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FLASHBACK OF THE YEAR

SEPTEMBER 2015 – SEPTEMBER 2016

Let's have a look on the first year of functioning of the EUCERMAT programme!

It has been almost a year since the Kick-Off meeting has been held. This year was dedicated to the **organisation and the implementation of the activities**. A particular attention was paid to the building and framing of the industrial network, and the setting up of distance learning courses in the context of the blended mobility activities. But also the determination of good practices to improve the promotion of ceramics sciences.

The **first transnational meeting** held in Limerick, Ireland, in February 2016, has been the occasion to focus on the **implementation of E-Learning** classes and for all the partners to get familiar with the use of dedicated tools. Thanks to a training session and a workshop, each of the academic partner is now able to deliver its on-line course!

The significant event of this first year was the **First Dissemination Event** held in June 2016 in Faenza, Italy, dedicated to the **presentation of the first results** of the project. The presentation of the Industrial network has been one of the most important result presented during this European event. Many of the industrials involved in the Industrial network were present, to introduce their activities and start working with the members of the EUCERMAT programme.

This event has also been the occasion to gather for the first time all the members of the Quality Board, among them being some **relevant and recognized specialists in Ceramic Science** (see p5). In addition, they gave **specific talks** linked with the activities of the project which



contributed to the richness of discussions :

- Academia-business relations in the ceramic field : the Merck experience – *Peter Reynders*
- Education and Training opportunities in Ceramics and Glass, a US perspective – *Kathleen Richardson*

DISTANCE LEARNING FOR BLENDED MOBILITY

REFLECTIONS ON E-LEARNING AND BLENDED MOBILITY

Blended mobility is a **mix between physical mobility**, abroad, **and virtual mobility**, thanks to on line courses. This **modern way of teaching** permits students both to have access to new courses, unavailable in their own universities, and to benefit from an international experience, thanks to the physical mobility.

Following this principal, EUCERMAT wants to give to selected students the opportunity to attend blended mobility modules including **online courses (e-learning)** supplemented by **laboratory practical work**, and a **3 to 6 months traineeship** abroad in a renowned company, in connection with university research activities.

To reach this objective, five European universities and around fifteen industries work together offering a **meaningful and unique learning experience for students** through high level **international training courses** in the field of the science of ceramic materials and processing.

Thus, concerning e-learning and blended mobility, a great job has been done since the Kick-Off meeting, that was held at the University of Limoges in November 2015. The first transnational meeting in Limerick, in February 2016, also led to several developments.

After fruitful discussions related to the content of the teaching units and when/how they might be delivered, partners finally agreed on the **general structure and schedule for teaching units** for 2016/17 and 2017/18.



DISTANCE LEARNING FOR BLENDED MOBILITY

SCHEDULE OF THE FIRST YEAR (2016-2017)

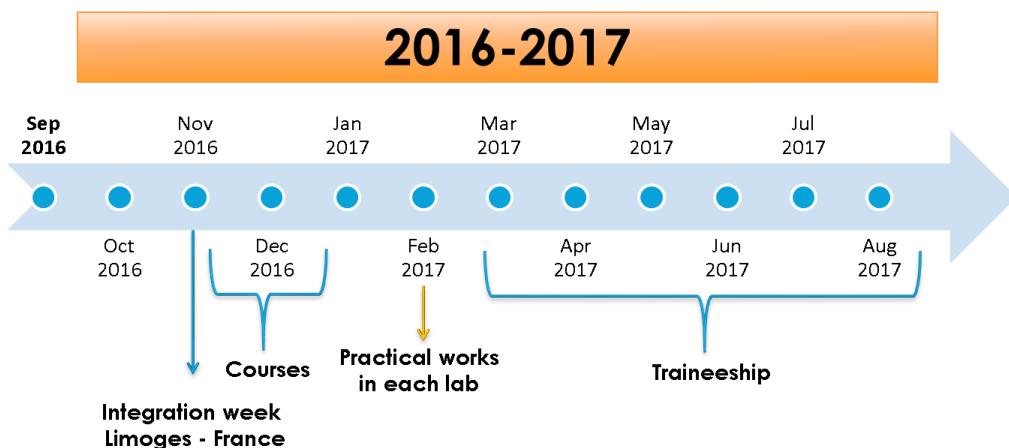
For the academic year **2016/2017** the students will be able to follow one of the 3 different on-line modules, and to validate the corresponding **3ECTS**, they will have to choose one practical, delivered in situ, by the University responsible for the on-line corresponding teaching. The courses will be hosted on a Moodle platform, that will be used as the virtual learning environment.

For the first year **on-line modules offered** are :

- Monolithic refractories engineering - *AGH Krakow*
- Ceramic Materials: Syntheses and Properties - *Technische Universität Darmstadt*
- Materials for energy - *Universidade de Aveiro*



The **e-learning classes** will be delivered between November and December 2016, **practical laboratories** in February 2017, within participating universities' facilities, and finally, the training periods (**Master Thesis**) will take place between March and August 2017, in the companies' labs.



