



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
Объединенных 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

Le Sous-Directeur général pour la Priorité Afrique et les Relations extérieures



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



AGH
AGH UNIVERSITY OF SCIENCE
AND TECHNOLOGY

Aux: Commissions nationales pour
l'UNESCO des Etats membres invités
(cf. Annexe I)

Réf. : PAX/DRX/PPF/RD/20.001

6 mars 2020

Objet : Programme de bourses coparrainées UNESCO/Pologne en Ingénierie
Cycle 2020

Madame/Monsieur,

J'ai le plaisir de vous informer que dans le cadre du Programme de bourses coparrainées UNESCO/Pologne, cycle 2020, en Ingénierie, la Commission nationale polonaise pour l'UNESCO et la Chaire UNESCO pour la Science, la Technologie et l'Enseignement de l'Ingénierie à AGH, l'Université des Sciences et des Technologies (Cracovie), offrent **trente (30)** bourses de recherche d'une durée de **six (6)** mois à partir du 1 octobre 2020, en Pologne, au profit de certains Etats membres (cf. Annexe I). Les bénéficiaires de ces bourses auront l'opportunité d'entreprendre un programme de recherche dans le domaine **des sciences, des technologies et de l'ingénierie**.

Les annexes ci-jointes indiquent des renseignements précis sur les domaines d'étude, les qualifications requises, les services offerts, les règles et les conditions d'attribution de ces bourses et la procédure à suivre pour la soumission des dossiers de candidature.

Ce programme est offert par voie de concours et seuls les candidats réunissant les qualifications nécessaires et répondant aux critères stipulés dans les annexes, auront la chance d'être sélectionnés. Compte tenu du fait que l'UNESCO accorde une priorité élevée à l'égalité des genres, une attention particulière sera portée aux candidatures féminines pour une représentation équitable. Les candidatures doivent être adressées par courrier à M. Stoyan Bantchev, Chef de la Section du Programme de participation et des bourses de l'UNESCO (7, place Fontenoy – 75352 Paris 07, France) en respectant la **date limite du 15 avril 2020**.

Une copie scannée devra être envoyée par courriel : (s.bantchev@unesco.org; l.zas-friz@unesco.org; r.dahan@unesco.org et unesco4@agh.edu.pl).

Veillez agréer, Madame/Monsieur, l'expression de mes sentiments distingués.

Firmin Edouard Matoko

Pièce jointes:

- Annexe I (Etats Membres invités et qualifications requises par domaine d'études disponible seulement en anglais)
- Annexe II (Critères et conditions)
- Annexe III (Descriptif des 30 projets proposés. Disponible seulement en anglais)
- Formulaire d'informations (seulement en anglais)
- Formulaire UNESCO de demande de bourse (seulement en anglais)
- Certificat de connaissance linguistique (seulement en anglais)

UNESCO/POLAND CO-SPONSORED FELLOWSHIPS PROGRAMME 2020

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.
	Automation, electronic and electrical engineering (2 projects)		
01	Prediction in dynamic scheduling problems in logistics and manufacturing. (1)	not more than 35 years of age	M.Sc. degree, in computer science, control engineering or related discipline (01) General knowledge in method and algorithms for scheduling problems in logistic and manufacturing, dynamic problems, python programing, git.
02	Representation of piece of music to machine learning with NLP methods. (1)		(02) General knowledge in Machine learning, data science, python programing with pandas, git, SQL and HDF5 file.
	Biomedical Engineering (3 projects)		
03	Analysis of noise sources and prediction to their influence on digital electrocardiogram. (1)	not more than 35 years of age	M.Sc. degree in biomedical engineering, electrical engineering or computer science (3) 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.
04	Multimodal physiological measurements for recognition of human daily activity. (1)		(4) 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.
05	Electrospinning of biopolymers for biomedical applications. (2)		M.Sc. degree in materials science, biomedical engineering, chemistry, biochemistry, biology (5) General knowledge in the field of designing, fabricating and analyzing physicochemical properties of materials; General knowledge about working in the laboratory, including basic safety procedures; Candidates with experience in writing scientific articles will be preferred; Candidates having general knowledge in the field of biology/biochemistry and/or electrochemistry will be preferred.
	Earth and Environmental Sciences (6 projects)		
06	Cu-Ag-Au deposits in Latin America/South-East Asia. (1)	not more than 35 years of age	M.Sc. or Ph.D. degree (6) General knowledge in geology, mineralogy, geochemistry, mineral deposit.
07	Geology of mineral deposit. (1)		M.Sc. degree (7) General knowledge in geology, mineralogy, geochemistry, mineral deposit.
08	Antimony bearing mineraling systems and deposits in South America: Mineralogical and geochemical characteristics. (1)		(8) General knowledge of South America geology and metallogeny; be familiar with EMPA and EDX analyses; student of economic geology; general knowledge on Sb bearing mineralizations.

