

ERASMUS PROGRAMME
TRAINING AGREEMENT and QUALITY COMMITMENT

I. DETAILS OF THE STUDENT

Name of the student: Damla AYDIN

Subject area: Chemical Engineering

Academic year :2011-2012

Degree : B.Sc.

Sending institution: Afyon Kocatepe University

II. DETAILS OF THE PROPOSED TRAINING PROGRAMME ABROAD

Host organisation: University of Huelva-Spain

Planned dates of start and end of the placement period: from June 27th 2012 till September 27th 2012 , that is 3 months

- Knowledge, skills and competences to be acquired:

The Erasmus student will be trained in the following tasks related with the research project:

1. Development of new thickener agents of oil media through functionalization of biopolymers with reactive isocyanate compounds.
2. Optimization of gel-like dispersion formulations based in oil media (vegetable oils) and the new biopolymers synthesized.
3. Characterization of biopolymers and resulting gel-like formulations. Special interest will be paid in the rheological characterization of these oleogels.

- Detailed programme of the training period:

In line with different public directives, which promote both the replacement of non-renewable raw materials by renewable resources and the minimization of the environmental impact caused by industrial waste materials, the main objective of this project is the development of new environmentally-friendly thickener agents for biodegradable lubricating grease formulations and bio-based polyurethanes for biodegradable adhesives and coatings, by chemically modifying natural biopolymers. Different chemical derivatives of the two main natural biopolymers, cellulose and chitin, are proposed to replace the traditional thickener agents based on metal soaps and polyuria in lubricating greases and non-renewable solvents and polyol resources in coatings and adhesives. These new thickener agents must provide a stable gel-like dispersion in the oil medium, with specific functional properties and rheological response. This can be achieved by promoting chemical reactions between the biopolymer and the vegetable oil intended to be used as base lubricant or the solvent source of polyols. As a result, these new products could be potentially competitive with traditional greases, adhesives and coatings. The molar ration between the polyol source and isocyanate-based compounds will determine the application as a lubricant, adhesive or coating. A full rheological and microestructural characterization of these formulations will be carried out, including the study of thermal effects. In addition to this, mechanical and oxidative stability, physical stability against phase separation, as well as thermal degradation will be evaluated, with special attention to the characteristics of the new bio-thickeners developed, i.e. molecular weight and type and degree of chemical modification achieved.

- Tasks of the trainee:

The first task of the trainee will be preparation of functionalized biopolymers. She will carry out the functionalization reaction, purify the final product and perform the chemical characterization of isocyanate functionalised biopolymers.

The second task of the trainee will cover preparation of gel-like dispersion. She will do optimisation experiment and characterise the dispersion by using rheological measurements.

- Monitoring and evaluation plan:

Monitoring and evaluation will be directly taken by the professor coordinator and his research group.

III. COMMITMENT OF THE THREE PARTIES

By signing this document the student, the sending institution and the host organisation confirm that they will abide by the principles of the Quality Commitment for Erasmus student placements set out in the document below.

The student

Student's signature



Date: 07.06.2012

The sending institution

We confirm that this proposed training programme agreement is approved. On satisfactory completion of the training programme the institution will accept the time that the student spent at University of Huelva instead of the mandatory summer internship training need for graduation:

The result of summer internship training will be recorded student's transcript and it will be stated at the bottom of the transcript that Student has successfully completed his/her summer internship training

Coordinator's name and function
Yrd.Doç.Dr. Metin ÖZGÜL
Malzeme Eğitimi ve Müh.

Coordinator's signature



Date: 7 June 2012

The host organisation

The student will receive a financial support for his/her placement Yes ☐ No ☒

The student will receive a contribution in kind for his/her placement Yes ☐ No ☒

Name and position of the mentor (if not available, the name shall be communicated to the student upon his/her arrival):

Number of permanent staff in the department (team) hosting the student: 3 José M. Franco

Number of other students/trainees hosted at the same time in the department (team) hosting the student: 0

We confirm that this proposed training programme is approved. On completion of the training programme the organisation will issue a Certificate to the student

Coordinator's name and function

José M. Franco

Date: 07-06-2012

Coordinator's signature



Universidad
de Huelva
DEPARTAMENTO DE INGENIERÍA QUÍMICA,
QUÍMICA FÍSICA Y QUÍMICA ORGÁNICA

QUALITY COMMITMENT

For Erasmus student placements

This Quality Commitment replicates the principles of the European Quality Charter for Mobility

THE SENDING HIGHER EDUCATION INSTITUTION* UNDERTAKES TO:

- Define the **learning outcomes** of the placement in terms of the knowledge, skills and competencies to be acquired
- Assist the student in **choosing** the appropriate host organisation, project duration and placement content to achieve these learning outcomes
- Select** students on the basis of clearly defined and transparent criteria and procedures and sign a **placement contract** with the selected students.
- Prepare** students for the practical, professional and cultural life of the host country, in particular through language training tailored to meet their occupational needs
- Provide **logistical support** to students concerning travel arrangements, visa, accommodation, residence or work permits and social security cover and insurance
- Give **full recognition** to the student for satisfactory completed activities specified in the Training Agreement
- Evaluate** with each student the personal and professional development achieved through participation in the Erasmus programme

THE SENDING INSTITUTION* AND HOST ORGANISATION JOINTLY UNDERTAKE TO:

- Negotiate and agree a tailor-made **Training Agreement** (including the programme of the placement and the recognition arrangements) for each student and the adequate mentoring arrangements
- Monitor** the progress of the placement and take appropriate action if required

THE HOST ORGANISATION UNDERTAKES TO:

- Assign to students **tasks and responsibilities** (as stipulated in the Training Agreement) to match their knowledge, skills, competencies and training objectives and ensure that appropriate equipment and support is available
- Draw a **contract or equivalent document** for the placement in accordance with the requirements of the national legislation
- Appoint a mentor** to advise students, help them with their integration in the host environment and monitor their training progress
- Provide **practical support** if required, check appropriate insurance cover and facilitate understanding of the culture of the host country

THE STUDENT UNDERTAKES TO:

- Comply with all **arrangements** negotiated for his/her placement and to do his/her best to make the placement a success
- Abide by the **rules and regulations** of the host organisation, its normal working hours, code of conduct and rules of confidentiality
- Communicate** with the sending institution about any problem or changes regarding the placement
- Submit a report** in the specified format and any required supporting documents at the end of the placement

* In the event that the higher education institution is integrated in a consortium, its commitments may be shared with the co-ordinating organisation of the consortium

VOR: 