



United Nations  
Educational, Scientific and  
Cultural Organization

Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture

Organización  
de las Naciones Unidas  
para la Educación,  
la Ciencia y la Cultura

Организация  
бъединенных Наций по  
вопросам образования,  
науки и культуры

منظمة الأمم المتحدة  
للتربية والعلم والثقافة

联合国教育、  
科学及文化组织

## The Assistant Director-General for External Relations and Public Information



UNESCO Chair for  
Science, Technology  
and Engineering  
Education  
Krakow, Poland



AGH  
UNIVERSITY OF SCIENCE  
AND TECHNOLOGY

To: National Commissions for  
UNESCO  
of Invited Member States  
(see Annex I)

Ref. : ERI/NCS/FLP/LZF/14.078

15 May 2014

Subject : UNESCO/POLAND Co-Sponsored Fellowships Programme in Engineering,  
cycle 2014

Sir/Madam,

I am pleased to inform you that, within the framework of the UNESCO/Poland Co-Sponsored Fellowships Programme in Engineering, cycle 2014, the Polish National Commission for UNESCO and the UNESCO Chair for Science, Technology and Engineering Education at the AGH University of Science and Technology in Krakow have placed at the disposal of certain Member States (see Annex I) **forty (40)** fellowships of **six (6)** months duration each, in Poland, starting on 1 October 2014. The beneficiaries of these fellowships will be given the opportunity to undertake an individual research programme in the field of **Science, Technology and Engineering**.

The annexes to this letter provide detailed information regarding the qualifications required, the facilities offered, the general conditions governing the award of fellowships and the procedure for submission of applications as well as different fields of research proposed at the selected host institution.

This programme is offered in open competition. Only candidates with the necessary qualifications, who meet the criteria stipulated in the annexes, will be selected. Applications should be addressed to the Fellowships Section, UNESCO, 7, place de Fontenoy – 75352 Paris 07 SP (France); a copy by e-mail could be sent to: l.zas-friz@unesco.org **by 20 June 2014 at the latest**.

Please accept, Sir/Madam, the assurances of my highest consideration.

  
Eric Falt

cc: Permanent Delegations to UNESCO of Invited Member States  
Polish National Commission for UNESCO  
Permanent Delegation of the Republic of Poland to UNESCO  
AGH University of Science and Technology (UNESCO AGH Chair)  
UNESCO Field Offices (of invited countries)

Enclosures: Annex I (List of Invited Member States and qualifications  
required per field of studies)  
Annex II (Terms and Conditions)  
Annex III (Detail of 44 proposed courses)  
UNESCO Fellowship Application Form  
Certificate of Language Knowledge

---

## UNESCO/POLAND CO-SPONSORED FELLOWSHIPS PROGRAMME 2014

List of Invited Member States per region and field of research as determined by the Polish authorities