09	Au-bearing epithermal systems in South America: mineralogical and geochemical characteristics. (1)		(9) General knowledge of South America geology and metallogeny; be familiar with EMPA and EDX analyses; student of economic geology; general knowledge on porphyry and epithermal systems.
10	Nb-Ta-Sn-W mineralization in pegmatites, quartz veins and greisens from the Central Africa: Mineralogical and geochemical study. (2)		(10) General knowledge of South America geology and metallogeny; be familiar with EMPA and EDX analyses; student of economic geology; general knowledge on porphyry and epithermal systems.
11	Assessment of geotourism potential of selected geological regions in the developing countries. (3)		M.Sc. or Ph.D. degree (11) General knowledge in geology, geography, tourism, geotourism, environment protection.
Environmental Engineering, Mining and Energy (10 projects)			
12	Selected problems in Environmental Engineering - heating, ventilation and air conditioning systems. (1)	not more than 35 years of age	M.Sc. or Ph.D. degree (12) Degree in mining or mining related fields.
13	Selected aspects of the Mining Process Modelling. (1)		(13) Degree in mining or mining related fields.
14	Selected aspects of in Mining Engineering - Susceptibility of rocks to bumps. (1)		(14) Degree in mining or mining related fields.
15	An Experimental Analysis of the Mixing Process in Agitated Vessel. (3)	not more than 35 years of age	M.Sc. degree (15) High grades during study, any individual achievements but grades, skills and achievement need to be confirmed by any independent body, the general knowledge in mathematics, chemistry, physics, fluid mechanics, overall computer skills basic of Word, Excel, CAD, have a willingness to research work.
16	Hybrid Renewable Energy Systems. (4)	not more than 35 years of age	M.Sc. degree or Ph.D. degree (16) High grades during study, any individual achievements, general knowledge in mathematics, energy conversion and storage, overall computer skills basic of Matlab, Excel, CAD. Grades, skill and achievement need to be confirmed by any independent body.
17	Drilling and Fracturing. (2)	not more than 35 years of age	M.Sc. degree (17) Be able to solve problems using mathematical methods.
18	Energy Systems with Environmental Impact. (3)	not more than 35 years of age	M.Sc. degree or Ph.D. degree (18) High grades during study, any individual achievements; general knowledge in mathematics, mathematical modelling, energy conversion and storage, energy harvesting systems, air thermodynamics, compressed air systems, particulate pollutions, programming – preference will be given for Matlab users, CAD skills – preference will be given for AutoCAD and/or SolidWorks users, charts/diagrams elaboration – preference will be given for Origin users. Each grade, knowledge, skill and achievement should confirm by any independent body.

