



Project acronym: EuroBioRef

Project Title: EUROpean multilevel integrated BIOREFinery design for sustainable biomass

processing

**Instrument:** Large Scale Collaborative Project

Thematic Priority: FP7-ENERGY.2009.3.3.1

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SP10 – Exploitation, dissemination, communication, standardisation and training activities
WP10.3 – Training activities

# **Deliverable report**

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#### **Deliverable Identification**

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General report for the following items

**1-** Training course plan and seminars (CERTH)

Deliverable Title: 2- Evaluation forms for the training sessions, forms consolidation and

assessment (ALMA)

3- Report on the training events occurred (UWM)4- Report on the summer courses (CIRCC/CERTH)

Responsible Beneficiary: CERTH (for Training course plan and seminars)

Contributing Beneficiaries: CNRS-UCCS, CRES, HTAS, PDC-GMBH, ECOINT, EUBIA, TUDO,

FEUP, RWTH, CIRCC, SOABE, ALMA, UWM

To be Submitted to the EC: Yes

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#### **Executive summary**

### Description of the deliverable objective and content

The main objective of the training activities is to promote Sustainable Biorefinery Sciences and Technologies through Training, Education, and Mobility.

#### The specific objectives are:

- To instruct and train all the people involved with production and usage of biorefineries including industrials, students or research people
- To organize staff training in order to transfer the necessary technological knowledge
- To spread specific knowledge form experts in EUROBIOREF to young scientists and exchange of good practice among the high level partners involved in different domains.
- To provide personal and distance-learning training to extend Science & Technology understanding of the Biorefinery concept, and in parallel, promote S&T cohesion within the European Research Area and so increase skills across Europe.

#### Training activities

The organization of training will consist of the following activities:

- 1. Lectures and training needs
- 2. Creating lectures for Universities courses and training material for the various types of users. This material will be updated for each new product
- 3. Organizations of workshops and training schools
- 4. Implementing at the users site
- 5. Evaluation of the training

The activities accomplished in each of the tasks are summarized below while the detailed technical content is presented in Annex I.

### Training course plan and seminars

A list of training events/seminars/courses scheduled to take place during the course of EuroBioRef has been already being drafted and included in the respective deliverable of the first year. The detailed plan of the workshop entitled "Molecular Reactive Separations" that will be held in TUDO in April 2012 is included in ANNEX I1.

#### Training events completed

During the second year, a variety of seminars and courses have been accomplished. The types of these and the number of activities are shown below and in detail in ANNEX I2

Type of training activity	No of activities
Internships and diploma thesis in industry	1
Short visits for training in new techniques and use of facilities among partners	1
Lectures in universities and schools on biorefinery-related subjects	15
Master courses	6

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In addition to the training events, the consortium has prepared an inventory of the Master and PhD theses that are implemented within Eurobioref. In total, 25 theses (20PhD and 5 Master) are in progress. The relevant SPs are 4, 5 and 6. More information on the titles of the theses, the students involved, the Universities in charge are included in ANNEX I2.

#### Summer course

The Eurobioref Summer School was aimed at the effective training of young researchers from Academia and Staff from Industry on most up-to-date scientific and technological aspects of Biorefinery. The Summer School took place on 18<sup>th</sup>-24<sup>th</sup> September 2011, in Castro-Apulia in Italy, organized by CIRCC.

The Summer School was a five and a half-day event, encompassing invited lectures from distinguished speakers, poster presentations by young researchers and interactive workshops on case studies. Prizes were delivered to best posters.

ALMA organized the info-leaflet in compliance with the graphical chart of the EuroBloRef project, and the School was advertised through the website of Eurobioref and ad hoc actions promoted by the organizers.

During the afternoons of Monday 19 and Tuesday 20 the Meeting of the Executive Committee took place.

The Summer School did run smoothly, and the whole event was much appreciated by the attendees, as demonstrated by the outputs of the assessment carried out by ALMA.

#### 10.3.4.1 The Teaching Sessions and Program

The School was planned to be an interactive event, as much as possible. The teaching program of the school consisted of 20 lectures (2 h each topic, with the possibility of rising questions during the presentation), questions time (15 min) at the end of each lecture, wrap-up time (20 min) at the end of each morning and afternoon session with cross-questions on the day lectures. Free time was scheduled in the afternoons (4 pm-6 pm) for personal contacts of students with teachers.

Lectures were delivered in the morning (9 am-1.20 pm) and afternoons (6 pm-8 pm). The list of lectures and the Programme are attached. (Annex 1) The slides on "Policy issues" prepared by Dr. Bush were distributed to the students.

