



Trainee	Last name(s)	First name(s)	Date of birth	Nationality ¹	Sex [M/F]	Study cycle ²	Field of education ³
						EQF level 7	0710: Engineering and engineering trades, not further defined (06.0 - 5, 52, 520)
Sending Institution	Name	Faculty/ Department	Erasmus code ⁴ (if applicable)	Address	Country	Contact person name ⁵ ; email; phone	
	Gheorghe Asachi Technical University of Iasi	Faculty of Machine Manufacturing and Industrial Management Department of Physics	RO IASI05	67 Prof.dr.doc. Dimitrie Mangeron Street, 700050, Iasi	Romania	Prof. Dan CASCAVAL rectorat@tuiasi.ro	
Receiving Organisation /Enterprise	Name	Department	Address; website	Country	Size	Contact person ⁶ name; position; e-mail; phone	Mentor ⁷ name; position; e-mail; phone
	Université de Lille	Faculté des Sciences et Technologies, Département de Physique	Laboratoire PhLAM, Bât. P5, Cité Scientifique, Université de Lille 59655 Villeneuve d'Ascq cedex	France	<input type="checkbox"/> < 250 employees <input checked="" type="checkbox"/> > 250 employees	Prof. Cristian Focsa, University Professor, Cristian.FOCSA@univ-lille1.fr	Prof. Cristian Focsa, University Professor, Cristian.FOCSA@univ-lille1.fr

Before the mobility

Table A - Traineeship Programme at the Receiving Organisation/Enterprise

Planned period of the mobility: from [month/year] 01/06/2020 to [month/year] 31/07/2020

Traineeship title: Chemical characterization of automobile soot particles and analogues by mass spectrometry after laser desorption and laser ionization

Number of working hours per week: 35

Detailed programme of the traineeship:

The objective of this traineeship is to study the surface chemical composition of soot particles produced by automobile engines or analogues sampled in standard laboratory flames. The particles studied are representative of part of the aerosols emitted by automobile traffic. To determine their toxicity and their influence on the environment or the climate, it is essential to characterize the chemical species adsorbed on these particles because surface compounds are responsible in a large extent for their physical and chemical properties. The particles will be sampled by a microprobe in standard laboratory flames, diluted in an inert carrier gas, transferred and deposited on a cold substrate under vacuum or collected on substrates in a cylinder motor (Bosch, Germany). The chemical composition of the soot surface will be analyzed by mass spectrometry coupled with laser desorption and laser ionization (L2MS) to obtain the size distributions of different molecular families adsorbed even at trace-levels. Specific single or multiphoton ionization schemes (SPI in the UV vacuum or REMPI) will be used to study selectively the different classes of molecules. This characterization will be completed by secondary ion mass spectrometry (SIMS). The study should enable both to determine the influence of fuel on the surface chemical composition of soot particles and to discern, as part of measures to engines or vehicles, the different sources of particles (combustion, fuel additives, lubricating oil, mechanical wear ...).

Knowledge, skills and competences to be acquired by the end of the traineeship (expected Learning Outcomes):

- Learning how the organization works
- Learning relevance of the degree to the industrial and commercial world
- Using state-of-the-art technology
- Developing better interpersonal skills and team-working skills
- Gaining experience of a real working environment
- Applying theory to practice
- Broadening knowledge base
- Gaining an insight into personal abilities, aptitudes and interests
- Developing personal skills such as communication, team-working and problem solving
- Understanding new countries and cultures
- Building self-confidence, independence and self-reliance
- Improving employability to be a work-ready graduate
- Appreciating the relevance of coursework in an industrial or commercial context
- Developing an appreciation of the importance of Health & Safety in the workplace and learn about standard operating procedures (SOPs)
- The process of securing a placement position will provide a good experience for future job applications
- Perform chemical characterization using a mass spectrometer

Operating lasers for desorption and ionization
Studying molecule classes using single/multiphoton ionization schemes

Monitoring plan:

Sending weekly emails to UTI supervisor updating him on progress
Phone call/skype/visit from UTI approximately half way through the placement
Weekly meetings with placement supervisor

Evaluation plan:

Submitting a poster, a presentation and a report on the presentation. In addition, the placement supervisor will submit a report on the work.

