



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

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(in English)

1. Project title: Transportation system telematics

Field of research: Automation, Transport Engineering , *mechatronics, mechanical engineering, automation, transport education*

Number of fellowships with free tuition sponsored by UNESCO: 2

2. Name of institution: *AGH University of Science and Technology, Faculty of Mechanical Engineering and Robotics*

.....
Full address: A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland

3. Name, title and full contact data of project supervisor:

prof. dr hab. inż. Janusz Szpytko

Tel.: +48 12 6173103

Fax: +48 12 6173531

E-mail *szpytko@agh.edu.pl*

www.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 /exact date to be agreed upon by the selected fellows and host Institution/

Language: English

Scientific contents: *individual research programme under supervision of tutor (see next page p.8)*

5. Developing countries (specification): *UNESCO Member States please specify if any Africa, Asia, Pacific Region, Latin America, Carriaribien countries*

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
please specify in more details

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

*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 in C++, ProEngineer, or be familiar with MatlabSimulink, or CA-D/M, FEM, have a general knowledge related to telematic in transportation, or construction testing and measurement*

8. Project description (in English):

project description optional:

to design and testing in laboratory the intelligent control solutions of selected transportation device, to design and testing the measurement systems of selected exploitation parameters of selected transportation device, to design and testing telematic system of transportation system, to testing and re-design the rail - wheel set laboratory stand

R&D results:

improvement in safety and reliability of transportation systems and devices

other outputs:

publications, future projects

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor
(signature)

Prof. dr hab. inż. Janusz Szpytko

Place and date: Krakow, January 31, 2012

Dean of the Faculty
(signature and stamp)

prof. dr hab. inż. Janusz Kowal

AKADEMIA GÓRNICZO-HUTNICZA
im. Stanisława Staszica w Krakowie
WYDZIAŁ INŻYNIERII
MECHANICZNEJ I ROBOTYKI
30-059 Kraków, Al. Mickiewicza 30
tel. (12) 617 30 26, telefax (12) 617 30 24



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**UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal for 6 months**

**Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających**

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(in English only)

1. Project title: Development of the model of the transformation from ferrite-pearlite to austenite during heating in the continuous annealing of the Advanced High Strength Steels (AHSS).

Field of research: material/computer science

Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution: AGH University of Science and Technology,
Faculty of Metals Engineering and Industrial Computer Science.
Full address: A.Mickiewicz Av. 30, PL 30-059 Krakow, Poland

3. Name and Surname, title and full contact data of project supervisor:

Prof. dr hab. inż. Maciej Pietrzyk

Tel.: +48 12 617 29 21

Fax: +48 12 617 29 21

E-mail maciej.pietrzyk@agh.edu.pl

www.isim.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)

Language: English

Scientific contents: *individual research programme under supervision of tutor (see page p.8)*

5. Developing countries (specification): *UNESCO Member States - please specify countries or region (Asia, Africa, Latin America, Caribbean and Pacific)*
Asia.

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
The candidate should have a M.Sc degree in material or computer science.

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required:

- be proficient in reading and writing in English;
- be not more than 26 years of age;
- general knowledge in material or computer science;
- interest in numerical modelling of phase transformation with cellular automata method;

8. Project description (in English):

R&D results: project description optional: Phase transformation into austenite during continuous annealing is usually not completed, about 20-30% of ferrite remains in the microstructure. The carbon and alloying elements distribution in the austenite is not uniform. All these aspects have influence on the following phase transformations during cooling and on the resulting microstructure and properties of products. Thus, there is a need for models with advanced predictive capabilities, which can describe microstructure and chemical composition of the AHSSs in the intercritical region during annealing.

Goal: Development of the models, which can predict phase composition, morphology of phases and chemical composition during transformation into austenite during heating.

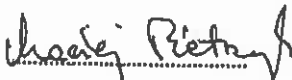
One of the discrete methods should be used, probably cellular automata. Finite element solution of the diffusion equation with moving boundary (Stefan problem) will be performed, as well.

other outputs: Digital pictures of ferrite-austenite microstructure after heating, with information about distribution of concentration of carbon and alloying elements.

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor
(signature)



Dean of the Faculty

(signature and stamp)

dr hab. inż. Tadeusz Telejko
Wydział Inżynierii Metali i Informatyki Przemysłowej

dr hab. inż. Tadeusz Telejko
profesor nadzwyczajny AGH

Place and date: Krakow, 9 lutego, 2012



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Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(in English)

1. Project title: *Problem base engineering*
Field of research: *Decision engineering*
Number of fellowships with free tuition sponsored by UNESCO: 2

2. Name of institution: *AGH University of Science and Technology,
UNESCO Chair for Science, Technology and Engineering Education at the AGH University of
Science and Technology Krakow*
Full address: *A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland*