Project No.	FIELD OF RESEARCH/PROJECT TITLE (number of fellowships)	INVITED MEMBER STATES PER REGION	LIMIT OF AGE	ACADEMIC REQUIREMENT
01	<b>Software Engineering (2)</b> Modeling and analysis of a multi-agent system with colored Petri nets	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than 40 years of age	B.Sc or M.Sc degree in electrical engineering, computer science or related disciplines
02	<b>Transport Engineering (5)</b> 02 Transportation technology system and devices (2)	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than 40 years of age	B.Sc or M.Sc degree in mechanical engineering or transport engineering
04	04 Availability problems in transportation systems and devices (2)			
06	06 Reliability, maintainability and availability in transport system (1)			
03	<b>Automation in Transport Engineering (2)</b> Transportation system telematics	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than 40 years of age	B.Sc or M.Sc degree in mechanical / automation engineering or transport engineering
05	<b>Decision Engineering. (2)</b> Problem base engineering	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than 40 years of age	B.Sc or M.Sc degree in engineering
07	<b>Materials Science and Ceramics (2)</b> Advanced ceramic materials	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.	no more than 40 years of age	B.Sc or M.Sc degree in ceramic materials
08	<b>Drilling Engineering (4)</b> Analysis of Hydraulic fracturing process (2)	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean, Europe	no more than 40 years of age	B.Sc or M.Sc degree preferably in earth engineering, petroleum or computer sciences
10	Drilling and Hydraulic fracturing simulation (2)			
09	<b>Geoengineering (2)</b> Drilling parameters influence on injection performance	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than 40 years of age	B.Sc or M.Sc degree preferably in earth engineering, petroleum or computer sciences
11	<b>Geology and Mining (6)</b> Optimising borehole heat exchangers systems (2)	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean, Europe	no more than 40 years of age	B.Sc or M.Sc degree 11 preferably civil engineering 12 basic knowledge on geology and reservoir engineering 13 basic knowledge on reservoir engineering methods and gas thermodynamics
12	Possibility of looking for the gas in unconventional reservoirs (2)			
13	Surface gas preparing methods concerning the unconventional gas reservoirs (2)			
14	<b>Gas Engineering (2)</b> Enhanced gas recovery (EGR) technology with CO2 sequestration in gas fields	Asia and the Pacific, Africa, Arab States, Europe, Latin America and the Caribbean,	no more than 35 years of age	B.Sc or M.Sc degree in petroleum engineering, geoscience, gas engineering or mechanical engineering
15	<b>Solid State Physics (1)</b> Studies magnetotriation in stoichiometric and doped magnetite single crystals	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than 40 years of age	B.Sc or M.Sc degree in physics or technical physics
16	<b>Environmental Management and Biotechnology (4)</b> Concept of application of the Polish innovative biotechnology for improvement the quality of the environment and promotion of sustainable development in selected region.	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than 40 years of age	B.Sc or M.Sc degree interest eco-innovation, reclamation of deteriorated areas (e.g. contaminated by petrochemical pollutants or toxic metals) or in protection of biodiversity and promotion of eco-tourism, ecological education and sustainable development
17	<b>Economic Sociology (1)</b> Interrrelations between new technologies and social and economic life in globalizing world	Asia and the Pacific, Africa, Arab States, Europe, Latin America and the Caribbean	no more than 40 years of age	MA degree in humanities or social sciences or economics

Project No.	FIELD OF RESEARCH/PROJECT TITLE (number of fellowships)	INVITED MEMBER STATES PER REGION	LIMIT OF AGE	ACADEMIC REQUIREMENT
18	<b>Petrophysics (1)</b> Reservoir geophysics-combining well log data and laboratory data.	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than <b>35</b> years of age	B.Sc or M.Sc degree In applied geophysics, petroleum geology
19	<b>Economic Geology (3)</b> Copper and associated mineralization and its lithostratigraphical, petrological and tectonic context in the Neoproterozoic succession from selected sites (1)	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean, Europe	no more than <b>40</b> years of age	B.Sc or M.Sc degree In Geology
20	3-4 Modeling of mineral deposits.(2)			
21	<b>Geology (1)</b> Mineralogy and geochemistry.	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than <b>40</b> years of age	B.Sc degree in Economic Geology, mineralogy and geochemistry
22	<b>Mining Geophysics (1)</b> Recognizing the mining discontinuity with GPR method.	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than <b>40</b> years of age	B.Sc or M.Sc degree in geophysics, applied geophysics geology
23	<b>Geotourism (2)</b> Assessment of geotouristic values of selected geological objects.	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than <b>40</b> years of age	B.Sc or M.Sc degree geology, geophysics and environmental protection.
24	<b>Mining and Geoengineering (2)</b> Mining and geology, the deposits at the great depths.	Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean	no more than <b>40</b> years of age	B.Sc or M.Sc degree In mining and geoengineering
25	Mining and geology environmental engineering			
26	<b>Iron Metallurgy (1)</b> Identification of rheological character of liquid phases in blast furnace.	Asia and the Pacific, Latin America and the Caribbean	no more than <b>40</b> years of age	B.Sc or M.Sc degree in field of iron metallurgy
	<b>Total courses: 44</b>			

Please refer to the list of invited Member States entitled to submit applications hereunder.

