

**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  
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**Annex 01**  
**List of projects proposal,**  
**UNESCO/ Poland Co-sponsored Fellowship Programme in Engineering**  
**edition 2017 A (AGH UST)**

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 2016 for the benefit of Member States listed in Annex 02 and Annex 03. 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 2017A 01 AGH PL.** Decision Engineering (Field of research). Problem base engineering (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. 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; be able to use MS Office and drawing programs, have a general knowledge related to engineering problems. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 02 AGH PL.** Automation in Mining Devices (Field of research). Mining devices automation (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree, automation in mining devices. 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. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 4.

**ID 2017A 03 AGH PL.** Mining Devices (Field of research). Selected problems in operation of mining devices (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. in engineering; Mining Devices. 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. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 4.

**ID 2017A 04 AGH PL.** Transport Engineering (Field of research). Availability problems in transportation systems and devices (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc.. 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; 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, mechatronics. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the





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Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 05 AGH PL.** Transport Engineering (Field of research). Transport System Telematics (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc.; Candidates should have mechanical/ transport engineering/ automation degree. Qualifications required: be proficient in reading and writing in English; be familiar with transport system telematics, be able to analysis of reliability, maintainability and availability of machine maintenance, as well Modeling; be not more than 40 years of age; and be in good health, both physically and mentally. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 06 AGH PL.** Manufacturing Transport Engineering (Field of research). Transportation technology system and devices (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc.; 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; 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. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 07 AGH PL.** Drilling Engineering (Field of research). Drilling and Hydraulic Fracturing (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. Preferably in petroleum, earth engineering, physics, mathematics or computer sciences. 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; be able to solve problems using mathematical methods. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 08 AGH PL.** Sociology/ Economic Sociology and Economics (Field of research). Interrelations between new technologies and social and economic life in globalizing world (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc, MA degree in humanities or social sciences or economics. Qualifications required: be proficient in reading and writing in English; be not more than 35 years of age; and be in good health, both physically and mentally; general knowledge in world economics. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 09 AGH PL.** Sociology/ Humanities, Political Sciences; Sociology (Field of research). Social and Political Dimensions of the Cyberspace (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. 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; general knowledge in Internet; Social Media. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 10 AGH PL.** Foundry Engineering/ Polymers in foundry engineering, aluminosilicate in green sands system, moulding and green sands (Field of research). Analysis of selected properties of the polysaccharide – aluminosilicate binder in sand grains (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree in foundry or metallurgical engineering, materials engineering. Qualifications required: be proficient in reading and writing in English and Polish; candidate was previously a scholarship in another program, be not more than 25 years of age; and be in good health, both physically and mentally; general knowledge in chemistry of polymers and aluminosilicate, materials





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engineering, foundry engineering. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 11 AGH PL.** Foundry Engineering / Continuous casting of steel, solidification, modeling of generation process of non-metallic inclusion (Field of research). Modeling of the generation process of non-metallic inclusion in CCS (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree, studies in computer science, specialty programming. Qualifications required: be proficient in reading and writing in English or Polish; be not more than 30 years of age; and be in good health, both physically and mentally; general knowledge in programming for and automated systems. Programming languages: Delphi, HTML; Programming tools: Microsoft Visual C++/C. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 12 AGH PL.** Programming Languages/ Delphi, HTML; Programming tools: Microsoft Visual C++, metallurgy, steelmaking process (Field of research). Modeling of the removal of non-metallic inclusions to slag (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree, studies in computer science, specialty programming. Qualifications required: be proficient in reading and writing in English or Polish; be not more than 32 years of age; and be in good health, both physically and mentally; general knowledge in programming for and automated systems. Programming languages: Delphi, HTML; Programming tools: Microsoft Visual C++. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 13 AGH PL.** Ceramics Composites/ Ceramics matrix Composites (Field of research). Refractory Metal Silicides for Ceramic-Ceramic Joining (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: general knowledge in material science and/or physics. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 14 AGH PL.** Geology/ Mineralogy, Geochemistry (Field of research). Tungsten deposit in Rwanda (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. 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; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Africa). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 15 AGH PL.** Geology/ Mineralogy, Geochemistry (Field of research). Stratiform copper deposit in Iran (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: be proficient in reading and writing in English; be not more than 35 years of age; and be in good health, both physically and mentally; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 16 AGH PL.** Geology (Field of research). Epithermal base to precious metal mineralization in the Iranian Orogenic Belts (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: be proficient in reading and writing in English; general knowledge of Iranian Geology and ore deposits; be familiar with EMPA and EDX analyses; student of economic geology; general knowledge on volcanic connected ore deposits; available to read and speak Farsi; Own samples for studying are REQUIRED. Project duration: 6 months. Proposed starting date: 01.10.2017.