3. Name, title and full contact data of project supervisor:
prof. dr hab. inż. Janusz Szpytko
Tel.: +48 12 617 5109
Fax: +48 12 617 5108
E-mail *szpytko@agh.edu.pl*
www.agh.edu.pl

4. Project duration: 6 months
Proposed starting date: 1.10. 2012 /exact date to be agreed upon by the selected
fellows and host Institution/
Language: English
Scientific contents: *individual research programme under supervision of tutor (see next
page p.8)*

5. Developing countries (specification): *UNESCO Member States please specify if any
Africa, Asia, Pacific Region, Latin America, Carriaribien countries*

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
please specify in more details

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

*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, be familiar with CAD/ CAE programs, have a general knowledge related to engineering problems*

8. Project description (in English):

Project description optional:

Project refers to creating different type of projects (engineering, higher engineering education, R&D types) in various engineering fields with use problem base learning approach and include different aspects, e.g.: finance, human resources management, industrial psychology, information systems, mathematical modeling and optimization, quality control, operations research, safety and health issues, and environmental management.

R&D results:

Background for future actions creation.

other outputs:

publications, future projects

Stamp of the AGH UST Faculty

Project Supervisor
(signature)

Prof. *dr hab. inż.* Janusz Szpytko

Dean of the Faculty
(signature and stamp)

Place and date: Krakow, January 31, 2012

Akademia Górniczo - Hutnicza
Im. Stanisława Staszica w Krakowie
Centrum Międzynarodowej Promocji
Technologii i Edukacji AGH - UNESCO
Al. A. Mickiewicza 30, 30-059 Kraków



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UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(In English only)

1. Project title: Analysis of Hydraulic Fracturing Process
Field of research: Drilling
Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution: AGH University of Science and Technology,
Faculty of Drilling, Oil and Gas
.....

Full address: A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland

3. Name and Surname, title and full contact data of project supervisor:

Dariusz Knez Ph.D
Tel.: +48 12 6173784.....
Fax: +48 12 6173784.....
E-mail knez@agh.edu.pl.....
WWW www.agh.edu.pl/en.....

4. Project duration: ... 6 months
Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)
Language: English
Scientific contents: individual research programme under supervision of tutor (see page p.8)

5. Developing countries (specification): UNESCO Member States - please specify countries or region (Asia, Africa, Latin America, Caribbean and Pacific)
All regions

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
please specify in more details
Preferably in earth engineering or computer sciences.

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

*be proficient in reading and writing in English;
be not more than ...45.... years of age; and be in good health, both physically
and mentally;.....*

8. Project description (in English):

R&D results: project description optional:

*Fellow will take part in research carried out in Drilling and Geoengineering Department.
Hydraulic fracturing method is one of the most important stimulation techniques. In low
permeability reservoirs conventional completion methods are not cost effective. Because of
significant increase in oil and gas prices such difficult to completion reservoirs become
more interesting. In past years hydraulic fracturing was applied as most efficient method to
increase oil and gas production from formations like tight sandstone and shale.
Successful candidate will work with professional software from leading drilling companies.
He will also take part in developing new software. The goal of research is to find best
range of technological factors influencing hydraulic fracturing performance. Computer
skills will be an advantage.*

other outputs:

*laboratory research results
scientific paper*

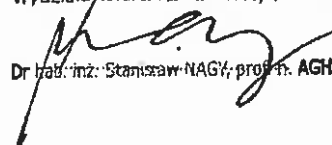
9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor
(signature)



Dean of the Faculty
(signature and stamp)
Wydział Inżynierii i Gazu


Dr hab. inż. Stanisław NAGY, prof. n. AGH

Place and date: Krakow, January ...7-th, 2012



AGH University of Science and Technology, KRAKOW, POLAND
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E-mail: unesco@agh.edu.pl

**UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal for 6 months**

**Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających**

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(In English only)

1. Project title:noble metals in porphyry copper deposits in Chile.
Field of research: ...Geology, economic geology.....
Number of fellowships with free tuition sponsored by UNESCO:

2. Name of institution: *AGH University of Science and Technology,
Faculty of ... Geology, Geophysics and Environmental Protection*
.....
Full address: A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland

3. Name and Surname , title and full contact data of project supervisor:
... ..*Prof. PhD eng. Adam Piestrzynski*.....
Tel.: +48 12 ...6172433
Fax: +48 12
E-mail*piestrz@geol.agh.edu.pl*.....
WWW

4. Project duration: 6 months
Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)
Language: English
Scientific contents: *individual research programme under supervision of tutor (see page p.8)*

5. Developing countries (specification): *UNESCO Member States - please specify countries or region (Asia, Africa, Latin America, Caribbean and Pacific)*
.Chile or Peru.....

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
please specify in more details B.Sc. minimum, much better M.Sc degree
.....