19	Selected problems of in Mining Engineering - laboratory test on rocks. (1)	not more than 35 years of age	M.Sc. or Ph.D. degree (19) Degree in mining or mining related fields.
20	Selected problems of Environmental Engineering - reclamation and revitalization. (1)		(20) Degree in mining or mining related fields.
21	Selected aspects of in Mining Engineering - coal waste material. (1)		(21) Degree in mining or mining related fields.
22	Computer simulation of precipitation and growth process of (Al, Ti, REM- rare earth metals) inclusions in cast steel. (3)	not more than 35 years of age	M.Sc. degree (22) General knowledge in materials engineering or metallurgy or physics.
23	Advanced TEM study of the structure and properties of interphase boundaries in nanomaterials. (1)	not more than 35 years of age	Ph.D. degree in materials science or physics (23) Proven experience with transmission electron microscopy techniques.
24	Functional materials for energy technologies. (1)	not more than 35 years of age	M.Sc. degree in technical sciences (24) General knowledge in chemistry, electrochemistry and materials science is required.
Mechanical Engineering (5 projects)			
25	Quantifying and mapping the potential of hybrid solar/wind/hydro sources in Poland. (3)	not more than 35 years of age	M.Sc. Degree (25) The applicant should be familiar with topics related to energy storage, renewable energy sources integration to the power system, hybrid energy systems (solar-wind, solar-hydro). The applicant should have advanced knowledge about modern heuristic optimization techniques such as GA(Genetic Algorithm), PSO(Particle Swarm Optimization), GWO(Grey Wolf Optimizer), NSGA-x(Non-dominated Sorting Genetic Algorithm –x). An additional asset would be familiarity with the concept of renewable energy resources complementarity.
26	Availability problems in transportation systems and devices. (2)		M.Sc. or Ph.D. degree (26) 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.
27	Transportation technology systems and devices. (2)		(27) 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 modeling and monitoring.
28	Transport System Telematics. (2)		(28) Knowledge in reading and writing in English; be familiar with transport system telematics and automation, be able to analysis of reliability, maintainability and availability of machine maintenance, as well as modeling.
29	Problem base engineering. (2)		(29) Be able to use MS Office and drawing programs, have a general knowledge related to engineering problems.
Sociological Sciences (1 project)			
30	Interrelations between new technologies and social and economic life in globalizing world. (1)	not more than 35 years of age	M.Sc. Degree (30) General knowledge in world economics.
30 projects for 50 fellowships			

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

List of Invited Member States (71)

AFRICA

(32 Member States)

- Angola
- Benin
- Botswana
- Burkina Faso
- Cameroon
- Cape 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

(23 Member States)

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

LATIN AMERICA AND THE CARIBBEAN

(14 Member States)

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



PROGRAMME DE BOURSES COPARRAINÉES UNESCO/POLOGNE 2020

Afin de promouvoir les compétences des ressources humaines des pays en développement et de favoriser la compréhension et l'amitié entre les nations et le peuple polonais, la Commission nationale polonaise pour l'UNESCO et l'AGH, l'Université des Sciences et des Technologies (Cracovie), la Chaire UNESCO pour la Science, la Technologie et l'Enseignement de l'Ingénierie à l'AGH, mettent à la disposition de l'UNESCO **trente (30)** bourses de recherche de **six (6)** mois chacune qui débuteront le 1 octobre 2020. Ces bourses s'adressent aux ressortissants des États membres répertoriés en Annexe I. Les bénéficiaires de cette bourse auront l'opportunité d'entreprendre un programme de recherche dans le domaine des **sciences, des technologies et de l'ingénierie**. Pour plus d'informations, veuillez visiter la page web : <http://www.unesco.agh.edu.pl/en/> .

Les critères et les conditions de ces bourses sont indiqués ci-dessous. La sélection définitive des bénéficiaires revient aux autorités polonaises.

A. DOMAINE DE RECHERCHE

Les domaines de recherche sont indiqués ci-dessous (cf. Annexe III, disponible seulement en anglais).

B. QUALIFICATIONS REQUISES

Les qualifications requises pour chaque domaine de recherche (projet) sont indiquées dans l'Annexe I (disponible seulement en anglais)

C. MOYENS OFFERTS PAR LES AUTORITES POLONAISES

- (i) Frais de scolarité gratuits;
- (ii) Allocation mensuelle de **2200 PLN** (1 USD = appr. 4,00 PLN approximativement) pour permettre au boursier de régler entièrement toutes les dépenses liées à son séjour en Pologne; et,
- (iii) Une allocation spéciale de **2200 PLN**, versée à l'arrivée en Pologne, cette somme est destinée pour régler certaines activités, telles que l'examen médical (obligatoire selon le règlement intérieur des étudiants), activités culturelles, historiques et/ou touristiques, conférences, ateliers et séminaires relatifs aux programmes d'études.

Aucune allocation n'est prévue pour les membres de la famille du boursier.

A la fin de la bourse, dès réception des rapports demandés par le superviseur d'études et du paiement de toutes les factures relatives aux études, l'Université ou l'établissement d'accueil délivrera aux boursiers un certificat attestant leurs études ou travaux de recherche.