The level of **language competence**⁸ in English [*indicate here the main language of work*] that the trainee already has or agrees to acquire by the start of the mobility period is: A1 A2 B1 B2 C1 C2 Native speaker

Table B - Sending Institution

*Please use only one of the following three boxes:*⁹

1. The traineeship is **embedded in the curriculum** and upon satisfactory completion of the traineeship, the institution undertakes to:

Award ECTS credits (or equivalent) ¹⁰	Give a grade based on: Traineeship certificate <input type="checkbox"/> Final report <input type="checkbox"/> Interview <input type="checkbox"/>
Record the traineeship in the trainee's Transcript of Records and Diploma Supplement (or equivalent).	
Record the traineeship in the trainee's Europass Mobility Document: Yes <input type="checkbox"/> No <input type="checkbox"/>	

2. The traineeship is **voluntary**, and, upon satisfactory completion of the traineeship, the institution undertakes to:

Award ECTS credits (or equivalent): Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, please indicate the number of credits: 15
Give a grade: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, please indicate if this will be based on: Traineeship certificate <input checked="" type="checkbox"/> Final report <input checked="" type="checkbox"/> Interview <input checked="" type="checkbox"/>
Record the traineeship in the trainee's Transcript of Records: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Record the traineeship in the trainee's Diploma Supplement (or equivalent).	
Record the traineeship in the trainee's Europass Mobility Document: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

3. The traineeship is carried out by a **recent graduate** and, upon satisfactory completion of the traineeship, the institution undertakes to:

Award ECTS credits (or equivalent): Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please indicate the number of credits:
Record the traineeship in the trainee's Europass Mobility Document (<i>highly recommended</i>): Yes <input type="checkbox"/> No <input type="checkbox"/>	

Accident insurance for the trainee

The Sending Institution will provide an accident insurance to the trainee (if not provided by the Receiving Organization/Enterprise): Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	The accident insurance covers: - accidents during travels made for work purposes: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> - accidents on the way to work and back from work: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
The Sending Institution will provide a liability insurance to the trainee (if not provided by the Receiving Organization/Enterprise): Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Table C - Receiving Organization/Enterprise

The Receiving Organisation/Enterprise will provide financial support to the trainee for the traineeship: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, amount (EUR/month):
The Receiving Organisation/Enterprise will provide a contribution in kind to the trainee for the traineeship: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, please specify:	
The Receiving Organisation/Enterprise will provide an accident insurance to the trainee (if not provided by the Sending Institution): Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	The accident insurance covers: - accidents during travels made for work purposes: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> - accidents on the way to work and back from work: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
The Receiving Organisation/Enterprise will provide a liability insurance to the trainee (if not provided by the Sending Institution): Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
The Receiving Organisation/Enterprise will provide appropriate support and equipment to the trainee.	
Upon completion of the traineeship, the Organisation/Enterprise undertakes to issue a Traineeship Certificate within 5 weeks after the end of the traineeship.	

By signing this document, the trainee, the Sending Institution and the Receiving Organisation/Enterprise confirm that they approve the Learning Agreement and that they will comply with all the arrangements agreed by all parties. The trainee and Receiving Organisation/Enterprise will communicate to the Sending Institution any problem or changes regarding the traineeship period. The Sending Institution and the trainee should also commit to what is set out in the Erasmus+ grant agreement. The institution undertakes to respect all the principles of the Erasmus Charter for Higher Education relating to traineeships (or the principles agreed in the partnership

agreement for institutions located in Partner Countries).

Commitment	Name	Email	Position	Date	Signature
Trainee			<i>Trainee</i>		
Responsible person ¹¹ at the Sending Institution	Bogdan Ciobanu	bogdancioban@tuiasi.ro	Erasmus+ Faculty Coordinator		
	Prof. Sabina Săruleanu	international@tuiasi.ro	Erasmus+ Institutional Coordinator		
Supervisor ¹² at the Receiving Organisation	Cristian Focsa	cristian.focsa@univ-lille1.fr	Placement supervisor		

During the Mobility

<p>Table A2 - Exceptional Changes to the Traineeship Programme at the Receiving Organisation/Enterprise (to be approved by e-mail or signature by the student, the responsible person in the Sending Institution and the responsible person in the Receiving Organisation/Enterprise)</p> <p style="text-align: center;">Planned period of the mobility: from [month/year] till [month/year]</p>					
Traineeship title: ...			Number of working hours per week: ...		
Detailed programme of the traineeship period:					
Knowledge, skills and competences to be acquired by the end of the traineeship (expected Learning Outcomes):					
Monitoring plan:					
Evaluation plan:					
Commitment	Name	Email	Position	Date	Signature
Trainee			<i>Trainee</i>		
Responsible person ¹³ at the Sending Institution			Erasmus+ Faculty Coordinator		
	Prof. Sabina Săruleanu	international@tuiasi.ro	Erasmus+ Institutional Coordinator		
Supervisor ¹⁴ at the Receiving Organisation					