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

*be proficient in reading and writing in English;
be not more than ... 25. years of age; and be in good health, both physically and mentally;
others please specify if any references from home University, supervisor
general knowledge in mineral deposits, ore mineralogy.*

8. Project description (in English):

*R&D results: project description optional: PGM's are very well documented in both:
ultramafic Ni-Cu-Fe sulphide deposit and ultramafic chromites related deposits and
described in many monographs.*

*PGM's in porphyry coppers have been found in Philippines and first time described in
1994 (Piestrzynski et al. Mineralogia Polonica vol.25/2). Recently PGM's were described
only in a few places e.g. in Bulgaria. Therefore it is still possible to find a new places
enrich in gold and PGM's. However it also required detailed study of concentrates
obtained in Cu-Au-porphyry deposit and some selected samples of a hand size collected in
more silicified sections in the same deposits.*

*other outputs: it is necessary that candidate should first contact AGH supervisor to
discuss details of the project.*

9. Others information: *any skill in an optical ore petrography is recommended*

Stamp of the AGH UST Faculty

Project Supervisor
(signature)

[Signature]

Dean of the Faculty
(signature and stamp)

D. PIŁEKAN

[Signature]
prof. dr hab. inż. Jacek Matyszkiewicz

Place and date: Krakow, ...14.02, 2012



AGH University of Science and Technology, KRAKOW, POLAND

UNESCO Fellowships 2012 in Engineering

**Naukowa oferta stypendialna UNESCO - AGH 2012 dla
młodych naukowców z krajów rozwijających się**

UNESCO - AGH 2012 Project A: promoting human resource capacities in the developing countries through intensive training and to enhance international understanding and friendship among peoples of the world and the people of Poland

1. Project title:Copper and associated mineralization and its lithostratigraphical and tectonic context in the Neoproterozoic succession from selected sites in NW Botswana.
.....
Field of research:Economic Geology
Number of fellowships with free tuition:1.....
2. Name of institution:
AGH University of Science and Technology,
Faculty of Geology, Geophysics and Environmental Protection
Full address: 30 Mickiewicza Ave., PL 30-059 Krakow, Poland
3. Name, title and full contact data of project supervisor: Prof. dr hab. eng. Adam Piestrzynski
.....
Tel.: +48 12 6172433.....
Fax: +48 12
E-mail .piestrz@geol.agh.edu.pl.....
WWW
Co-supervisor: Prof. Marek Wendorff
4. Project duration: 6 months
Proposed starting date: 1.10. 2012 /exact date to be agreed upon by the selected fellows and host Institution/
Language: English,
Scientific contents: *individual research programme under supervision of tutor (see next page)*
5. Developing countries (specification): ..Botswana.....
.....Namibia.....
6. Academic requirements: Candidates will have a B.Sc. or M.Sc. degree in Geology
.....
7. Qualifications required:
The successful applicant must: hold a B.Sc. or M.Sc. in Geology with the appropriate courses in Mineralogy, Economic Geology, Metamorphic Petrology and cognate subjects completed and examinations passed with very good marks; must have good command of written and spoken English; be not more than 45 years of age; be in good health, both physical and mental. If English is not the mother tongue of the candidate, a certificate of language proficiency must be provided.

8. Project description:

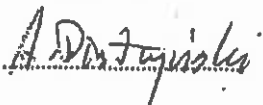
Neoproterozoic sediment-hosted polymetallic deposits of the Kalahari Copperbelt in NW Botswana (the Ngamiland Province) and correlative parts of Namibia are now a target of vigorous exploration and research. They are hosted in a rock succession correlative to the Central African Copperbelt. The aim of this project is to investigate a series of rock samples from NW Botswana to specify the copper mineralisation as well as the lithology and petrology of the host rocks in the context of lithostratigraphy and tectonics. The analysed samples will represent selected sites in NW Botswana. In the course of the project work mineralogical analyses of the provided rock samples will be analysed in the laboratory using a variety of analytical methods. These results, combined with the data on stratigraphic, tectonic and sedimentological position, will be collated and compared with the relevant literature data from other localities in the region. The results will be submitted as a report presented during a seminar. If the results are sufficiently valuable, they will be presented at a conference and in a publication.

9. Other information:

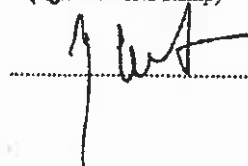
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Stamp of the AGH UST Faculty

Project Supervisor
(signature)



Dean of the Faculty
(signature and stamp)



Place and date: Krakow, February 18, 2012



AGH University of Science and Technology, KRAKOW, POLAND
UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING
EDUCATION AT THE AGH UNIVERSITY OF SCIENCE AND TECHNOLOGY
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A. Mickiewicz Ave 30, PL 30-059 Krakow, Poland
E-mail: unesco@agh.edu.pl

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal for 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