D. MOYENS OFFERTS PAR L'UNESCO

- (i) **Billet aller-retour à destination de la Pologne** (au tarif le plus économique) à la charge de l'UNESCO au titre de son Programme ordinaire ; et
- (ii) **Couverture médicale** : L'UNESCO souscrit une police d'assurance pour ses boursiers sélectionnés, pendant la durée de la bourse et règle directement les frais d'affiliation à l'assureur du système des Nations Unies, sous réserve d'une approbation médicale délivrée par le Service médical de l'UNESCO.

E. VISA

Les candidats sélectionnés devront obtenir, avant leur départ, un visa auprès de l'Ambassade/Consulat de Pologne de leur pays de résidence ou, le cas échéant, auprès de l'Ambassade/Consulat d'un pays voisin.

L'UNESCO et le gouvernement de la République de Pologne **ne prennent pas en charge** les frais de visa ou de délivrance de passeport et les démarches en vue de l'obtention du visa **incombent au seul boursier**.

F. SOUMISSION DES DOSSIERS DE CANDIDATURE

Les candidatures doivent être soumises par l'Etat membre invité. Comme à l'accoutumée, les Commissions nationales des Etats membres invités soumettront à l'adresse postale de l'UNESCO, les **dossiers originaux** des candidats **en double exemplaire** à M. Stoyan Bantchev, Chef, Section du Programme de participation et des bourses **le 15 avril 2020 au plus tard**. Une copie doit être envoyée par courriel : unesco4@agh.edu.pl, s.bantchev@unesco.org, l.zasfriz@unesco.org, r.dahan@unesco.org. Les dossiers devront **IMPERATIVEMENT** comprendre les documents suivants en **DOUBLE EXEMPLAIRE** :

- (i) Deux (2) formulaires UNESCO de demande de bourse (**4 pages**) dûment **complétés en anglais**;
- (ii) Deux photographies épinglées aux formulaires (4x6 cm);
- (iii) Deux copies certifiées conformes (**en anglais**) de la Maîtrise (Master) ou Doctorat (PhD) obtenus; et,
- (iv) Deux formulaires de l'UNESCO de connaissances linguistiques de la langue anglaise dûment complétés et attestés par un professeur ou un établissement d'accueil (pour les candidats non anglophones).
- (v) Deux lettres de recommandation confirmant les qualifications du candidat.
- (vi) Les candidats endossés par leurs Commissions nationales doivent s'inscrire eux-mêmes dans la page : <http://www.unesco.agh.edu.pl/en/>

15 avril 2020 au plus tard : date limite de dépôt des candidatures

IMPORTANT

Avant toute soumission, il incombe aux autorités de s'assurer que le candidat a été instruit des conditions susmentionnées.

Les dossiers incomplets ou reçus après la date indiquée ci-dessus, de même que les candidatures ne correspondant pas aux critères requis, ne seront pas pris en considération.

Seuls, les candidats sélectionnés recevront une lettre les en informant, par l'intermédiaire de leur Commission nationale respective.

Toute candidature doit être endossée par la Commission nationale du pays d'origine du candidat.

Toute correspondance doit être en anglais

UNESCO Chair for Science, Technology and Engineering Education
at the AGH University of Science and Technology, Krakow, Poland

UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering, edition 2020 A
Projects proposal list

Table 01. Projects proposal list, UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering, edition 2020 A.

Project number	Disciplines (number of positions)	Invited Member States per Regions
ID 2020A 01-02 AGH PL	Automation, electronic and electrical engineering (2)	Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2020A 03-04 AGH PL	Biomedical Engineering (2)	Africa, Asia and the Pacific, Latin America and the Caribbean,
ID 2020A 05 AGH PL	Biomedical Engineering (2)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
ID 2019A 06-07 AGH PL	Earth and Environmental Sciences (2)	Latin America and the Caribbean, Asia and the Pacific
ID 2019A 08-11 AGH PL	Earth and Environmental Sciences (7)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
ID 2019A 12-14, 19-21 AGH PL	Environmental Engineering, Mining and Energy (6)	Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2019A 15-18 AGH PL	Environmental Engineering, Mining and Energy (12)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
ID 2019A 22 AGH PL	Materials Engineering (3)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
ID 2019A 23 AGH PL	Materials Engineering (1)	Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2019A 24 AGH PL	Materials Engineering (1)	Asia and the Pacific
ID 2019A 25 AGH PL	Mechanical Engineering (3)	Africa, Asia and the Pacific, Latin America and the Caribbean
ID 2019A 26-29 AGH PL	Mechanical Engineering (8)	Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States
ID 2019A 30 AGH PL	Sociological Sciences (1)	Africa, Asia and the Pacific, Latin America and the Caribbean
Total project number: 30	Total positions into proposed projects: 50	

