ANNEX III

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

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List of invited member States per region and field of research as determined by the Polish Authorities, 2023A

Project number	Disciplines (number of positions)	Invited Member States per Regions
ID 2023A 01 AGH PL (1) ID 2023A 02 AGH PL (1)	Biomedical Engineering (2)	Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2023A 03 AGH PL (1)	Civil Engineering, Geodesy and Transport (1)	Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2023A 04 AGH PL (2)	Computer and Information Sciences (2)	Asia and the Pacific, Latin America and the Caribbean
ID 2023A 05 AGH PL (3) ID 2023A 06 AGH PL (1) ID 2023A 07 AGH PL (3) ID 2023A 08 AGH PL (1) ID 2023A 09 AGH PL (2) ID 2023A 10 AGH PL (1) ID 2023A 11 AGH PL (1) ID 2023A 12 AGH PL (1) ID 2023A 13 AGH PL (1) ID 2023A 14 AGH PL (2) ID 2023A 15 AGH PL (2) ID 2023A 28 AGH PL (2)	Earth and related Environmental Sciences (20)	Africa, Asia and the Pacific, Latin America and the Caribbean Asia and the Pacific
ID 2023A 16 AGH PL (1) ID 2023A 17 AGH PL (1) ID 2023A 18 AGH PL (2) ID 2023A 29 AGH PL (2) ID 2023A 30 AGH PL (2)	Environmental Engineering, Mining and Energy (8)	Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2023A 19 AGH PL (2) ID 2023A 20 AGH PL (2) ID 2023A 21 AGH PL (2)	Materials Engineering (6)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2023A 22 AGH PL (2) ID 2023A 23 AGH PL (2) ID 2023A 24 AGH PL (2) ID 2023A 25 AGH PL (2) ID 2023A 26 AGH PL (3)	Mechanical Engineering (11)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2023A 27 AGH PL (1)	Sociology (1)	Africa, Asia and the Pacific, Latin America and the Caribbean
Total project number: 30	Total positions into proposed projects: 51	

Please refer to the list of invited Member States entitled to submit applications (Annex I).

ANNEX I

UNESCO/POLAND CO-SPONSORED FELLOWSHIPS PROGRAMME IN ENGINEERING 2023

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.
	Biomedical Engineering (2 projects)		
01	Diagnostable reconstruction of ECG from series with missing samples. (1)	not more than 34 years of age	M.Sc. degree in biomedical engineering, electrical engineering or computer science (1) General knowledge in computer usage and programming (C++, Java etc.), electronic equipment, signal and image processing, human physiology and physiological measurements. Scientific and technical reading and writing in English and experience with Matlab will also be welcome.
02	Video-based recognition of human emotional response to a visual stimulus (1)	not more than 34 years of age	M.Sc. degree in biomedical engineering, electrical engineering or computer science (2) 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
	Civil Engineering, Geodesy and Transport, Environmental Engineering, Mining and Energy (1 project)		
03	Laboratory testing of the bond strength between shotcrete/binder and rock (1)	not more than 34 years of age	B.Sc. degree in civil engineering, mining (3) General knowledge in laboratory investigations of mechanical properties for rocks, soils, concrete, data analysis, statistical calculations, numerical software for geomechanics, civil engineering. Candidate should be ready to do research in underground mines or tunnels. Scientific and technical reading and writing in English and experience with statistic analyses, using numerical software for rock, soil and concrete; making the presentations for a conference, writing a scientific paper, laboratory tests on rocks, soil and concrete.
	Computer and Information Sciences (1 project)		
04	Computer Vision for Scene Perception and Understanding (2)	not more than 30 years of age	B.Sc. degree in computer engineering (4) General knowledge in artificial intelligence, computer vision. Scientific and technical reading and writing in English and experience with image processing, image recognition, computational intelligence, programming in Python (or C/C++, Matlab).
	Earth and Related Environmental Sciences (12 projects)		
05	Assessment of geotourism potential of geological resources of selected regions in the developing countries (3)	not more than 34 years of age	B.Sc. degree in geology (5) General knowledge in geology¸ geography, tourism, geotourism, environment protection. Scientific and technical reading and writing in English and experience with geology, geography, tourism, geotourism, environment protection.