1. Project title:

**INTERRELATIONS BETWEEN NEW TECHNOLOGIES AND SOCIAL
AND ECONOMIC LIFE IN GLOBALIZING WORLD**

Field of research: economic sociology and economics

Number of fellowships with free tuition sponsored by UNESCO: ONE

2. Name of institution: *AGH University of Science and Technology,*
Faculty of HUMANITIES

Full address: A.Mickiewicz Av. 30, PL 30-059 Krakow, Poland
Contact Address: **ul. Gramatyka 8A, 30-071 Krakow, D-13 Hall**

3. Name and Surname, title and full contact data of project supervisor:

Dr hab. Maria Nawojczyk

Tel.: +48 12 617-4380, 617-4345

Fax: +48 12 617-4381

E-mail maria@list.pl; maria.nawojczyk@agh.edu.pl

WWW. wh.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)

Language: English

Scientific contents: *individual research programme under supervision of tutor (see page p.8)*

5. Developing countries (specification): *UNESCO Member States – Eastern Europe Asia, Africa, Latin America, Caribbean and Pacific*

6. Academic requirements: Candidates should have a **MA degree in humanities or social sciences or economics.**

UNESCO AGH Fellowships ed. 2012-B In Engineering

7. Qualifications required:

Documents conforming the MA degree, be proficient in reading and writing in English. If the language of instruction is not the mother tongue of the candidate, a certificate of language proficiency must be provided; be not more than 45 years of age; and be in good health, both physically and mentally.

8. Project description (in English):

INTERRELATIONS BETWEEN NEW TECHNOLOGIES AND SOCIAL AND ECONOMIC LIFE IN GLOBALIZING WORLD

New technologies are important forces driving the economic and social transformations. They can be theoretically explored from the position of technological determinism or within a model of interrelated processes of influences between technology and its social and economic environment. These processes vary in scope and speed in different regions of the world as well as due to different economic activities and life styles within one society. Varieties of consequences of these interrelations can be observed on the local and global levels: new social divisions, new distribution of power, new centers of economic development, new social and economic activities, and so on.

Participants of the project would be expected to analyze one particular dimension of the processes mentioned above. They would work within the Department of Economic Sociology and Social Communication of the Faculty of Humanities: participate in the projects developed here, present their findings at the departmental seminars and write a report on the social and economic changes in their own countries as observed from the point of view of the topic presented above.

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor
(signature)

Konrad Nowojoseyk

Dean of the Faculty
(signature and stamp) DZIEKAN IALU

Zbigniew Pasek
dr hab. Zbigniew Pasek, prof. nadzw.

Place and date: Krakow, 6th February, 2012



AGH University of Science and Technology, KRAKOW, POLAND
UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING
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UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(in English only)

1. Project title: Rock Properties Influence on Injection Performance
Field of research: Geoengineering
Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution: *AGH University of Science and Technology,*
Faculty of Drilling, Oil and Gas
.....

Full address: A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland

3. Name and Surname, title and full contact data of project supervisor:
Dariusz Knez Ph.D
Tel.: +48 12 6173784.....
Fax: +48 12 6173784.....
E-mail knez@agh.edu.pl.....
WWW www.agh.edu.pl/en.....

4. Project duration: 6 months
Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)
Language: English
Scientific contents: *individual research programme under supervision of tutor* (see page p.8)

5. Developing countries (specification): *UNESCO Member States - please specify countries or region (Asia, Africa, Latin America, Caribbean and Pacific)*
All regions

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
please specify in more details
Preferably in earth engineering sciences.

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

*be proficient in reading and writing in English;
be not more than ...45.... years of age; and be in good health, both physically
and mentally; general knowledge in rock properties
.....*

8. Project description (in English):

R&D results: project description optional:

Expanding modern society requires new urban area. From sustainable development point of view the best solution is to make use of existing urban area or new one which is useless for other purposes. In second case quite often ground properties are not suitable for high buildings. Drilling methods are one of the most efficient way of ground modification. Project requires laboratory research on chosen rock properties. Based on laboratory results change of near wellbore region properties will be investigated. To find best solution new mathematical model based on laboratory results is necessary. Successful candidate will work in Drilling and Geoengineering Department laboratory using standard and modern laboratory equipment. Computer skills will be an advantage.

other outputs:

*laboratory research results
scientific paper*

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor
(signature)



Dean of the Faculty
(signature and stamp)
Wydział Inżynierii Gazu


Dr hab. inż. Stanisław NAGY, prof. AGH

Place and date: Krakow, January ...7-th, 2012



AGH University of Science and Technology, KRAKOW, POLAND
UNESCO CHAIR FOR SCIENCE, TECHNOLOGY AND ENGINEERING
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E-mail: unesco@agh.edu.pl

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UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

1. Project title: *Fine ceramic materials and glazes.*

Field of research: *ceramic, material engineering, material engineering education*

Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution:

*AGH University of Science and Technology,
Faculty of Materials Science and Ceramics; Department of Ceramic Technology and
Refractory Materials*