## AFRICA

(46 Member States)

- Angola
- Benin
- Botswana
- Burkina Faso
- Burundi
- Cameroon
- Cape Verde
- Central African Republic
- Chad
- Comoros
- Congo
- Côte d'Ivoire
- Democratic Republic of the Congo
- Djibouti
- Equatorial Guinea
- Eritrea
- Ethiopia
- Gabon
- Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Kenya
- Lesotho
- Liberia
- Madagascar
- Malawi
- Mali
- Mauritius
- Mozambique
- Namibia
- Niger
- Nigeria
- Rwanda
- Sao Tome and Principe
- Senegal
- Seychelles
- Sierra Leone
- Somalia
- South Africa
- Swaziland
- Togo
- Uganda
- United Republic of Tanzania
- Zambia
- Zimbabwe.

## ARAB STATES

(1 Member State)

- Sudan

## ASIA AND THE PACIFIC

(35 Member States and 2 Associated Members)

- Afghanistan
- Bangladesh
- Bhutan
- Brunei Darussalam
- Cambodia
- China
- Fiji
- India
- Indonesia
- Kazakhstan
- Kiribati
- Kyrgyzstan
- Lao People's Democratic Republic
- Malaysia
- Maldives
- Mongolia
- Myanmar
- Nauru
- Nepal
- Niue
- Pakistan
- Palau
- Papua New Guinea
- Philippines
- Samoa
- Sri Lanka
- Tajikistan
- Thailand
- Timor-Leste
- Tonga
- Turkmenistan
- Tuvalu
- Uzbekistan
- Vanuatu
- Viet Nam.

Associated Members:

- Macao China (Associate Member)
- Tokelau (Associate Member)

## EUROPE

(7 Member States)

- Armenia
- Azerbaijan
- Belarus
- Georgia
- Republic of Moldova
- Russian Federation
- Ukraine.

## LATIN AMERICA AND THE CARIBBEAN

(31 Member States)

- Argentina
- Barbados
- Belize
- Bolivia (Plurinational State of)
- Brazil
- Chile
- Colombia
- Costa Rica
- Cuba
- Dominica
- Dominican Republic
- Ecuador
- El Salvador
- Grenada
- Guatemala
- Guyana
- Haiti
- Honduras
- Jamaica
- Mexico
- Nicaragua
- Panama
- Paraguay
- Peru
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Suriname
- Trinidad and Tobago
- Uruguay
- Venezuela (Bolivarian Republic of).

## UNESCO/POLAND CO-SPONSORED FELLOWSHIPS PROGRAMME 2014

With a view to promoting human resource capacities in the developing countries and to enhancing international understanding and friendship among nations and the people of Poland, the Polish National Commission for UNESCO and the UNESCO Chair for Science, Technology and Engineering at the AGH University of Science and Technology in Krakow are placing at the disposal of UNESCO **forty (40)** fellowships of **six (6)** months duration starting on 1<sup>st</sup> October 2014 for the benefit of Member States listed in Annex I. Beneficiaries of these fellowships will be given the opportunity to undertake an individual research programme in the field of **Science, Technology and Engineering**.

Details regarding the fellowships offered and the criteria of selection are listed below. The Polish authorities will make the final decision.

### A. FIELD OF RESEARCH

Fields of research proposed under the UNESCO/Poland Co-Sponsored Fellowships Programme 2014 by the Polish National Commission for UNESCO and AGH University of Science and Technology, are listed as follows (see Annex III):

