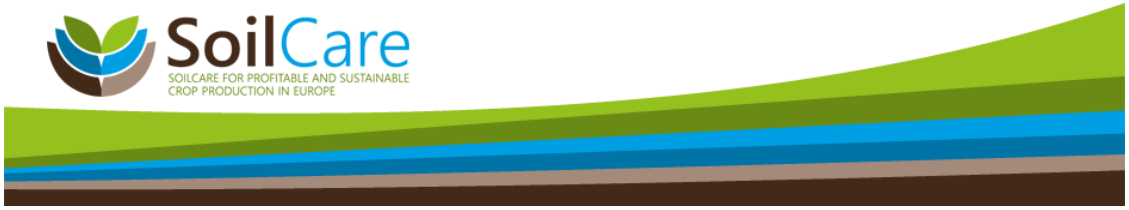
Creation of trans-border network of ecosystem soil monitoring in International Bioreserve West Polesie

Interregional Research and Educational Centre in the Institute of Agrophysics PAS in Lublin

Horizon 2020 Projects

Interactive Soil Quality Assessment in Europe and China for Agricultural Productivity and Environmental Resilience (iSQAPER) – 24 partners

Soil Care for profitable and sustainable crop production in Europe – **28 partners**



ELBARA Project

Technical support for the fabrication and deployment of the radiometer ELBARA-III in Bubnow, Poland – project funded by European Space Agancy

BIOSTRATEG I

Support for low carbon agriculture - able to adapt to climate change now and in the years 2030-2050 perspective

Acronim: LCAgri

Coordynator: IUNG PIB Puławy
Partners, IA PAN, IOŚ PIB, Zakłady Azotowe

BIOSTRATEG II

Development of innovative methods for monitoring the status of agrocenoses using remote sensing system gyroplane, in terms of precision agriculture

Acronim GyroScan

Coordynator: IA PAN

Partners: UP Lublin, IOR PIB, IGiK, Aviation, Geosystems Polska, Lesaffre Polska.

LIDER Projects

New food additive based on raw fruit and vegetable materials waste.

Developing innovative biological materials to optimize the process of methane fermentation of organic waste.

Developing a method of biodegradable nanocomposite preparation, which is based on nanocellulose derived from fruit and vegetable waste

Welcome to cooparation

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THANK YOU FOR YOUR ATTENTION!