.....
Full address:

A.Mickiewiczza 30/B6, PL 30-059 Krakow, Poland

3. Name, title and full contact data of project supervisor:

dr inż. Janusz Partyka

Tel. +48 12 6173654

Fax: +48 12 6331593

E-mail partyka@agh.edu.pl

www.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 /exact date to be agreed upon by the selected
fellows and host Institution/

Language: English

Scientific contents: *individual research programme under supervision of tutor*

5. Developing countries (specification): *UNESCO Member States - optional Asia, Africa*

6. Academic requirements: **Candidates should have a B.Sc. or M.Sc. degree,**
.....

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

*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*

8. Project description (in English):

R&D results: project description optional:

to design and testing in laboratory the traditional ceramic materials
improvements in ceramic processing
improvements in parameters of materials or glazes
testing new raw material, for example typical for country of origin
creating of new materials

other outputs:

publications, future projects

9. Others information:

Stamp of the AGH UST Faculty

AKADEMIA GÓRNICZO-HUTNICZA
im. Stanisława Szaszcza w Krakowie
Wydział Inżynierii Materiałowej i Ceramiki
30-059 Kraków, al. A. Mickiewicza 30
t: 12 617-22-34, 12 617-22-40, fax: 12 633-15-93
KIP: 6750001923, Regon 000001577

Project Supervisor
(signature)

Dr inż. Janusz Partyka

Dean of the Faculty
(signature and stamp)

Dr hab. inż. Włodzisław Mozgawa

Place and date: Krakow, February, 08 2012



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

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal for 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

1. Project title:

Influence of some additives on basic parameters of sanitary body or glazes.

Field of research: ceramic, material engineering, glazes

Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution:

*AGH University of Science and Technology,
Faculty of Materials Science and Ceramic; Department of Ceramic Technology and
Refractory Materials*

.....
Full address: A.Mickiewiczza. 30/B6, PL 30-059 Krakow, Poland

3. Name and Surname , title and full contact data of project supervisor:

Dr inż. Marcin Gajek

Tel.: +48 12 .617 36 54

Fax: +48 12 .6331593

E-mail mgajek@agh.edu.pl

www.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)

Language: English

Scientific contents: *individual research programme under supervision of tutor*

5. Developing countries (specification): *UNESCO Member States –optional Asia, Africa*
.....

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
.....
.....

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. 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*

8. Project description (in English):

*Develop new sanitary body or sanitary glazes;
- designed new ceramic sanitary body or glazes in laboratory,
- testing obtained materials
- redesigned obtained materials
Create new sanitary body or sanitary glazes.*

9. Others information:

Stamp of the AGH UST Faculty

UNIWERSYTET GÓRNICZO-HUTNICZY
im. Stanisława Staszica w Krakowie
Wydział Inżynierii Materiałowej i Ceramiki
30-059 Kraków, al. J. F. Cieskiewicza
t: 12 617 12 34, 12 617 12 35, fax: 12 63 12 36
e: 8730001923, nregon 000001

Project Supervisor

(signature)



Dr inż. Marcin Gajek.

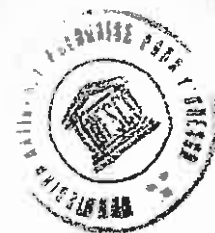
Dean of the Faculty

(signature and stamp)



Dr hab. inż. Włodzisław Mozgawa

Place and date: Krakow, 02.09.2012



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

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(In English)

1. Project title: *SHS derived nanolaminates in Ti-Al-C-N system*

Field of research: *ceramic, material engineering*

Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution: *AGH University of Science and Technology,
Faculty of Materials Science and Ceramics*

Full address: *A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland*

3. Name, title and full contact data of project supervisor:

dr inż. Leszek Chlubny

Tel.: +48 12 6172667

Fax: +48 12 6331593

E-mail chlubny@agh.edu.pl

www.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 /exact date to be agreed upon by the selected fellows and host Institution/

Language: English

Scientific contents: *individual research programme under supervision of tutor (see next page p.8)*

5. Developing countries (specification): *UNESCO Member States - optional Asia, Africa*

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
in field of Ceramics, Materials Science or Chemical Technology

7. Qualifications required: *for example
be proficient in reading and writing in English;*

UNESCO AGH Fellowships ed. 2012-B in Engineering

be not more than 40 years of age; and be in good health, both physically and mentally; general knowledge in ceramic engineering

8. Project description (in English):

R&D results: project description optional:

The goal of project will be investigation on obtaining powders of nanolaminate MAX-phase materials by Self-propagating High-temperature Synthesis and testing properties of hot-pressed samples, sintered from obtained powders.

other outputs:

publications, future projects

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor
(signature)

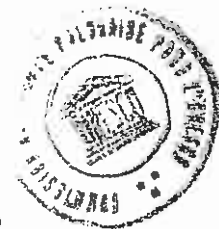
dr inż. Leszek Chlubny
.....