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**ID 2017A 17 AGH PL.** Geology (Field of research). Pb-Zn deposit in Iran: Geological, Mineralogy and Geochemical characteristics (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: be proficient in reading and writing in English; general knowledge of Iranian Geology and deposits; be familiar with EMPA and EDX analyses; student of economic geology; available to read and speak Farsi; Own samples for studying are REQUIRED. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 18 AGH PL.** Geology (Field of research). Genetic type of nickel deposits in Iran.: Mineralogical and geochemical diversity (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: be proficient in reading and writing in English; general knowledge of Iranian Geology and deposits; be familiar with EMPA and EDX analyses; student of economic geology; available to read and speak Farsi; Own samples for studying are REQUIRED. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Arab States). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 19 AGH PL.** Geology/ Mineralogy, Geochemistry (Field of research). REE deposit in Wiet-Nam (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: be proficient in reading and writing in English; be not more than 35 years of age; and be in good health, both physically and mentally; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 20 AGH PL.** Geology/ Mineralogy, Geochemistry (Field of research). Tin deposit in Central Africa (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: be proficient in reading and writing in English; be not more than 35 years of age; and be in good health, both physically and mentally; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Africa). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 21 AGH PL.** Geology/ Mineralogy, Geochemistry (Field of research). Chromite deposit in Wiet-Nam (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. Qualifications required: be proficient in reading and writing in English; be not more than 35 years of age; and be in good health, both physically and mentally; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 22 AGH PL.** Geology/ Mineralogy, Geochemistry (Field of research). Pb-Zn deposit in Wiet-Nam (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree. 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; general knowledge in geology, mineralogy, geochemistry, mineral deposit. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 23 AGH PL.** Computer Vision (Field of research). Online Footstep Planning and Navigation on Uneven Terrain for a Humanoid Robot (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree, and very good background in mathematics. Qualifications required: be proficient





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in reading and writing in English; be not more than 26 years of age; and be in good health, both physically and mentally; the student should have general knowledge in digital signal processing robotics, and/ or computer vision, and/ or machine learning. Preference will be for students with good knowledge in both in computer science and mechatronics. Good programming skills in Matlab, Python and C++ are required. Good knowledge of V-REP robot simulator is required. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 24 AGH PL.** Computer Vision (Field of research). 3D Hand Pose Estimation (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree, and strong background in mathematics. Qualifications required: be proficient in reading and writing in English; be not more than 26 years of age; and be in good health, both physically and mentally; the student should have general knowledge in digital signal processing and/ or computer vision, and/ or machine learning. Preference will be for students with good knowledge in electronics. Good programming skills in C++, Python, Matlab are required. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 25 AGH PL.** Geotourism (Field of research). Valorization of selected geological objects for geotourism purposes (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree in geology, geography and/ or tourism. Qualifications required: be proficient in reading and writing in English; and be in good health, both physically and mentally. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 26 AGH PL.** Gas and Oil Engineering (Field of research). Nodal analysis for unconventional light gas reservoirs (Project title). 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 not more than 35 years of age and be in good health, both physically and mentally. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 27 AGH PL.** Gas and Oil Engineering (Field of research). Optimization of the gas-condensate reservoir exploitation in the recovery of ethane and LPG (Project title). 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 not more than 35 years of age and be in good health, both physically and mentally. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 28 AGH PL.** Gas and Oil Engineering (Field of research). Reservoir fluid recombination in conventional and unconventional gas-condensate wells (Project title). 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 not more than 35 years of age and be in good health, both physically and mentally. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 29 AGH PL.** Gas and oil engineering (Field of research). Design of compressed air energy storages in salt caverns (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. degree in petroleum engineering, geoscience, gas engineering or mechanical engineering. Qualifications





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required: be proficient in reading and writing in English; be not more than 35 years of age and be in good health, both physically and mentally. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 1.

**ID 2017A 30 AGH PL.** Gas Engineering (Field of research). Enhanced Gas Recovery (EGR) technology with CO<sub>2</sub> sequestration in gas fields (Project title). 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 not more than 35 years of age and be in good health, both physically and mentally. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa, Latin America and the Caribbean). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

**ID 2017A 31 AGH PL.** Ceramic and Material Engineering/ material engineering education (Field of research). Advanced Ceramic Materials (Project title). Academic requirements: Candidates should have a B.Sc. or M.Sc. 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, general knowledge in ceramic engineering. Project duration: 6 months. Proposed starting date: 01.10.2017. Language: English. UNESCO Member States (Asia and the Pacific, Africa). Number of fellowships with free tuition sponsored by UNESCO (max): 2.

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

