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منظمة الأمم المتحدة
للربية والعلم والثقافة

联合国教育、
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The Assistant Director-General for External Relations and Public Information



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



AGH
AGH UNIVERSITY OF SCIENCE
AND TECHNOLOGY

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

Ref. : ERI/MSP/PPF/FLP/LZF/18.005

28 February 2018

Subject : UNESCO/POLAND Co-Sponsored Fellowships Programme in Engineering
Cycle 2018

Sir/Madam,

I am pleased to inform you that, within the framework of the UNESCO/Poland Co-Sponsored Fellowships Programme in Engineering, cycle 2018, 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 2018. 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 by 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. Given that UNESCO attaches high priority to gender equality, special attention should be paid to women's candidatures for an equal representation. Applications should be addressed by mail to Mr Stoyan Bantchev, Chief of the Participation Programme and Fellowships Section (UNESCO, 7, Place de Fontenoy – 75352 Paris 07 SP, France) **by 13 April 2018 at the latest**.

A scanned copy should be sent by e-mail (s.bantchev@unesco.org; l.zas-friz@unesco.org; b.qin@unesco.org and unesco4@agh.edu.pl).

Yours sincerely,

Eric Falt

Enclosures:

- Annex I (List of Invited Member States and requirements)
- Annex II (Terms and Conditions)
- Annex III (Details of 35 proposed projects)
- Information sheet and check list
- UNESCO Fellowship Application Form
- Certificate of Language Knowledge

UNESCO/POLAND CO-SPONSORED FELLOWSHIPS PROGRAMME 2018

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)	LIMIT OF AGE	ACADEMIC REQUIREMENT Be proficient in reading and writing in English.
01	Biomedical Engineering (4 projects) GPU-based acceleration of diffusion magnetic resonance imaging. (1)	no more than 30 years of age	B.Sc. or M.Sc. degree in Biomedical Engineering, electrical engineering or computer science (01) Experience in C++ programming language, strong knowledge in numerical methods, statistical signal processing and basic knowledge in GPU programming (CUDA or OpenCL). (02) General knowledge in computer usage and programming (C++, Java etc.), electronic equipment, signal and image processing, human physiology and measurements. Scientific and technical reading and writing in English and experience with Matlab will also be welcome. (03) General knowledge in computer usage and programming (C++, Java etc.), electronic equipment, signal and image video recording and transmission system, human physiology and measurements. Scientific and technical reading and writing in English and experience with Matlab will also be welcome. (04) Candidates should have a general knowledge in computer usage and programming (C++, Java etc.), electronic equipment, signal and image processing, statistics, human physiology and measurements. Scientific and technical reading and writing in English and experience with Matlab will also be welcome.
02	Multimodal physiological measurements for recognition of human daily activity. (1)		
03	A multicamera visual system for continuous pulse tracking in human. (1)		
04	Analysis of noise sources and predication to their influence on digital electrocardiogram. (1)		
05	Geodesy and Cartography, geomatics (2 projects) Monitoring of sediments and bottoms of water reservoirs used for industrial purposes. (1)	no more than 30 years of age	B.Sc. or M.Sc. degree in geodesy or geomatics or geoinformation (05) Have a predisposition to work in a team, general knowledge in geodesy, the ability to develop geodetic measurements. (06) Have a predisposition to work in a team, no contraindications to work in underground mining plants; general knowledge in geodesy, the ability to develop geodetic measurements.
06	Modern methods of diagnostics of the geometry of excavations providing underground mines. (1)		
07	Renewable Energy, solar energy (2 projects) Characterization of Solar Radiation components: Global, Direct and Diffuse. (1)	no more than 30 years of age	B.Sc. or M.Sc. degree in Eng. (07) Computers general knowledge (Excel) is required and general knowledge about Solar energy. (08) Computers general knowledge (Excel) is required and general knowledge about Solar energy.
08	Effect of the temperature and dust deposition on the photovoltaic module performance.(1)		
09	Applied Geology (1 project) New generation of integrated petrophysical interpretation for Fracture Basement Reservoir in offshore.	no more than 38 years of age	B.Sc. or M.Sc. degree General knowledge in petroleum geology, well logging.
10	Materials Science, ceramic matrix composites (2 projects) Nonoxide ceramics composites. (1)	no more than 25 years of age	B.Sc. or M.Sc. degree (10) General knowledge in material science or ceramic technology. (11) Same as above
11	Wear resistant ceramic composites (1)		
12	Transport Engineering (2 projects) Availability problems in transportation systems and devices (1)	no more than 35 years of age	B.Sc. or M.Sc. degree (12) Be able to write computer programs, for example, be familiar with CAD/CAM/CAE; have a general knowledge related to transportation programmes, including safety and reliability problems. (14) Candidates should have mechanical/ transport engineering/ automation degree; be familiar with transport system telematics and automation; be able to analysis of reliability, maintainability and availability of machine maintenance, as well as modeling.
14	Transport System Telematics. (1)		
13	Decision Engineering (1 project) Problem base engineering.	no more than 34 years of age	B.Sc. or M.Sc. degree Be able to use MS Office and drawing programs, have a general knowledge related to engineering problems.
15	Transport Engineering, (1 project) Transportation technology system and devices.	no more than 35 years of age	B.Sc. or M.Sc. degree Be familiar with CAD/ CAM/ CAE programs, have a general knowledge related to transportation problems, including modeling and monitoring.