Place and date: Krakow, January 31, 2012

Dean of the Faculty
(signature and stamp)

Prof. dr hab. inż. Jan Chłopek
.....

prof. dr hab. inż. Jan Chłopek



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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E-mail: unesco@agh.edu.pl

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(in English)

1. Project title: *Availability problems in transportation systems and devices*

Field of research: Engineering Technology, Transport Engineering, *mechatronics, mechanical engineering, automation, safety education*

Number of fellowships with free tuition sponsored by UNESCO: 2

2. Name of institution: *AGH University of Science and Technology, Faculty of Mechanical Engineering and Robotics*

Full address: A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland

3. Name, title and full contact data of project supervisor:

prof. dr hab. inż. Janusz Szpytko

Tel.: +48 12 6173103

Fax: +48 12 6173531

E-mail szpytko@agh.edu.pl

www.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 /exact date to be agreed upon by the selected fellows and host Institution/

Language: English

Scientific contents: *individual research programme under supervision of tutor (see next page p.8)*

5. Developing countries (specification): *UNESCO Member States please specify if any Africa, Asia, Pacific Region, Latin America, Carriaribien countries*

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
please specify in more details

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

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

8. Project description (in English):

project description optional:

to design and testing in laboratory the availability of transportation systems and devices, to design the transportation system safety and reliability, to design and testing telematic based system of transportation system

R&D results:

improvement in safety and reliability of transportation systems and devices

other outputs:

publications, future projects

9. Others information:

Stamp of the AGH UST Faculty:

Project Supervisor
(signature)

Prof. dr hab. inż. Janusz Szpytko

Place and date: Krakow, January 31, 2012

Dean of the Faculty

(signature and stamp)

prof. dr hab. inż. Janusz Kowal

AKADEMIA GÓRNICZO-HUTNICZA
im. Stanisława Staszica w Krakowie
WYDZIAŁ INŻYNIERII
MECHANICZNEJ I ROBOTYKI
30-059 Kraków, Al. Mickiewicza 30
t: (12) 617 30 26, telefax (12) 617 30 99



AGH University of Science and Technology, KRAKOW, POLAND
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A. Mickiewicza Ave 30, PL 30-059 Krakow, Poland
E-mail: unesco@agh.edu.pl

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal for 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(In English only)

1. Project title: Development of control system parallel manipulator based of Assur group of high class
Field of research: Mechanics, Theory of Machines and Mechanisms
Number of fellowships with free tuition sponsored by UNESCO: 1 (one).....
2. Name of institution: *AGH University of Science and Technology,*
Faculty of Mechanical Engineering and Robotics, Department of Robotics and Mechatronics ..
.....
Full address: A. Mickiewicza Av. 30, PL 30-059 Krakow, Poland
3. Name and Surname, title and full contact data of project supervisor:
Jacek Cieřlik, dr hab. inż., prof. AGH.....
Tel.: +48 12 617 36-63.....
Fax: +48 12 .617 35-05.....
E-mail *cieslik@agh.edu.p.....*
WWW
4. Project duration: 6 months
Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)
Language: English
Scientific contents: *individual research programme under supervision of tutor (see page p.8)*
5. Developing countries (specification): *UNESCO Member States - please specify countries or region (Asia, Africa, Latin America, Caribbean and Pacific)*
Asia, Kazakhstan.....
6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree,
please specify in more details : Candidate should have an experience in theoretical mechanics, theory of machines and mechanisms, mathematical analysis.....

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required:

be proficient in reading and writing in English and Russian

be not more than 35 years of age; and be in good health, both physically and mentally;

others: general knowledge in mechanics, physics of solid bodies, mathematical analysis

8. Project description (in English):

The purpose of work: development of function and application of management of spatial parallel manipulator package on the base of group of Assura of fourth class with six degrees of freedom by decision of tasks of the dynamic planning and experimental design.

Tasks:

- Kinematics synthesis and analysis, decision of reverse task of kinematics of spatial parallel manipulator on the base of group of Assura of fourth class with six DOF.
- Dynamic analysis and synthesis of spatial parallel manipulator on the base of group of Assura of fourth class with six degrees of freedom.
- Development of operating model of parallel manipulator on the base of group of Assura of fourth class with six degrees of freedom.
- Development of function of programmatic management of parallel manipulator on the base of group of Assura of fourth class with six degrees of freedom.
- Development of application of management a parallel manipulator package.
- Leadthrough of imitation experimental design of parallel manipulator on PEVM and by the model of manipulator.

