



# Faculty of Geology, Geophysics and Environmental Protection

AGH University of Science and  
Technology

1913



Faculty 64 years

The Faculty of Geology, Geophysics & Environment Protection is the **only technical-university-level state institution in Poland which educates in applied Earth sciences and environment protection**, and one of a few which educates in environmental engineering and applied computer science.



## Faculty structure



- Department of General Geology, and Geotourism
- Department of Mineralogy, Petrography and Geochemistry
- Department of Economic Geology
- Department of Hydrogeology and Engineering Geology
- Department of Environmental Analyses & Mapping
- Department of Fossil Fuels
- Department of Geophysics
- Department of Geoinformatics and Applied Computer Science
- Department of Environmental Protection
  - Library
  - Main Laboratory
  - Museum



The Faculty of Geology, Geophysics and Environmental Protection employs prominent didactic staff: 52 independent researchers make their scientific research in 9 departments.

<b>Full professors</b>	22
<b>Associate professors</b>	39
<b>PhD and PhD eng.</b>	87
<b>Junior lecturers</b>	15
<b>Senior lecturers</b>	8



# Geoscience Education



**4000** students  
**7** fields, subdivided to  
**26** specializations

First level - B.Eng.

Second level - M.Sc

*PhD study – 92 students*











LECTURE ROOMS 23

DIDACTIC LABORATORIES 12

COMPUTER CLASSROOMS AND LABORATORIES 10





The Faculty library is a part of the AGH US&T uniform library information system.

SQUARE FOOTAGE      440m<sup>2</sup>

## COLLECTION

BOOKS                    ~ 30 000 volumes

JOURNALS                ~ 8 300 volumes

MAPS                     ~ 4 100 sheets



DEPARTMENTS: didactic laboratories  
research laboratories

THE FACULTY: Main Laboratory  
**Geotechnical Laboratory**



## Laboratories:

- electron scanning microscopy EDS
- X-ray and X-ray fluorescence
- infrared spectroscopy and Raman
- analysis of granulation and textural attributes
- thermal analysis
- biogeochemical analysis
- ore petrography lab.
- critical elements Lab. WDS
- organic matter geochemistry lab.
- geotechnical lab.
- organic matter lab.

The Faculty has very modern equipment, which enables carrying out research at international level.





## JEOL Super Probe 8230



## JEOL Super Probe 8230 specification:

- 5 spectrometers (WDS) equipped with 12 crystals (LIF, LIFL, LIFH, TAP, TAPH, PETL, PETH, PETJ, LDE1, LDE2, LDE3)
- X-ray energy radiation dispersion spectrometer (EDS)
- reflected light observations
- transparent light observations
- cathodoluminescence
- WDS and EDS sample „mapping”
- carbon sputter – QUARUM Q150TE

# Renewable Sources of Energy campus, Mi•kinia





# SCIENTIFIC CATEGORY OF THE FACULTY



The Faculty has received a Category **1** rating

under the State Committee for Scientific Research classification.

This is the highest category in scientific research.



# RESEARCH

## Geology and Geophysics

- ❑ **Information Technologies:**
  - Computer Science
- ❑ **New Materials and Technologies**
  - Nanotechnologies
  - Materials Science and Materials Technologies
  - Geoengineering
- ❑ **Environment and Climate Changes**
  - Environmental Engineering
  - Environmental Protection
  - Natural Resources and Waste Management
  - Balanced Development
- ❑ **Energy and its Supplies**
  - Energy Technologies
  - Renewable Sources of Energy
- ❑ **Economic geology**
  - Prospecting and evaluation of mineral deposits
  - Management of Energy Resources
  - Oil and Gas Engineering



# INTERNATIONAL COOPERATION EUROPEAN UNION

The Faculty is involved in the 5<sup>th</sup>, 6<sup>th</sup> and the 7<sup>th</sup>  
Framework Programmes of the European Union.



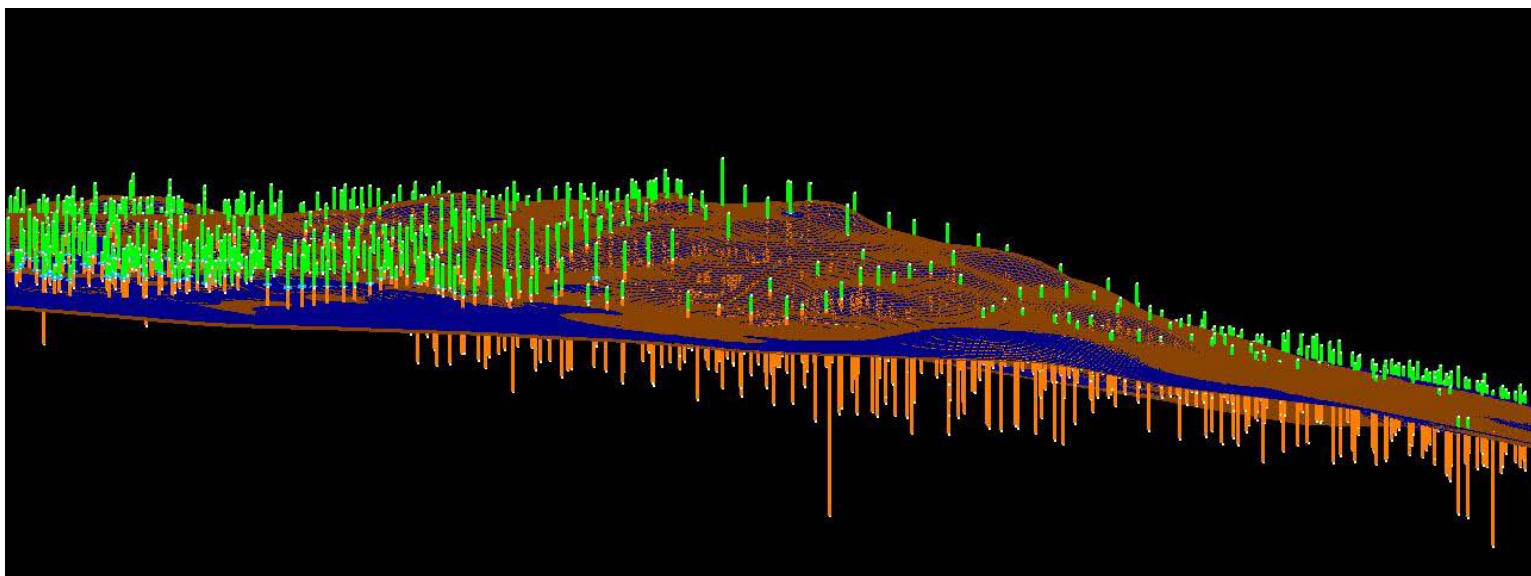
## Seventh Framework Programme (FP7) 2009-2015 GENESIS



***Groundwater and dependent ecosystems:  
new scientific basis on climate change and  
land-use impacts for the update of the EU  
Groundwater Directive***

## **Environmental Engineering and Protection:**

- heavy metals in soil, water, sediments and wastes – sampling and analysis;
- geostatistical and spatial (GIS) evaluation of the pollution;
- stone decay in historical and modern buildings: symptoms, mechanisms, treatment, replacement;
- inventory and valorisation of objects of inanimate nature; formal actions on protection of geological heritage of the Earth.



**Thank you for your attention**

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