The **students** will be chosen through a selection procedure based on **both academic excellence and motivation**. To be selective and allow better results, cohorts will be up to 20 students maximum (4 students per university ideally).

DISTANCE LEARNING FOR BLENDED MOBILITY

THE INTEGRATION WEEK: A BRIDGE BETWEEN TEACHINGS, STUDENTS AND INDUSTRIES

Every year, each selected student should participate to the **Integration Week** that will be held at the University of Limoges in **November**.

The integration week will be the occasion for the students **to meet each other**, and to meet and talk with the industrials, teachers and researchers involved in the programme.

The integration week will allow the students getting all the **relevant information** about **every items** of the EUCERMAT project and its educational programme.

EUCERMAT overview

- Structure of the educational programme
- Presentation of the academics partners
- Presentation of the on-line Teaching Units

EUCERMAT Master Thesis

- Presentation of the EUCERMAT industrial network
- Interviews with industrials to be selected for the Master Thesis traineeship

Visits in the field of ceramic materials

- SPCTS – research Lab on ceramics
- Local companies (CERINNOV and CERADROP)
- Center for Technology Transfer in Ceramics
- Museum Factory « Four des Casseaux »

EUCERMAT E-learning Training

- Introduction to e-learning tools
- Practical application

EUCERMAT Social Events

- Welcoming event
- EUCERMAT Photo Contest

Integration Week 2016-2017

14-18 November 2016

Limoges - FRANCE

THE INDUSTRIAL NETWORK

A WORD ON THE INDUSTRIAL NETWORK

The aim of the EUCERMAT industrial network is to **connect** Europe's best universities, best students, excellent research organisations and first-class employers in the field of Ceramic Science. Those connections will create **long-term partnerships and opportunities**, not just a temporary cooperation, and actually aspire to **strengthen the knowledge triangle** in the ceramic field.

DIFFERENT PARTICIPANTS WITH DIFFERENT INTERESTS

University

- raise its profile
- attract more students to the courses
- bring in external ideas
- knowledge exchange
- opportunities for new research collaborations

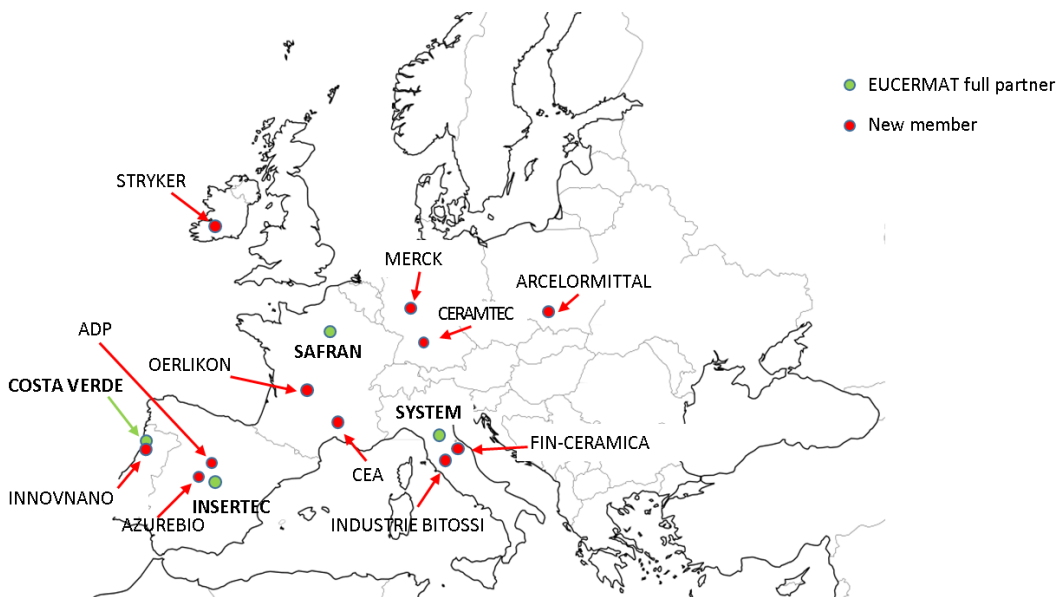
Student

- provide work experience in an international context
- increase the possibility of employability
- learn how to start-up and run a business

Industry

- access high-profile laboratory equipment and services
- bring in external ideas
- upskill staff members
- access to potential future employees
- widen their network

15 COMPANIES INVOLVED



QUALITY BOARD MEMBERS

A WORD ON THE QUALITY BOARD

The EUCERMAT project is evaluated by a Quality Board constituted of 5 independent members, having a relevant and recognised specialists in Ceramic Science. Their expertise in the field allow them assessing the quality and the consistency of the project:

- **Two university academics** selected to evaluate the teaching part of the programme, the functioning of the e-learning and the relevance of the proposed European master training
Dr. Kathleen Richardson and Dr. François Weiss
- **Two representatives of industrial activities** selected to evaluate the efficiency of the partnership between the industrials and the research laboratories
Dr. Hans-Juergen Schreiner and Dr. Peter Reynders
- **A master student** from a partner university selected to assess the quality of the teaching units and blended mobility proposed – *Elise Hugon*

**Dr. Kathleen A. Richardson - Professor of Optics & Photonics
CREOL, The College of Optics & Photonics, Orlando, Florida - USA**



Dr. Kathleen Richardson is currently **Professor of Optics and Materials Science and Engineering** at CREOL/College of Optics and Photonics at the University of Central Florida, where she runs the Glass Processing and Characterization Laboratory (GPCL).