1. Field of research: **Software Engineering**. Project no: ID-01-PL-AGH. Project title: *Modeling and analysis of a multi-agent system with colored Petri nets*. Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowships: **2**. (limit of age: no more than **40** years old)
2. Field of research: **Transport Engineering**. Project no: ID-02-PL-AGH Project title: *Transportation technology system and devices*. Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowships: **2**. (limit of age: no more than **40** years old)
3. Field of research: **Automation in Transport Engineering**. Project no: ID-03-PL-AGH Project title: *Transportation system telematics*. Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowships: **2**. (limit of age: no more than **40** years old)
4. Field of research: **Transport Engineering** Project no: ID-04-PL-AGH. Project title: *Availability problems in transportation systems and devices*. Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowships: **2** (limit of age: no more than **40** years old)
5. Field of research: **Decision Engineering**. Project no: ID-05-PL-AGH. Project title: *Problem base engineering*. Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowships: **2** (limit of age: no more than **40** years old)
6. Field of research: **Transport Engineering** Project no: ID-06-PL-AGH. Project title: *Reliability, maintainability and availability in transport system*. Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowship: **1** (limit of age: no more than **40** years old)
7. Field of research: **Materials Science and Ceramics**. Project no: ID-07-PL-AGH. Project title: *Advanced ceramic materials* Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowships: **2** (limit of age: no more than **40** years old)
8. Field of research: **Drilling Engineering**. Project no: ID-08-PL-AGH. Project title: *Analysis of Hydraulic fracturing process*. Countries: **Africa, Arab States, Asia and the Pacific, Europe, Latin America and the Caribbean**. Number UNESCO fellowships: **2** (limit of age: no more than **40** years old)
9. Field of research: **Geoengineering**. Project no: ID-09-PL-AGH. Project title: *Drilling parameters influence on injection performance*. Countries: **Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean**. Number UNESCO fellowships: **2** (limit of age: no more than **40** years old)
10. Field of research: **Drilling Engineering**. Project no: ID-10-PL-AGH. Project title: *Drilling and Hydraulic fracturing simulation*. Countries: **Africa, Arab States, Asia and the Pacific, Europe, Latin America and the Caribbean**. Number UNESCO fellowships: **2** (limit of age: no more than **40** years old)
11. Field of research: **Geology and Mining**. Project no: ID-11-PL-AGH. Project title: *Optimising borehole heat exchangers systems*. Countries: **Africa, Arab States, Asia and the Pacific, Europe, Latin America and the Caribbean**. Number UNESCO fellowships: **2** (limit of age: no more than **40** years old)

12. Field of research: **Geology and Mining** Project no: ID-12-PL-AGH. Project title: *Possibility of looking for the gas in unconventional reservoirs.*  
Countries: Africa, Arab States, Asia and the Pacific, Europe, Latin America and the Caribbean.  
Number UNESCO fellowships: 2 (limit of age: no more than 40 years old)
13. Field of research: **Geology and Mining** Project no: ID-13-PL-AGH. Project title: *Surface gas preparing methods concerning the unconventional gas reservoirs*  
Countries: Africa, Arab States, Asia and the Pacific, Europe, Latin America and the Caribbean.  
Number UNESCO fellowships: 2 (limit of age: no more than 40 years old)
14. Field of research: **Gas Engineering** Project no: ID-14-PL-AGH. Project title: *Enhanced gas recovery (EGR) technology with CO2 sequestration in gas fields.*  
Countries: Africa, Arab States, Asia and the Pacific, Europe, Latin America and the Caribbean.  
Number UNESCO fellowships: 2 (limit of age: no more than 35 years old)
15. Field of research: **Solid State Physics** Project no: ID-15-PL-AGH. Project title: *Studies magnetostriction in stoichiometric and doped magnetite single crystals.*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1. (limit of age: no more than 40 years old)
16. Field of research: **Environmental Management and Biotechnology.** Project no: ID-16-PL-AGH. Project title: *Concept of application of the Polish innovative biotechnology for improvement the quality of the environment and promotion of sustainable development in selected region*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 4 (limit of age: no more than 40 years old)
17. Field of research: **Economic Sociology.** Project no: ID-17-PL-AGH. Project title: *Interrelations between new technologies and social and economic life in globalizing world.*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1 (limit of age: no more than 40 years old)
18. Field of research: **Petrophysics** no: ID-18-PL-AGH. Project title: *Reservoir geophysics-combining well log data and laboratory data.*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1 (limit of age: no more than 35 years old)
19. Field of research: **Economic Geology.** Project no: ID-19-PL-AGH. Project title: *Copper and associated mineralization and its lithostratigraphical, petrological and tectonic context in the Neoproterozoic succession from selected sites.*  
Countries: Africa, Arab States, Asia and the Pacific, Europe, Latin America and the Caribbean.  
Number UNESCO fellowships: 1 (limit of age: no more than 40 years old)
20. Field of research: **Economic Geology.** Project no: ID-20-PL-AGH Project title: *3-4 Modeling of mineral deposits.* Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 2 (limit of age: no more than 40 years old)
21. Field of research: **Geology.** Project no: ID-21-PL-AGH Project title: *Mineralogy and geochemistry.*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1 (limit of age: no more than 40 years old)
22. Field of research: **Mining Geophysics** no: ID-22-PL-AGH. Project title: *Recognizing the mining discontinuity with GPR method. Assessment of geotouristics values of selected geological objects.*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1 (limit of age: no more than 40 years old)
23. Field of research: **Geotourism.** Project no: ID-23-PL-AGH Project title: *Assessment of geotouristics values of selected geological objects.*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 2 (limit of age: no more than 40 years old)
24. Field of research: **Mining and Geoengineering.** Project no: ID-24-PL-AGH. Project title: *Mining and geology, the deposits at the great depths.*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1 (limit of age: no more than 40 years old)
25. Field of research: **Mining and Geoengineering.** Project no: ID-25-PL-AGH. Project title: *Mining and Geology, Environmental Engineering*  
Countries: Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1. (limit of age: no more than 40 years old)