The novelty of work is to obtain:

- Method of kinematics and dynamic synthesis of spatial parallel manipulator on the base of mechanisms of high class.
- Method of synthesis of function management a spatial manipulator on a base MVK.
- Application of spatial parallel manipulator package on the base of mechanisms of

9. Other information:

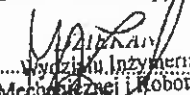
Stamp of the AGH UST Faculty

Project Supervisor
(signature)



Place and date: Krakow, 08.02.2012

Dean of the Faculty
(signature and stamp)


WydZIAŁ Inżynierii
Mechanicznej i Robotyki
Prof. dr hab. inż. Janusz Kowal



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

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal for 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(In English only)

1. Project title: Reservoir geophysics – combining well log data and laboratory data
Field of research: petrophysics & well logging
Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution: *AGH University of Science and Technology,*
Faculty of Geology Geophysics and Environmental Protection, Department of Geophysics

.....
Full address: A. Mickiewicz Av. 30, PL 30-059 Krakow, Poland

3. Name and Surname, title and full contact data of project supervisor:

Prof dr Jadwiga Jarzyna

Tel.: +48 12 617 24 21

Fax: +48 12 6332936

E-mail jarzyna@agh.edu.pl

WWW

4. Project duration: 6 months
Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)
Language: English
Scientific contents: *individual research programme under supervision of tutor*

5. Developing countries (specification): *UNESCO Member States - Asia, Africa, Latin America, Caribbean and Pacific*

.....
6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree in GEOPHYSICS, APPLIED GEOPHYSICS, PETROLEUM GEOLOGY, GEOLOGY

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. 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;

others: ABLE TO WORK IN TEAM

general knowledge in EARTH SCIENCES, MATHEMATICS, PHYSICS

8. Project description (in English):

Project comprises methods of integrating of various geophysical and geological and petrophysical (lab) data to improve hydrocarbon and water prospection. Well logging and seismics will be the most important methods. Professional Computer systems licensed in AGH UST will be used for processing and interpretation of data. Attention will be focused on including the improved relations between various parameters into modelling of media flow in pore space. The modern Nuclear Magnetic Resonance lab measurements will be included. Preferred results of NMR logging. Seismic attributes will be combined with well log data. Project will be realised on Polish and foreign country data.

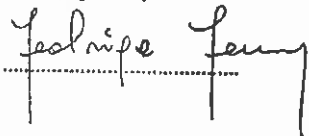
9. Others information:

Stamp of the AGH UST Faculty

Akademia Górniczo-Hutnicza
im. Stanisława Staszica w Krakowie
WYDZIAŁ GEODEZJI, GEOFIZYKI
I OCHRONY ŚRODOWISKA
30-059 Kraków, Al. Mickiewicza 30
tel. (12) 617-32-39, fax (012) 633-29-36
NIP 675 000 19 23
(1)

Project Supervisor

(signature)



Dean of the Faculty

(signature and stamp)


DZIĘKAN
prof. dr hab. inż. Jacek Matyszkiewicz

Place and date: Krakow, 13.02. 2012



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

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

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal for 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(in English only)

1. Project title: Smart methodologies for software development
Field of research: Software Engineering
Number of fellowships with free tuition sponsored by UNESCO:

2. Name of institution: *AGH University of Science and Technology,*
Faculty of Electrical Engineering, Automatics, Computer Science and Electronics.
.....

Full address: A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland

3. Name and Surname, title and full contact data of project supervisor:

Prof. dr hab. Tomasz Szmuc

Tel.: +48 12 888 20 07

Fax: +48 12 423 35 70

E-mail *tsz@agh.edu.pl*

WWW: *www.agh.edu.pl*

4. Project duration: 6 months
Proposed starting date: 1.10. 2012 (exact date to be agreed upon by the selected fellows and host Institution)
Language: English
Scientific contents: *individual research programme under supervision of tutor (see page p.3)*

5. Developing countries (specification): *UNESCO Member States - (Asia, Africa, Latin America, Caribbean and Pacific)*
.....

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree in Computer Science

7. Qualifications required:

UNESCO AGH Fellowships ed. 2012-B in Engineering

*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;
good skills in computer programming, basic knowledge in software engineering, good
background in mathematics*

8. Project description (in English):

project description optional:

The aim of the project is to incorporate verification methods to support development of correct software for specific systems. The concept is based on introduction of parallel thread in which systematic verification of developed software artifacts will be carried out.