Project No.	FIELD OF RESEARCH/PROJECT TITLE (Number of Fellowships)	LIMIT OF AGE	ACADEMIC REQUIREMENT Be proficient in reading and writing in English.
16 28	Mining Engineering (2 projects) Availability problems in transportation systems and devices Selected aspects of operation in mining industry. The Study programme will include selected mining issues, including: rock mechanics and rock engineering, chosen aspects of underground exploitation, especially underground mining methods, geomechanics problems related to underground mining.	no more than 25 years of age	B.Sc. or M.Sc. degree (16) Have degree in mining or mining related fields. (28) Degree in mining related fields.
17 18 19 20	Geology (4 projects) Pegmatites from Central Africa: Mineralogical and geochemical study Geochemical and mineralogical investigation of Carbonatite complexes and associated alkaline rocks in south and southeastern Asia Characteristic and genesis of Cu-deposits of South and Southeastern Asia Design of compressed air energy storages in salt caverns Antimony and related mineral deposit in south and southeastern Asia	no more than 35 years of age	B.Sc. or M.Sc. degree (17) General knowledge of Kibara belt Geology as well as geology of Central Africa; be familiar with EMPA and EDX analyses; be a student of economic geology; general knowledge on granite pegmatites and their geochemistry; Own samples for studying are REQUIRED. (18) General knowledge of Pakistan Geology as well as geology of southern Asia and ore deposits; be familiar with EMPA and EDX analyses; be a student of economic geology; general knowledge on carbonatite and alkaline intrusions deposits; Own samples for studying are REQUIRED. (19) General knowledge of Pakistan Geology as well as geology of southern Asia and ore deposits; be familiar with EMPA and EDX analyses; be a student of economic geology; general knowledge on volcanic hosted copper deposits; Own samples for studying are REQUIRED. (20) General knowledge of Pakistan Geology as well as geology of southern Asia and ore deposits; be familiar with EMPA and EDX analyses; be a student of economic geology; general knowledge on volcanic hosted copper deposits; Own samples for studying are REQUIRED.
21 22 23 27	Geology, mineralogy, geochemistry (4 projects) Tin deposit in Central Asia. Pb-Zn deposit in South East Asia. Chromite deposit in South East Asia. REE deposit in South East Asia.	no more than 35 years of age	B.Sc. or M.Sc. degree (21) General knowledge in geology, mineralogy, geochemistry, mineral deposit. Candidate without samples will be not accepted. (22) (Same as above) Candidates should include and specify in the application form the list of samples. (23) (Same as 21) (27) General knowledge in geology, mineralogy, geochemistry, mineral deposit.
24 26	Mineralogy, geochemistry, economic geology (2 projects) Stratiform Lead Zinc deposit in South Asia Stratiform copper deposit in South Asia	no more than 35 years of age	B.Sc. or M.Sc. degree (24) General knowledge in geology, mineralogy, geochemistry, mineral deposit. Should mention the list of samples in the application form. (26) (Same as above)
25	Geology, mineralogy, geochemistry, economic geology (1 project) The distribution and composition of ore minerals forming secondary Sn, W, Nb-Ta deposits in Central Africa	no more than 35 years of age	B.Sc. or M.Sc. degree (25) General knowledge in geology, mineralogy, geochemistry, mineral deposit. Candidate without samples will be not accepted.
29	Automatic Control and Robotics (1 project) Innovative intelligent and autonomous decision support systems.	no more than 35 years of age	B.Sc. or M.Sc. degree in Computer Science, Mathematics, Automatic Control, Robotics or Computational Physics/ Astrophysics/ Biology (29) Excellent programming skills and experience (C++/C#/Python/Java/PHP, database programming), a good working knowledge of Matlab, and analytical thinking are prerequisites to be fulfilled by the candidates. Interests and preliminary knowledge in one or more of following fields: multicriteria optimization, forecasting, statistics, autonomous systems, including mobile robots and autonomous web crawlers, will be welcome. Pre-existing knowledge in neurosciences will be required. Social communication skills and good teamwork record will be important assets.