Prof. Richardson's group has extensive industrial and government supported research programs evaluating materials for precision molded optics, the use of non-oxide glasses in chem-bio planar sensors, evaluation of complex material interactions in next-generation integrated opto-electronic chip design, and in nano-composites for advanced detection and optical applications.

Pr. Richardson is **Past-President of the American Ceramic Society (ACerS)**, is a past-Chair of ACerS' Glass and Optical Materials Division (GOMD) and a past-President of the National Institute of Ceramic Engineers (NICE). She presently serves on the Coordinating Technical Committee (CTC) of the International Commission on Glass (ICG) and the Board of Directors of the American Ceramic Society (ACerS).

QUALITY BOARD MEMBERS

Dr. François WEISS - CNRS Senior Scientist - Grenoble INP - France



Dr. François Weiss is a permanent **CNRS researcher at the LMGP** (Laboratoire des Matériaux et du Génie Physique) in Grenoble since 1979. He was Vice-president for research at the Grenoble Institute of Technology from 2002 to 2008. He was Director of the LMGP from 2003 to 2006 and Deputy Director until 2013. He is the head of the Institut Carnot 'Energies du futur'.

FWS' research activities are related to **Material Science and Materials Processing** (MOCVD, thin films processing, multilayered materials).

The main classes of materials studied are the High Tc Superconductors and the Multifonctionnal materials.

He has supported **22 PhD thesis** and published more than 190 papers in journals, books or proceedings in international conferences, mainly in the field of superconducting materials, thin films multilayers and heterostructures of multifunctional oxides.

With a **strong involvement in both research and education at European level**, Dr. F.Weiss has a perfect profile to make a quality assessment of the EUCERMAT project.

Elise Hugon – Master student – Université de Limoges - France

After graduating a **Bachelor in Materials Chemistry** at the Faculty of Science of the University of Limoges, Elise Hugon joined the **Master in Materials Sciences and Engineering**.



Testimony of Elise Hugon:

"It is a training that is particularly interested in the physical and chemical properties of ceramics and methods for developing and shaping. I find that ceramics are very interesting to study, they are engineered materials with great potential and that there is still a lot to understand / master. Be part of the Quality Board allows me participating as a student, to the establishment of a large European project that should lead to a European Master. This is a project dear to my heart because eventually it will lead to a more advanced training on ceramics and improve the visibility of these materials in Europe."

QUALITY BOARD MEMBERS

Dr. Peter Reynders –Senior Business Process Manager- MERCK - Germany



After receiving a diploma in chemistry and a doctoral degree in chemistry and physics by the Max Planck Institute of Biophysical Chemistry, Göttingen, **Dr Peter Reynders** started in 1988 to work for AT&T Bell Labs on nanomaterials for electronics.

In 1990, he joined Merck and worked in product development of special effect pigments. From 2000 to 2010, Peter Reynders has been a **project management officer and architect** at Merck. In 2010, he moved to the Life Science business of Merck and worked on the integration of the acquired companies Millipore and Sigma Aldrich.



He supervised **numerous master and doctoral theses** on material science, chemistry, and also projects and portfolio management.

Thanks to his experience in master thesis supervision and to his industrial background, his is a perfect member for the Quality supervision of the EUCERMAT Programme.

Dr. Hans-Juergen Schreiner, Manager R&D and Innovations, CeramTec Group - Germany

Dr Schreiner studied Physics in Karlsruhe, Germany, and was awarded a PhD in Electrical Engineering in 1999. The topic was functional ceramics on the basis of perovskites. He joined **CeramTec** that same year, and worked in different fields, mainly based on piezoceramics (actuators, sensors, etc.).

He was involved in the **development of stack actuators for automotive applications** (injection systems). Today he is responsible for development and innovation **in CeramTec's Multifunctional Ceramics Group**.

Dr Hans-Juergen Schreiner was represented during the first Quality Board (June 2016) by his colleague **Dr. Norbert Schneider**.





IN THE COMING NEWSLETTER WILL BE REPORTED THE FOLLOWING ITEMS :

- Feedback of the first Integration Week
- Detailed presentation of the Industrial Network
- Presentation of the outreach activities to promote ceramic science in Europe



*Innovation?
...think Ceramics!*

This Newsletter has been built thanks to a conjoint work of the EUCERMAT partners

Strategic Partnership
September 2015 – August 2018