26. Field of research: **Iron Metallurgy** Project no: ID-26-PL-AGH. Project title: *Identification of rheological character of liquid phases in blast furnace*  
Countries: Africa, Arab States, Asia and the Pacific, Latin America and the Caribbean.  
Number UNESCO fellowships: 1 (limit of age: no more than 40 years old)

## B. QUALIFICATIONS REQUIRED

The required qualifications for each field of research (project) are as per the attached annexes to this letter of announcement (see Annex I).

## C. FACILITIES OFFERED BY THE POLISH AUTHORITIES

- (i) Free tuition and access to the university facilities;
- (ii) Monthly allowance of **1350 PLN** (approximately US \$450) corresponding to the salary of a local junior research fellow. Thus, all living expenses in Poland are to be borne by the fellow with this allowance; and;
- (iii) An installation allowance of **1350 PLN** to be paid upon arrival in Poland.

**No provision to finance or lodge family members is made.**

At the end of the research studies, the beneficiaries will receive a certificate attesting to their attendance at the host institution.

## D. FACILITIES OFFERED BY UNESCO

- (i) **International travel expenses:** (by the most direct, economical route) from the beneficiary's country to and from Poland will be covered by UNESCO under its Regular Programme Budget.
- (ii) **Health insurance for fellowship beneficiaries who are declared medically fit:** UNESCO fellowship holders may be covered by a health insurance policy, taken-out by the Organization for the duration of fellowship. The costs of this health insurance is subscribed to and covered by UNESCO on behalf of awarded fellows.

## E. VISA

Fellows, from countries where Polish Embassies or Consulates exist, will have to obtain their entry visa to the country of study prior to their departure. Fellows, from countries where no such Embassy or Consulate exists, must secure their visa through the nearest Embassy of the Republic of Poland.

UNESCO and the Government of the Republic of Poland **provide no allowance** to defray passport and visa expenses. Selected beneficiaries will have **to secure their own visas themselves.**

## F. SUBMISSION OF APPLICATION FILES

Candidatures should be submitted per invited Member State. **Original applications in duplicate** must be channelled through the National Commission for UNESCO of the candidate's country and communicated to Ali Zaid, Chief, Fellowships Section, **by 20 June 2014 at the latest**. An advance copy of the application may be sent by fax (33.1) 45.68.55.03 or by e-mail [a.zaid@unesco.org](mailto:a.zaid@unesco.org) and [l.zas-friz@unesco.org](mailto:l.zas-friz@unesco.org). Applications should have **imperatively** the following attachments in **DUPLICATE:**

- (i) UNESCO fellowships application forms, **ALL four (4) pages** duly completed **in English using capital letter** (illegible documents will be eliminated from the procedure, hand writing form must include capital letter only);
- (ii) Two photographs attached to the applications (4x6 cm);
- (iii) Certified copies (in English) of Bachelor's or Master's Degree obtained; and,
- (iv) UNESCO certificate of language knowledge, duly completed by a relevant authority, if the mother tongue of the candidate is not English.
- (v) Two letters of recommendation from someone related to the candidate's work, as well confirming the candidate's qualifications.



## Deadline 20 July 2014 at the latest

### IMPORTANT

It is the National authority's responsibility to ensure that all candidates are duly informed of the above-mentioned conditions prior to the submission of applications.

Files which are incomplete or which are received after the deadline as well as candidatures that do not fulfil the requirements will not be taken into consideration.

**Only the selected candidates will receive a letter through their respective National Commissions for UNESCO.**

All application should be endorsed by the National Commission from the country of the candidate.