06	Geology and Geochemistry of rock salt and potash deposits from one of Asia countries (1)	not more than 30 years of age	B.Sc. degree in geology (6) General knowledge in sample collection and preparation. Scientific and technical reading and writing in English and experience with general knowledge in geology, mineralogy, geochemistry, mineral deposit, and computer sciences.
07	Immobilization of exDNA and phosphorus recycling from waste water using raw materials (3)	not more than 34 years of age	B.Sc. degree in chemistry, materials science, environmental engineering, environmental sciences or related scientific disciplines. (7) General knowledge of chemistry, analytical chemistry and laboratory work. Additional biochemistry, biology, geochemistry and material science knowledge will be a great asset. Scientific and technical reading and writing in English and experience with basic laboratory equipment will be required.
08	Geology and economic evaluation of Au-Cu selected deposit from one of SE Asia Countries as key for country development (1)	not more than 30 years of age	B.Sc. degree in geology (8) General knowledge in sample collection and preparation. Scientific and technical reading and writing in English and experience with general knowledge in geology, mineralogy, geochemistry, mineral deposit, and computer sciences.
09	Geology and mineralization of the Pb-Zn-Ag deposit in the SE of Asia. An economic evaluation of the local raw materials. (2)	not more than 30 years of age	B.Sc. degree in geology (9) General knowledge in sample collection and preparation. Scientific and technical reading and writing in English and experience with general knowledge in geology, mineralogy, geochemistry, mineral deposit and introduction to computer sciences. To increase the scientific value of the project, the possession of geological samples related to the project topic by the student is welcome.
10	Geology and mineralogy of the Cu-Ag indices as a potential for the Red bed type deposit in S-America (1)	not more than 32 years of age	B.Sc. degree in geology (10) General knowledge in sample collection and preparation. Scientific and technical reading and writing in English and experience with general knowledge in geology, mineralogy, geochemistry, mineral deposit and computer sciences. To increase the scientific value of the project, the possession of geological samples related to the project topic by the student is welcome.
11	Geology of the stratabound Cu-Ag deposits in S-America (1)	not more than 32 years of age	B.Sc. degree in geology (11) General knowledge in sample collection and preparation. Scientific and technical reading and writing in English and experience with general knowledge in geology, mineralogy, geochemistry, mineral deposit and computer sciences. To increase the scientific value of the project, the possession of geological samples related to the project topic by the student is welcome.
12	Mineral Characterization and evaluation of selected Sn-W (-Mo) deposit in SE Asia (1)	not more than 30 years of age	B.Sc. degree in geology (12) General knowledge in sample collection and preparation. Scientific and technical reading and writing in English and experience with general knowledge in geology, mineralogy, geochemistry, mineral deposit and computer sciences.To increase the scientific value of the project, the possession of geological samples related to the project topic by the student is welcome.
13	Potential areas/ deposits of one of SE Asia countries in some Cu-Au deposit as key for country development. (1)	not more than 30 years of age	B.Sc. degree in geology (13) General knowledge in sample collection and preparation. Scientific and technical reading and writing in English and experience with general knowledge in geology, mineralogy, geochemistry, mineral deposit and computer sciences.Geological samples related to the project topic by the student is welcome.
14	Mineralogical characteristics of the epithermal systems in South America (2)	not more than 34 years of age	B.Sc. degree in geology (14) General knowledge in ore deposits – especially porphyry and epithermal systems, microscopy in reflected light, mineralogy of ore minerals, general knowledge on South America geology and metallogeny, be familiar with EMPA and EDX analyses. Scientific and technical reading and writing in English and experience with report and scientific article writing

			as well as preparation of presentations for public. To increase the scientific value of the project, the possession of geological samples related to the project topic by the student is welcome
15	Nb-Ta-Sn-W mineralization from the Central Africa: Mineralogical and geochemical study (2)	not more than 34 years of age	B.Sc. degree in geology (15) General knowledge in ore deposits – especially on granite-related ore systems – as greisens, pegmatites, hydrothermal deposits, microscopy in reflected light, mineralogy of ore minerals, general knowledge on Africa geology and metallogeny, be familiar with EMPA and EDX analyses. Scientific and technical reading and writing in English and experience with report and scientific article writing as well as preparation of presentations for public. To increase the scientific value of the project, the possession of geological samples related to the project topic by the student is welcome.
28	Interpretation of the geophysical data concerning with the Rare Earth Elements deposits rich in natural radioactive elements (2)	not more than 30 years of age	B.Sc. degree in geophysics or geology (28) General knowledge in geophysics, nuclear geophysics, or geology, dynamic geology, environment. Scientific and technical reading and writing in English and experience with general knowledge in C-degree.
	Environmental Engineering, Mining and Energy (8 projects)		
16	Rock and rock mass properties in laboratory and field tests (2)	not more than 34 years of age	B.Sc. degree in mining engineering or civil engineering (tunneling) (16) General knowledge in mining or tunnelling and rock mechanics. They should know the basic of statistics and have the skills in MS Excel (data analysis, statistical calculation). Scientific and technical reading and writing in English and experience with laboratory test on rocks is also essential. The candidate should be ready for research carried out underground in mining workings or tunnels.
17	Drilling and fracturing (1)	not more than 34 years of age	B.Sc. degree preferably in petroleum, earth engineering, physics, IT or mathematics (17) Good knowledge in mathematics to be able to solve problems using mathematical methods. Scientific and technical reading and writing in English and experience with report and scientific article publishing.
18	Foundation of wind turbines (1)	not more than 34 years of age	B.Sc. degree preferably in geotechnics, earth engineering, physics, IT or mathematics (18) Good knowledge in mathematics to be able to solve problems using mathematical methods. Scientific and technical reading and writing in English and experience with report and scientific article publishing.
29	Risk assessment of advanced storage of natural gas in aquifers for the selected (2)	not more than 35 years of age	B.Sc. or M.Sc. degree in petroleum engineering, geoscience, gas engineering or mechanical engineering (29) General knowledge in petroleum engineering, geoscience, gas engineering or mechanical engineering.
30	Thermodynamic analysis of the non-isothermal injection of CO2 into an aquifer bed (2)	not more than 35 years of age	B.Sc. or M.Sc. degree in petroleum engineering, geoscience, gas engineering or mechanical engineering (30) General knowledge in petroleum engineering, geoscience, gas engineering or mechanical engineering.