After the Mobility

<i>Table D - Traineeship Certificate by the Receiving Organisation/Enterprise</i>
Name of the trainee:
Name of the Receiving Organisation/Enterprise:
Sector of the Receiving Organisation/Enterprise:
Address of the Receiving Organisation/Enterprise [street, city, country, phone, e-mail address], website:
Start date and end date of traineeship: from [day/month/year] to [day/month/year]
Traineeship title:
Detailed programme of the traineeship period including tasks carried out by the trainee:
Knowledge, skills (intellectual and practical) and competences acquired (achieved Learning Outcomes):
Evaluation of the trainee:
Date:
Name and signature of the Supervisor at the Receiving Organisation/Enterprise:

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- ¹ **Nationality:** Country to which the person belongs administratively and that issues the ID card and/or passport.
- ² **Study cycle:** Short cycle (EQF level 5) / Bachelor or equivalent first cycle (EQF level 6) / Master or equivalent second cycle (EQF level 7) / Doctorate or equivalent third cycle (EQF level 8).
- ³ **Field of education:** The [ISCED-F 2013 search tool](http://ec.europa.eu/education/tools/isced-f_en.htm) available at http://ec.europa.eu/education/tools/isced-f_en.htm should be used to find the ISCED 2013 detailed field of education and training that is closest to the subject of the degree to be awarded to the trainee by the sending institution.
- ⁴ **Erasmus code:** a unique identifier that every higher education institution that has been awarded with the Erasmus Charter for Higher Education (ECHE) receives. It is only applicable to higher education institutions located in Programme Countries.
- ⁵ **Contact person at the sending institution:** a person who provides a link for administrative information and who, depending on the structure of the higher education institution, may be the departmental coordinator or will work at the international relations office or equivalent body within the institution.
- ⁶ **Contact person at the Receiving Organisation:** a person who can provide administrative information within the framework of Erasmus+ traineeships.
- ⁷ **Mentor:** the role of the mentor is to provide support, encouragement and information to the trainee on the life and experience relative to the enterprise (culture of the enterprise, informal codes and conducts, etc.). Normally, the mentor should be a different person than the supervisor.
- ⁸ **Level of language competence:** a description of the European Language Levels (CEFR) is available at: <https://europass.cedefop.europa.eu/en/resources/european-language-levels-cefr>
- ⁹ **There are three different provisions for traineeships:**
1. Traineeships embedded in the curriculum (counting towards the degree);
 2. Voluntary traineeships (not obligatory for the degree);
 3. Traineeships for recent graduates.
- ¹⁰ **ECTS credits or equivalent:** in countries where the "ECTS" system it is not in place, in particular for institutions located in Partner Countries not participating in the Bologna process, "ECTS" needs to be replaced in all tables by the name of the equivalent system that is used and a web link to an explanation to the system should be added.
- ¹¹ **Responsible person at the sending institution:** this person is responsible for signing the Learning Agreement, amending it if needed and recognising the credits and associated learning outcomes on behalf of the responsible academic body as set out in the Learning Agreement. The name and email of the Responsible person must be filled in only in case it differs from that of the Contact person mentioned at the top of the document.
- ¹² **Supervisor at the Receiving Organisation:** this person is responsible for signing the Learning Agreement, amending it if needed, supervising the trainee during the traineeship and signing the Traineeship Certificate. The name and email of the Supervisor must be filled in only in case it differs from that of the Contact person mentioned at the top of the document.
- ¹³ **Responsible person at the sending institution:** this person is responsible for signing the Learning Agreement, amending it if needed and recognising the credits and associated learning outcomes on behalf of the responsible academic body as set out in the Learning Agreement. The name and email of the Responsible person must be filled in only in case it differs from that of the Contact person mentioned at the top of the document.

¹⁴ **Supervisor at the Receiving Organisation:** this person is responsible for signing the Learning Agreement, amending it if needed, supervising the trainee during the traineeship and signing the Traineeship Certificate. The name and email of the Supervisor must be filled in only in case it differs from that of the Contact person mentioned at the top of the document.