



Departament d'Enginyeria  
de la Construcció

UNIVERSITAT POLITÈCNICA DE CATALUNYA

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Barcelona, December 2014

To whom it may concern

### Letter of Invitation for Mrs. Evgeniya Maltseva

It is my great pleasure to herewith invite you to carry out research work as a visiting scientist and Ph.D student in my research group, Associate professor and expert on macro and micro analysis of recycled materials at the Construction Engineering Department of Universitat Politècnica de Catalunya · BarcelonaTech (UPC), Barcelona Spain.

Your research work will be on the area of the use of recycled material for concrete production, exactly about "Studies on Glass Powder as full replacement of cement in concrete production". The period of your stay will be 6 months, i.e. starting earlier than January 2016. As a joint visiting student, you will not have to pay for tuition fees. We will provide a working place and you will get access to all experimental facilities required for your work, including libraries and online resources. During your stay in Spain, I will act as your direct supervisor.

In order to finance your stay, you are applying for a scholarship within the ERANET+ program. It is my great pleasure to lend my full support to this application.

Sincerely yours

Miren Etxebarria

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## WORKING/RESEARCH PLAN

ACADEMIC YEAR 2015\_/2016\_\_

STUDY PERIOD \_\_6\_ MONTHS/ FROM \_\_ October 2015 \_\_ TO March 2016\_\_

Name of student: *Evgeniya Maltseva*  
Applicant Number: *1579*  
Target Group: *1*  
Home Institution: *Siberian Federal University (SibFU)* Country: *Russia*

### DETAILS OF PROPOSED STUDY

Host Institution: *UPC BARCELONATECH*  
Field of Study: *Materials Research*

Country: *Spain*

#### Working/Research Proposal

**October ,2015** Acquaintance with advanced instrumentation and up-to-date teaching and learning methods and facilities available in the UPC BARCELONATECH .

- Acquaintance with recent works of the institute in the field of glass-containing materials, recycled glass ceramics and recycled aggregate concrete: -Acquaintance with the institute laboratories.

**November,2015** Acquaintance with the methods and tools of investigating structural characteristic of materials applied in Spain:

-Acquaintance with composition quality control facilities applied in Spain.

**December ,2015** Applications of mathematic methods in the processing of experimental data used in Spain:

**October,2015 –March, 2016** Participation in applied and laboratory research activities:

Experimental analysis of properties new type a glassconcrete.

Determine physical, mechanical and durability properties as well as the microstructure and the crystallography of the glassconcrete, according to my thesis:

The study of influence of amount of recycled glass as coarse aggregates and production process on properties of glassoncrete, according to my thesis:

Research on the chemical processes associated with the interaction between the CaO and SiO<sub>2</sub>, according to my thesis .

**March ,2016** Publication of a paper displaying results of research.

**Comments:**

Grantee's Signature:

Date: *8.12.2014*

#### HOME INSTITUTION

#### HOST INSTITUTION

We confirm that the proposed programme of research is approved.

*Krasnoyarsk, Siberian Federal University*

*10/12/2014*

*Sergey V. Verkhovets*  
*/Vice-Rector Research and*  
*International Affairs/*

We confirm that the proposed programme of research is approved.

*Miren Etxeberria*

*05/12/2014*

*Universitat Politecnica De Catalunya*  
*BARCELONATECH*