Date: 03.02.2020



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UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering, edition 2020 A
Projects proposal list

**UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering,
edition 2020 A
PROJECTS PROPOSAL LIST**

Scientific contents: individual research programme in the field of engineering and technical sciences under supervision of tutor and coordinated by the UNESCO AGH Chair.

Name of the host institution: AGH University of Science and Technology, UNESCO AGH Chair. Full address: Ave. A. Mickiewicza 30, PL 30-059 Krakow, Poland (www.unesco.agh.edu.pl). Project duration: 6 months. Starting date: 01.10.2020. Language: English. Correspondence is only accepted in English.

Academic requirements (obligatory for all): Candidates should have minimum M.Sc. degree, be proficient in reading and writing and spoken in English, be not more than 35 years of age, and be in good health both physically and mentally; application date status: student or employee.

ID 2020A 01 AGH PL. Automation, electronic and electrical engineering (discipline). Prediction in dynamic scheduling problems in logistics and manufacturing (Project title). Academic requirements: Candidates should have minimum: M.Sc. degree, in computer science, control engineering or related discipline. Qualifications required: be proficient in reading and writing in English, general knowledge in method and algorithms for scheduling problems in logistic and manufacturing, dynamic problems, python programing, GIT. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 02 AGH PL. Automation, electronic and electrical engineering (discipline). Representation of piece of music to machine learning with NLP methods (Project title). Academic requirements: Candidates should have minimum: M.Sc. degree, in computer science, control engineering or related disciplines. Qualifications required: be proficient in reading and writing in English; general knowledge in Machine learning, data science, python programing with pandas, GIT, SQL and HDF5 file. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 03 AGH PL. Biomedical Engineering (discipline). Analysis of noise sources and prediction to their influence on digital electrocardiogram (Project title). Academic requirements: Candidates should have a M.Sc. degree in biomedical engineering, electrical engineering or computer science. Qualifications required: Candidates should be proficient in reading and writing in English; 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. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.



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UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering, edition 2020 A
Projects proposal list

ID 2020A 04 AGH PL. Biomedical Engineering (discipline). Multimodal physiological measurements for recognition of human daily activity (Project title). Academic requirements: Candidates should have a M.Sc. degree in biomedical engineering, electrical engineering or computer science. Qualifications required: Candidates should be proficient in reading and writing in English; Candidates should have a 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. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 05 AGH PL. Biomedical Engineering (discipline). Electrospinning of biopolymers for biomedical applications (Project title). Academic requirements: Candidates should have minimum: M.Sc. in any of the following fields of science: materials science, biomedical engineering, chemistry, biochemistry, biology (or strictly related fields) is a minimum. Higher degrees of education will be preferred. Qualifications required: be proficient in reading, speaking and writing in English; have experience in analyzing scientific literature; general knowledge in the field of designing, fabricating and analyzing physicochemical properties of materials; general knowledge about working in the laboratory, including basic safety procedures; candidates with experience in writing scientific articles will be preferred; candidates having general knowledge in the field of biology/ biochemistry and/or electrochemistry will be preferred. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 2.

ID 2020A 06 AGH PL. Earth and Environmental Sciences (discipline). Cu-Ag-Au deposits in Latin America/South-East Asia (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: be proficient in reading and writing in English; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Latin America and the Caribbean, Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 07 AGH PL. Earth and Environmental Sciences (discipline). Geology of mineral deposit (Project title). Academic requirements: Candidates should have minimum: M.Sc. Qualifications required: be proficient in reading and writing in English; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Latin America and the Caribbean, Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 08 AGH PL. Earth and Environmental Sciences (discipline). Antimony bearing mineralizing systems and deposits in South America: Mineralogical and geochemical characteristics (Project title). Academic requirements: Candidates should have minimum: Candidates should have a M.Sc. degree. Qualifications required: be proficient in reading and writing in English; general knowledge of South America geology and metallogeny; be familiar with EMPA and EDX analyses; student of economic geology; general knowledge on Sb bearing mineralizations. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 1.