All correspondence should be in English.

**AGH University of Science and Technology, KRAKOW, POLAND**  
UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING  
EDUCATION AT THE AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY  
KRAKOW, POLAND

A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland  
E-mail: unesco@agh.edu.pl

**List of projects proposal**  
**UNESCO/ Poland Co-sponsored Fellowship Programme**  
**in Engineering edition 2014 A (AGH UST)**  
**Call for submission**

With a view to promoting human resource capacities in the developing countries and to enhancing international understanding and friendship among nations and the people of Poland, the Polish National Commission for UNESCO and the UNESCO Chair for Science, Technology and Engineering at the AGH University of Science and Technology in Krakow are placing at the disposal of UNESCO forty (40) fellowships in English language only of six (6) months duration starting on 1st October 2014 for the benefit of Member States listed in Annex 01. Beneficiaries of these fellowships will be given the opportunity to undertake an individual research programme under supervision of tutor in the field of the Science, Technology and Engineering.

**ID-01-PL-AGH. Field of research:** Software Engineering. **Project title:** Modeling and analysis of a multi-agent system with colored Petri nets. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in electrical engineering, computer science or related disciplines. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; good skills in computer engineering, be familiar with the Java language, basic knowledge in software engineering, good background in mathematics; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States – see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-02-PL-AGH. Field of research:** Transport Engineering. **Project title:** Transportation technology systems and devices. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to write computer programs for example or be familiar with CAD/ CAM/ CAE programs, have a general knowledge related to transportation problems, including safety and reliability problems; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-03-PL-AGH. Field of research:** Automation in Transport Engineering. **Project title:** Transportation system telematics. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic**

## UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering edition 2014 A (AGH UST)

UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING EDUCATION AT THE AGH UNIVERSITY OF SCIENCE  
AND TECHNOLOGY KRAKOW, A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland; E-mail: unesco@agh.edu.pl  
List of projects proposal - call for submission

---

**requirements:** candidates should have a B.Sc. or M.Sc. degree. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to write computer programs for example in C++, ProEngineer, or be familiar with MatlabSimulink, or CA-D/M, FEM, have a general knowledge related to telematic in transportation, or construction testing and measurement; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-04-PL-AGH. Field of research:** Transport Engineering. **Project title:** Availability problems in transportation systems and devices. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to write computer programs for example or be familiar with CAD/ CAM/ CAE programs, have a general knowledge related to transportation problems, including safety and reliability problems; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-05-PL-AGH. Field of research:** Decision Engineering. **Project title:** Problem base engineering. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to use MS Office and drawing programs, be familiar with CAD/ CAE programs, have a general knowledge related to engineering problems; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-06-PL-AGH. Field of research:** Transport Engineering. **Project title:** Reliability, maintainability and availability in transport system. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in mechanical or transport engineering. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to use 3D Modeling (SolidWorks or inventor professional), have knowledge of ultrasonic NDT and magnetography, others; be able to analysis of reliability, maintainability and availability of machine maintenance, as well as Modeling (SolidWorks and Inventor professional), have knowledge of finite element method FEM (Ansys); have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 1.

**ID-07-PL-AGH. Field of research:** Materials Science and Ceramics. **Project title:** Advanced ceramic materials. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic**

## UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering edition 2014 A (AGH UST)

UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING EDUCATION AT THE AGH UNIVERSITY OF SCIENCE  
AND TECHNOLOGY KRAKOW, A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland; E-mail: unesco@agh.edu.pl  
List of projects proposal - call for submission

---

**requirements:** candidates should have a B.Sc. or M.Sc. degree. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; have general knowledge in ceramic engineering; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-08-PL-AGH. Field of research:** Drilling Engineering. **Project title:** Analysis of hydraulic fracturing process. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree, preferably in earth engineering, petroleum or computer sciences. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to solve problems using mathematical methods; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-09-PL-AGH. Field of research:** Geoengineering. **Project title:** Drilling parameters influence on injection performance. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree, preferably in earth engineering, petroleum or computer sciences. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to solve problems using mathematical methods; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-10-PL-AGH. Field of research:** Drilling Engineering. **Project title:** Drilling and hydraulic fracturing simulation. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree, preferably in earth engineering, petroleum or computer sciences. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to solve problems using mathematical methods; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-11-PL-AGH. Field of research:** Geology and Mining. **Project title:** Optimising borehole heat exchangers systems. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree, preferably in Civil Engineering. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; general knowledge in mathematics; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**UNESCO/ Poland Co-sponsored Fellowship Programme  
in Engineering edition 2014 A (AGH UST)**

UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING EDUCATION AT THE AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY KRAKOW, A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland; E-mail: unesco@agh.edu.pl  
List of projects proposal - call for submission

---

**ID-12-PL-AGH. Field of research:** Geology and Mining. **Project title:** Possibility of looking for the gas in unconventional reservoirs. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree, basic knowledge on geology and reservoir engineering. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; general knowledge in operate computers programming; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-13-PL-AGH. Field of research:** Geology and Mining. **Project title:** Surface gas preparing methods concerning the unconventional gas reservoirs. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree, basic knowledge on reservoir engineering methods and gas thermodynamics. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; general knowledge in operate computers programming; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-14-PL-AGH. Field of research:** Gas Engineering. **Project title:** Enhanced gas recovery (EGR) technology with CO<sub>2</sub> sequestration in gas fields. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in petroleum engineering, geoscience, gas engineering or mechanical engineering. **Qualifications required:** be proficient in reading and writing in English; be no more than 35 years of age; and be in good health, both physically and mentally; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - Africa, Asia, Pacific Region, Latin America, Caribbean countries. **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-15-PL-AGH. Field of research:** Solid State Physics. **Project title:** Studies magnetostriction in stoichiometric and doped magnetite single crystals. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in physics or technical physics. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; have a general knowledge in programming; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - see Annex I. **Number of fellowships** with free tuition sponsored by UNESCO: 1.

**ID-16-PL-AGH. Field of research:** Environmental Management and Biotechnology. **Project title:** Concept of application of the Polish innovative biotechnology for improvement of the quality of the environment and promotion of sustainable development in selected region. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059

## UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering edition 2014 A (AGH UST)

UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING EDUCATION AT THE AGH UNIVERSITY OF SCIENCE  
AND TECHNOLOGY KRAKOW, A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland; E-mail: unesco@agh.edu.pl

List of projects proposal - call for submission

---

Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree; interest in eco-innovation, reclamation of deteriorated areas (e.g. contaminated by petrochemical pollutants or toxic metals) or in protection of biodiversity and promotion of eco-tourism, ecological education and sustainable development. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally, be able to prepare paper, presentation, report and cooperate in interdisciplinary teams of experts; have two written authorized recommendations confirming the candidate's qualifications, as well as adequate knowledge and skills for this project. **Developing countries (specification):** UNESCO Member States - *see Annex I. Number of fellowships with free tuition sponsored by UNESCO: 4.*

**ID-17-PL-AGH. Field of research:** Economic Sociology. **Project title:** interrelations between new technologies and social and economic life in globalizing world. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have M.Sc. degree in MA degree in humanities or social sciences or economics.. **Qualifications required:** be proficient in reading and writing in English; be not more than 40 years of age; and be in good health, both physically and mentally; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - *see Annex I. Number of fellowships with free tuition sponsored by UNESCO: 1.*

**ID-18-PL-AGH. Field of research:** Petrophysics. **Project title:** Reservoir geophysics – combining well log data and laboratory data. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in applied geophysics, petroleum geology. **Qualifications required:** be proficient in reading and writing in English; be no more than 35 years of age; and be in good health, both physically and mentally, able to work in team, general knowledge in earth sciences, mathematics, physics; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - *see Annex I. Number of fellowships with free tuition sponsored by UNESCO: 1.*

**ID-19-PL-AGH. Field of research:** Economic Geology. **Project title:** Copper and associated mineralization and its lithostratigraphical, petrological and tectonic context in the Neoproterozoic succession from selected sites. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in geology. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally, able to work in team, hold a B.Sc. or M.Sc. in geology with the appropriate courses in mineralogy, economic geology, metamorphic petrology and cognate subjects completed and examinations passed with very good marks; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries (specification):** UNESCO Member States - *see Annex I. Number of fellowships with free tuition sponsored by UNESCO: 1.*