R&D results:

1. Modifications of existing software development methodology.
2. Software modules supporting the verification.

other outputs:

1. Cooperation with researches working in this area.
2. Improvement of knowledge on Polish culture and history.

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor

(signature)

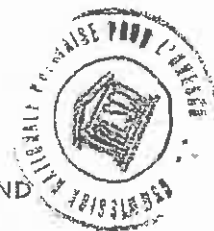


Dean of the Faculty

(signature and stamp)

AKADEMIA GÓRNICZO-HUTNICZA
im. Stanisława Staszica
30-059 Kraków, Al. Mickiewicza 30

Place and date: Krakow, February 9, 2012



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

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project Proposal 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(In English)

1. Project title: *Studies Magnetostriction in Stoichiometric and Doped Magnetite Single Crystals*

Field of research: *Solid State Physics*

Number of fellowships with free tuition sponsored by UNESCO: 1

2. Name of institution: *AGH University of Science and Technology,
Faculty of Physics and Applied Computer Science*

Full address: *A. Mickiewicza Av. 30, PL 30-059 Krakow, Poland*

3. Name, title and full contact data of project supervisor:

prof. dr hab. inż. Andrzej Kozłowski, prof. dr hab. inż. Zbigniew Kąkol

Tel.: +48 12 617 2006

E-mail: *kozlow@agh.edu.pl, kakol@agh.edu.pl*

www.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10.2012 /exact date to be agreed upon by the selected fellows and host Institution/

Language: English

Scientific contents: *individual research programme under supervision of tutor (see next page p.8)*

5. Developing countries (specification): *UNESCO Member States please specify if any Africa, Asia, Latin America countries*

6. Academic requirements: *Candidates should have a B.Sc. or M.Sc. degree in Physics or Technical Physics,*

7. Qualifications required: *be proficient in reading and writing in English;*

UNESCO AGH Fellowships ed. 2012-B in Engineering

be not more than 40 years of age; and be in good health, both physically and mentally;

project description optional:

The project is to study magnetostriction in magnetite-based single crystalline materials in order to see how large the interaction of magnetic moment with the lattice is and if magnetism can participate in the interactions leading to the Verwey phase transformation at $T_V = 120\text{K}$. Crystal lattice dynamics was already shown to influence this transition. In case the strong spin-lattice coupling is present then any change in magnetism of magnetite could affect crystal structure, i.e., ultimately, the transition. The possible finding of this effect would constitute a real breakthrough in the science of magnetite since the most common opinion is that the magnetic degrees of freedom do not participate in the interactions leading to the transition. In addition to that problem, the results of magnetostriction measurements will help to better understand our recent measurements of magnetic axis switching phenomenon.

R&D results:

As above

other outputs:

project study

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor

(signature)

prof. dr hab. inż. Zbigniew Kąkol



prof. dr hab. inż. Zbigniew Kąkol, v-ce Rector for Education AGH UST

Dean of the Faculty

(signature and stamp)

AKADEMIA GÓRNICZO-HUTNICZA

.....inż. Stanisława Staszica

30-059 Kraków, al. A. Mickiewicza 30

tel./fax (012) 633-26-49

tel. (012) 617-20-06, 617-39-00

Place and date: Krakow, February 28, 2012



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

UNESCO AGH Fellowships ed. 2012-B in Engineering
Project-Proposal 6 months

Naukowa oferta stypendialna UNESCO - AGH 2012 B
dla młodych naukowców z krajów rozwijających

UNESCO - AGH 2012 Project B: promoting human resource capacities in the developing countries through intensive training and to enhancing international understanding and friendship among peoples of the world and the people of Poland

(in English)

1. Project title: *Transportation technology systems and devices*

Field of research: *Transport engineering, transportation, mechanical engineering, automation, transport and logistic*

Number of fellowships with free tuition sponsored by UNESCO: 2

2. Name of institution: *AGH University of Science and Technology, Faculty of Mechanical Engineering and Robotics*

Full address: A.Mickiewicza Av. 30, PL 30-059 Krakow, Poland

3. Name, title and full contact data of project supervisor:

prof. dr hab. inż. Janusz Szpytko

Tel.: +48 12 6173103

Fax: +48 12 6173531

E-mail *szpytko@agh.edu.pl*

www.agh.edu.pl

4. Project duration: 6 months

Proposed starting date: 1.10. 2012 /exact date to be agreed upon by the selected fellows and host Institution/

Language: English

Scientific contents: *individual research programme under supervision of tutor (see next page p.8)*

5. Developing countries (specification): *UNESCO Member States please specify if any Africa, Asia, Pacific Region, Latin America, Carriaribien countries*

6. Academic requirements: Candidates should have a B.Sc. or M.Sc. degree, please specify in more details

UNESCO AGH Fellowships ed. 2012-B in Engineering

7. Qualifications required: *for example*

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

8. Project description (in English):

project description optional:

to design and testing in laboratory the availability of transportation systems and devices, to design the transportation system safety and reliability, to design and testing telematic based system of transportation system

R&D results:

improvement in safety and reliability of transportation systems and devices

other outputs:

publications, future projects

9. Others information:

Stamp of the AGH UST Faculty

Project Supervisor
(signature)

Prof. dr hab. inż. Janusz Szpytko

Place and date: Krakow, January ...31, 2012

Dean of the Faculty
(signature and stamp)

prof. dr hab. inż. Janusz Kowal

AKADEMIA GÓRNICZO-HUTNICZA
Inst. Stanisława Staszica w Krakowie
WYDZIAŁ INŻYNIERII
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