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UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering, edition 2020 A
Projects proposal list

ID 2020A 09 AGH PL. Earth and Environmental Sciences (discipline). Au-bearing epithermal systems in South America: mineralogical and geochemical characteristics (Project title). Academic requirements: Candidates should have minimum: Candidates should have a M.Sc. degree. Qualifications required: be proficient in reading and writing in English; general knowledge of South America geology and metallogeny; be familiar with EMPA and EDX analyses; student of economic geology; general knowledge on porphyry and epithermal systems. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 10 AGH PL. Earth and Environmental Sciences (discipline). Nb-Ta-Sn-W mineralization in pegmatites, quartz veins and greisens from the Central Africa: Mineralogical and geochemical study (Project title). Academic requirements: Candidates should have minimum: Candidates should have a M.Sc. degree. Qualifications required: be proficient in reading and writing in English; general knowledge of South America geology and metallogeny; be familiar with EMPA and EDX analyses; student of economic geology; general knowledge on porphyry and epithermal systems. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 2.

ID 2020A 11 AGH PL. Earth and Environmental Sciences (discipline). Assessment of geotourism potential of selected geological regions in the developing countries (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: be proficient in reading and writing in English; general knowledge in geology, geography, tourism, geotourism, environment protection. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 3.

ID 2020A 12 AGH PL. Environmental Engineering, Mining and Energy (discipline). Selected problems in environmental engineering - heating, ventilation and air conditioning systems (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: proficient in reading and writing in English; degree in mining or mining related fields. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 13 AGH PL. Environmental Engineering, Mining and Energy (discipline). Selected aspects of the mining process modelling (Project title). Academic requirements: Candidates should have M.Sc./ Ph.D. degree. Qualifications required: proficient in reading and writing in English; degree in mining or mining related fields. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 14 AGH PL. Environmental Engineering, Mining and Energy (discipline). Selected aspects of in mining engineering - susceptibility of rocks to bumps (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: proficient in reading and writing in English; degree in mining or mining related fields. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.



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ID 2020A 15 AGH PL. Environmental Engineering, Mining and Energy (discipline). An experimental analysis of the mixing process in agitated vessel (Project title). Academic requirements: Candidates should have minimum: M.Sc. in Eng. in the engineering or technical studies, a recommendation will be given to students from engineering. Qualifications required: be at least good in reading and writing in English at minimum B2 level; high grades during study, any individual achievements but grades, skills and achievement need to be confirmed by any independent body, the general knowledge in mathematics, chemistry, physics, fluid mechanics, overall computer skills basic of Word, Excel, CAD, have a willingness to research work. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 3.

ID 2020A 16 AGH PL. Environmental Engineering, Mining and Energy (discipline). Hybrid renewable energy systems (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree, recommendation will be given to students from energy, engineering and environmental fields. Qualifications required: be proficient in reading and writing in English at minimum B2 level; others: high grades during study, any individual achievements, general knowledge in mathematics, energy conversion and storage, overall computer skills basic of Matlab, Excel, CAD. Grades, skill and achievement need to be confirmed by any independent body. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 4.

ID 2020A 17 AGH PL. Environmental engineering, mining and energy(discipline). Drilling and fracturing (Project title). Academic requirements: Candidates should have a M.Sc. degree, preferably in petroleum, earth engineering, physics and mathematics. Qualifications required: be proficient in reading and writing in English; be able to solve problems using mathematical methods. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 2.

ID 2020A 18 AGH PL. Environmental engineering, mining and energy (discipline). Energy systems with environmental impact (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree, priority will be given to students graduating from energy or environmental engineering as well as mathematical physics. Qualifications required: be proficient in reading and writing in English at minimum B2 level; others: high grades during study, any individual achievements; general knowledge in mathematics, mathematical modelling, energy conversion and storage, energy harvesting systems, air thermodynamics, compressed air systems, particulate pollutions, programming – preference will be given for Mathlab users, CAD skills – preference will be given for AutoCAD and/or SolidWorks users, charts/diagrams elaboration – preference will be given for Origin users. Each grade, knowledge, skill and achievement should confirm by any independent body. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 3.