**ID-20-PL-AGH. Field of research:** Economic Geology. **Project title:** 3-4 Modeling of mineral deposits. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland (www.agh.edu.pl). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in geology. Good skill of computer operation, MS Office is

## UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering edition 2014 A (AGH UST)

UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING EDUCATION AT THE AGH UNIVERSITY OF SCIENCE  
AND TECHNOLOGY KRAKOW, A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland; E-mail: unesco@agh.edu.pl

[List of projects proposal - call for submission](#)

---

a minimum. In the case of any deposit some digital data from the candidate country are welcome, e.g. xyz drill hole logging, chemical data, e.g. Cu and other elements contents, related to sample logging. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - [see Annex I](#). **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-21-PL-AGH. Field of research:** Geology. **Project title:** Mineralogy and geochemistry of IOCG-type deposit. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland ([www.agh.edu.pl](http://www.agh.edu.pl)). **Academic requirements:** candidates should have a B.Sc. degree, basic knowledge on economic geology, mineralogy and geochemistry. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to work with an optical type microscopes and MS Office; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - [see Annex I](#). **Number of fellowships** with free tuition sponsored by UNESCO: 1.

**ID-22-PL-AGH. Field of research:** Mining Geophysics. **Project title:** Recognizing the mining discontinuity with GPR method. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland ([www.agh.edu.pl](http://www.agh.edu.pl)). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in geophysics, applied geophysics, geology. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be able to work in team, general knowledge in earth sciences, mathematics and physics; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - [see Annex I](#). **Number of fellowships** with free tuition sponsored by UNESCO: 1.

**ID-23-PL-AGH. Field of research:** Geotourism. **Project title:** Assessment of geotouristics values of selected geological objects. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland ([www.agh.edu.pl](http://www.agh.edu.pl)). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in geology, geophysics and environmental protection. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; have a general knowledge in geotourism; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - [see Annex I](#). **Number of fellowships** with free tuition sponsored by UNESCO: 2.

**ID-24-PL-AGH. Field of research:** Mining and Geoengineering. **Project title:** Mining and geology, the deposits at the great depths. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland ([www.agh.edu.pl](http://www.agh.edu.pl)). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in in mining and geoengineering. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; have a general knowledge in mining and geo-engineering, as well as in designing of underground structures like shafts, underground chambers and galleries; have two written authorized recommendations

**UNESCO/ Poland Co-sponsored Fellowship Programme  
in Engineering edition 2014 A (AGH UST)**

UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING EDUCATION AT THE AGH UNIVERSITY OF SCIENCE  
AND TECHNOLOGY KRAKOW, A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland; E-mail: unesco@agh.edu.pl  
[List of projects proposal - call for submission](#)

---

confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - [see Annex I](#). **Number of fellowships** with free tuition sponsored by UNESCO: 1.

**ID-25-PL-AGH. Field of research:** Mining and Geoengineering. **Project title:** Mining and geology, environmental engineering. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland ([www.agh.edu.pl](http://www.agh.edu.pl)). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in mining and geoengineering. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; have a general knowledge in mining and geo-engineering; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - [see Annex I](#). **Number of fellowships** with free tuition sponsored by UNESCO: 1.

**ID-26-PL-AGH. Field of research:** Iron Metallurgy. **Project title:** Identification of rheological character of liquid phases in blast furnace. **Name of institution:** AGH University of Science and Technology, A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland ([www.agh.edu.pl](http://www.agh.edu.pl)). **Academic requirements:** candidates should have a B.Sc. or M.Sc. degree in field of iron metallurgy. **Qualifications required:** be proficient in reading and writing in English; be no more than 40 years of age; and be in good health, both physically and mentally; be good skills and experiences laboratory, be experiences at modelling of dripping zone of blast furnace; have two written authorized recommendations confirming the candidate's qualifications. **Developing countries** (specification): UNESCO Member States - [see Annex I](#). **Number of fellowships** with free tuition sponsored by UNESCO: 1. **Project description:** This work's purpose is to experimental study of high temprheometry molten and semi-solid blast furnace slags. Investigation of rheological parameters of liquids and flow possibilities of molten slag and liquid hot metal and their interactions. R&D results: publication. Other outputs: further cooperation.