Project No.	FIELD OF RESEARCH/PROJECT TITLE (Number of Fellowships)	LIMIT OF AGE	ACADEMIC REQUIREMENT Be proficient in reading and writing in English.
30	Computer Vision, embedded systems, FPGA, SoC (System on Chip), GPU (1 project) Embedded implementation of selected vision algorithms using heterogeneous Zynq SoC (System on Chip) or embedded GPU devices.	no more than 35 years of age	B.Sc. or M.Sc. degree in degree in Computer Science, electronics or automatic controls and robotics. general knowledge in computer science (mainly programming in C/C++/Python/Matlab/OpenCV and general algorithms design), basic skills in computer vision, embedded system (ARM processor programming and Linux OS), FPGA devices (e.g. VHDL or Verilog, Xilinx FPGA devices, Xilinx Zynq devices, Xilinx tools like ISE, Vivado, SDK) or embedded GPU (OpenCL, CUDA). Only basic of computer science is mandatory, however others will greatly help with finishing the project (no additional time for self-studying this subject will be required).
31	Drilling Engineering (1 project) Drilling and Hydraulic Fracturing.	no more than 40 years of age	B.Sc. or M.Sc. degree preferably in petroleum, earth engineering, physics, mathematics or computer science. Be able to solve problems using mathematical methods.
32	Economic Sociology and Economics (1project) Interrelations between new technologies and social, economic life in globalizing world.	no more than 35 years of age	B.Sc. or M.Sc.; MA degree in humanities or social sciences or economics. General knowledge in world economics
33	Mining Machines (1 project) Selected problems in exploitation of mining machines.	no more than 35 years of age	B.Sc. or M.Sc. degree in degree in engineering, Mining Devices.
34	Automation in Mining (1 project) Automation in mining machines and devices.	no more than 35 years of age	B.Sc. or M.Sc. degree studies in Mining Devices.
35	Geotourism, geology (1 project) Assessment of geotouristics values of selected geological objects in the developing countries.	no more than 35 years of age	B.Sc. or M.Sc. degree in degree General knowledge in geology, geography, tourism, geotourism, environment protection.
	35 projects for 40 fellowships		

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

List of Invited Member States (115)

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

(2 Member States)

- Iraq
- Syrian Arab Republic(the)

ASIA AND THE PACIFIC

(36 Member States)

- Afghanistan
- Bangladesh
- Bhutan
- Brunei Darussalam
- Cambodia
- China
- Fiji
- India
- Indonesia
- Iran (the Islamic Republic of)
- 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

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 2018

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 1st October 2018 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**. For more information please visit also <http://www.unesco.agh.edu.pl/en/>.

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

A. 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).

B. FACILITIES OFFERED BY THE POLISH AUTHORITIES

- (i) Free tuition and access to the university facilities based on the local regulations. Accommodation at the AGH UST Student Campus organised for fellows by the UNESCO AGH Chair.
- (ii) Monthly allowance of **1600 PLN** (1 USD = approximately 4,0 PLN) corresponding to the salary of a local junior research fellow. Thus, all living expenses and accommodation in Poland are to be borne by the fellow with this allowance; and;
- (iii) A one-time special allowance of **1600 PLN** to be paid upon arrival in Poland, this sum will cover different activities related to your stay in Krakow, such as an obligatory medical check-up upon arrival (in accordance with the internal regulations for all students); cultural, historical and/or touristic visits, conferences, workshops, and seminars related to your studies.

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, this certificate will be given after receipt of the requested reports and financial clearance from the Institution.

C. 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.

D. 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.**

E. SUBMISSION OF APPLICATION FILES

Candidatures should be submitted by the invited Member State. **Original applications in duplicate** must be channelled through the National Commission for UNESCO of the candidate's country and communicated to Mr Stoyan Bantchev, Chief, Participation programme and Fellowships Section, **by 13 April 2018 at the latest (GMT +01:00)** to UNESCO mailing address. An advance copy of the application should be sent by fax (33.1) 45.68.55.03 or by e-mail unesco4@agh.edu.pl; s.bantchev@unesco.org; b.qin@unesco.org and l.zas-friz@unesco.org. Applications should have **imperatively** the following attachments in **DUPLICATE**:

- (i) UNESCO fellowships application forms, including medical certificate, **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/ PhD 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.
- (vi) The endorsed candidates should register themselves to the Fellowship e-registration system available on the page: <http://www.unesco.agh.edu.pl/en/> .

Deadline 13 April 2017 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

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Annex 03.

List of invited Member States per region and field of research as determined by the Polish Authorities, 2018A

Project ID-2018A-XX-AGH PL	Field of Research (number of positions)	Invited Member States per Regions
29	Automatic Control and Robotics (3)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
09	Applied Geology (1)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
34	Automation in Mining (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
01, 02, 03, 04	Biomedical Engineering (4)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
30	Computer Vision (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
13	Decision Engineering (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
31	Drilling Engineering (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
32	Economic Sociology (1)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
05, 06	Geodesy and Cartography (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
17, 18, 19, 20, 21, 22, 23, 25, 27	Geology (13)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
35	Geotourism (3)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
10, 11	Materials Science (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
24, 26	Mineralogy (4)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
16, 28	Mining Engineering (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
33	Mining Machines (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
07, 08	Renewable Energy (4)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
12, 14, 15	Transport Engineering (6)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
Total project number: 35	Total positions into proposed projects: 55	

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