	Materials Engineering (6 projects)		
19	Ceramics resistance for subcritical cracking. (2)	not more than 25 years of age	B.Sc. or M.Sc. degree in chemical engineering or materials science or mechanical engineering (19) General knowledge in materials science or ceramic technology.
20	Synthesis and 3D printing of UHTCs (Ultra High Temperature Ceramic) ceramic composites in space applications. (2)	not more than 25 years of age	B.Sc. or M.Sc. degree in chemical engineering or materials science or mechanical engineering (20) General knowledge in materials science or ceramic technology.
21	Inhalable, degradable polymeric drug delivery systems for the treatment of bacterial infections in the lungs. (2)	not more than 34 years of age	B.Sc. degree in materials science/ materials engineering/ biomedical engineering (21) General knowledge in biomaterials, chemistry, materials science and/or biomedical engineering. Scientific and technical reading and writing in English and experience with laboratory works on biomaterials manufacturing/testing.
	Mechanical Engineering, Transport Engineering (5 projects)		
22	Automated transportation technology systems and devices (2)	not more than 34 years of age	B.Sc. degree in engineering (22) General knowledge in computer programs, have general knowledge related to transportation problems, including automation, availability, safety and reliability problems. Scientific and technical reading and writing in English and experience with transportation technology systems and devices, automation, availability, safety and reliability.
23	Cyber-physical systems (2)	not more than 34 years of age	B.Sc. degree in engineering (23) General knowledge in computer programs, have general knowledge related to cyber-physical systems, twin systems, transportation problems, including safety and reliability problems. Scientific and technical reading and writing in English and experience with cyber-physical systems, twin systems, safety and reliability.
24	Decision-making processes in engineering (2)	not more than 34 years of age	B.Sc. degree in engineering (24) General knowledge in computer programs, have general knowledge in decision problem in engineering, including safety and reliability problems. Scientific and technical reading and writing in English and experience with problem base engineering systems and devices, decision problem in engineering, safety and reliability.
25	Maintenance technology (2)	not more than 34 years of age	B.Sc. degree in engineering (25) General knowledge in computer programs, have general knowledge in maintenance technology, including safety and reliability problems. Scientific and technical reading and writing in English and experience with maintenance technology systems and devices, safety and reliability.
26	Soundscape planning as a method of environmental noise management in a selected national park (3)	not more than 34 years of age	B.Sc. degree in engineering (26) General knowledge in acoustics, signal processing, statistics. Scientific and technical reading and writing in English and experience with acoustic measurements.

	Sociology (Economic sociology and economics) (1 project)		
27	Interrelations between new technologies and social and economic life in globalizing world	not more than 34 years of age	B.Sc. or M.Sc. degree, MA degree in humanities or social sciences or economics (27) General knowledge in world economics.
51 positions into 30 proposed projects			

List of Invited Member States (71)

AFRICA
(32 Member States)

- Angola
- Benin
- Botswana
- Burkina Faso
- Cameroon
- Cabo Verde
- Chad
- Côte d'Ivoire
- Democratic Republic of the Congo
- Eritrea
- Ethiopia
- Gabon
- Gambia
- Ghana
- Kenya
- Lesotho
- Madagascar
- Malawi
- Mali
- Mauritius
- Mozambique
- Namibia
- Niger
- Nigeria
- Rwanda
- Senegal
- South Africa
- Togo
- Uganda
- United Republic of Tanzania
- Zambia
- Zimbabwe

ARAB STATES
(2 Member States)

- Iraq
- Syrian Arab Republic(the)

ASIA AND THE PACIFIC
(22 Member States)

- Bangladesh
- Bhutan
- Brunei Darussalam
- Cambodia
- Fiji
- India
- Indonesia
- Kazakhstan
- Kyrgyzstan
- Lao People's Democratic Republic
- Malaysia
- Mongolia
- Nepal
- Pakistan
- Papua New Guinea
- Philippines
- Sri Lanka
- Tajikistan
- Thailand
- Turkmenistan
- Uzbekistan
- Viet Nam

LATIN AMERICA AND THE CARIBBEAN
(15 Member States)

- Argentina
- Bolivia (Plurinational State of)
- Brazil
- Chile
- Colombia
- Cuba
- Dominican Republic
- Ecuador
- El Salvador
- Haiti
- Jamaica
- Mexico
- Panama
- Peru
- Trinidad and Tobago