ID 2020A 19 AGH PL. Environmental Engineering, Mining and Energy (discipline). Selected problems of in mining engineering - laboratory test on rocks (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: proficient in reading and writing in English; degree in mining or mining related fields. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.



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ID 2020A 20 AGH PL. Environmental Engineering, Mining and Energy (discipline). Selected problems of environmental engineering - reclamation and revitalization (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: proficient in reading and writing in English; degree in mining or mining related fields. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 21 AGH PL. Environmental Engineering, Mining and Energy (discipline). Selected aspects of in mining engineering - coal waste material (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: proficient in reading and writing in English; degree in mining or mining related fields. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 22 AGH PL. Materials Engineering (discipline). Computer simulation of precipitation and growth process of (Al, Ti, REM- rare earth metals) inclusions in cast steel (Project title). Academic requirements: Candidates should have minimum: M.Sc. Qualifications required: be proficient in reading and writing in English; programming in C ++; others general knowledge in materials engineering or metallurgy or physics. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 3.

ID 2020A 23 AGH PL. Materials Engineering (discipline). Advanced TEM study of the structure and properties of interphase boundaries in nanomaterials (Project title). Academic requirements: Candidates should have minimum: Ph.D. degree in materials science or physics. Qualifications required: proficiency in spoken and written English; proven experience with transmission electron microscopy techniques. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 24 AGH PL. Materials Engineering (discipline). Functional materials for energy technologies (Project title). Academic requirements: Candidates should have minimum M.Sc. degree in technical sciences. Qualifications required: proficient in reading and writing in English; general knowledge in chemistry, electrochemistry and materials science is required. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO: 1.

ID 2020A 25 AGH PL. Mechanical Engineering (discipline). Quantifying and mapping the potential of hybrid solar/ wind/ hydro sources in Poland (Project title). Academic requirements: Candidates should have minimum: M.Sc.. At least two documented scientific publications in international journals. Qualifications required: The applicant should have educational and research background in energy or power engineering or related. The applicant must be proficient in English (especially writing). The applicant should be familiar with topics related to energy storage, renewable energy sources integration to the power system, hybrid energy systems (solar-wind, solar-hydro). The applicant should have advanced knowledge about modern heuristic optimization techniques such as GA(Genetic Algorithm), PSO(Particle Swarm Optimization), GWO(Grey Wolf Optimizer), NSGA-x(Non-dominated Sorting Genetic Algorithm -x). An additional asset would be familiarity with the concept of renewable energy resources complementarity. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO: 3.



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ID 2020A 26 AGH PL. Mechanical Engineering (discipline). Availability problems in transportation systems and devices (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: be proficient in reading and writing in English; 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. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 2.

ID 2020A 27 AGH PL. Mechanical Engineering (discipline). Transportation technology systems and devices (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D. degree. Qualifications required: be proficient in reading and writing in English; 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 modeling and monitoring. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 2.

ID 2020A 28 AGH PL. Mechanical Engineering (discipline). Transport system telematics (Project title). Academic requirements: Candidates should have minimum: M.Sc./ Ph.D degree. Qualifications required: be proficient in reading and writing in English; be familiar with transport system telematics and automation, be able to analysis of reliability, maintainability and availability of machine maintenance, as well as modeling. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 2.

ID 2020A 29 AGH PL. Mechanical Engineering (discipline). Problem base engineering (Project title). Academic requirements: Candidates should have minimum: M.Sc./Ph.D. degree. Qualifications required: be proficient in reading and writing in English; be able to use MS Office and drawing programs, have a general knowledge related to engineering problems. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Africa, Asia and the Pacific, Latin America and the Caribbean, Arab States). Number of fellowships with free tuition sponsored by UNESCO: 2.

ID 2020A 30 AGH PL. Sociological Sciences (discipline). Interrelations between new technologies and social and economic life in globalizing world (Project title). Academic requirements: Candidates should have a M.Sc. degree, M.A. degree in humanities or social sciences or economics. Qualifications required: be proficient in reading and writing in English; general knowledge in world economics. Name of the institution: AGH University of Science and Technology. UNESCO Member States (Asia, Africa, Latin America, Caribbean and Pacific). Number of fellowships with free tuition sponsored by UNESCO: 1.