Invited lectures were delivered by 20 distinguished scientists from industry and academia, 12 from EuroBioRef partners and 8 external ones. (See Table 10.3.1) The external teachers were mainly from the Industry.

Table 10.3.1: Eurobioref School: Teachers distribution

Country	Internal	External	Academy or Research Centers	Industry	Total
France	3	1	2	2	4
Italy	2	5	4	3	7
Denmark	1			1	1
United Kingdom	1		1		1
Germany	1	1	1	1	2
Greece	3		3		3
Spain		1	1		1
Sweden	1			1	1
Total	12	8	12	8	20

The slides of the presentations were set on the Eurobioref web-site at the end of the School and made available to the students and all participants in general.

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The texts of the lectures have been edited by Franck Dumeignil (Co-ordinator of Eurobioref), Angela Dibenedetto (CIRCC) and Michele Aresta (CIRCC) and will make the body of a book published by DeGruyter. All Chapters have been delivered to the publisher and the Book (the cover is shown in Annex II) will be soon published. (some 520 pages are expected) The Preface to the Book was written by the PO, Dr. Maria Georgiadou.

This book will be a rare example of the demonstration of the concept of Biorefinery as its Chapters will cover the following topics: Presentation of the Eurobioref Project; Perspective view on Biorefinery by Industry; Terrestrial biomass growing; Aquatic biomass growing; Pretreatment of biomass; Separation of cellulose, hemicellulose and lignin; Platform molecules from biomass; Conversion of biogenic platform molecules *via* homogeneous and heterogeneous catalysis for the production of fine chemicals, intermediates and fuels; Production of Syngas from biomass; Utilization of Syngas; Thermochemical conversion of biomass; Residues treatment by anaerobic fermentation: Basic science and application in biogas production.

#### 10.3.4.2 Student participation

The EuroBioRef Summer School, due to its interactive character, was planned for a maximum of 50 post-doc, PhD or Industrial staff. Students were asked to present a poster (criterion of priority in the acceptation of the application) and to deliver an oral presentation (not compulsory) of the content of the poster in 5 min (3 slides max).

The announcement attracted the attention of over 100 PhD students, Post Docs and staff from industry, the majority of which not belonging to Eurobioref partner Institutions. Due to the selection conditions, in total, **over 60** applications were received and **50** were considered as acceptable for attending the event.

The School attendees came from Eurobioref partners (12 students) and external institutions (38 students). They came from industry (10) and academia (40). A detailed summary is given in Table 10.3.2

Three participants cancelled after registration for serious personal problems. One retired as he moved to USA.

Table 10.3.2: Eurobioref School: Students distribution

Country	Internal Students	External Students	Total Number	Academy or Research Centers	Industry
				<del>,</del>	
France	4	10	14	13	1
Italy	2	8	10	6	4
Poland	2	4	6	6	0
Denmark	1	2	3	2	1
United Kingdom		2	2	1	1
Germany		2	2	2	0
Greece	1	1	2	2	0
Norway		1	1	1	0
Portugal	1		1	1	0
Spain		1	1	0	1
Sweden	1		1	0	1
The Netherlands		1	1	1	0
Venezuela		1	1	1	
Turkey		1	1	1	

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India		2	2	2	
Thailand		1	1	1	
Brazil		1	1		1
Total	12	38	50	40	10

As for the teachers, also students participation from outside Eurobioref Partners was very important: the ratio external/internal students was close to 3:1. It is worth to emphasize the participation of students from Asia and South America!

36 out of the 46 attending students presented posters on the different topics of the School. Their oral short-presentations were much appreciated.

Posters and oral presentations were evaluated by five teachers (two from Industry) in a first level selection and the best selected (divided in two sets for PhD or Post-Doc + Industrial staff) were then evaluated by three different Senior Scientists who selected the best ones. The authors of best posters received a parchment and books offered by De Gruyter and Wiley. Four prizes were delivered to Post Docs and five to PhDs.

The assessment carried out by ALMA reports a general high appreciation of the event, of the content of the School and its organization.

The organizers are satisfied of the day-by-day life of the event and final results. They consider the publication of the book as an added value to the Project.

#### Assessment of the training sessions, (ALMA)

Immediately following the end of the first EuroBioRef Summer School (see above part), ALMA conducted a satisfaction survey that was made available online as of September 26th 2011. All participants (trainees and teachers) were invited to provide feedback on the training week on an anonymous basis.

The survey purpose was to:

- assess the added value of such an event in compliance to the EC requirement of knowledge dissemination
- find out how participants rate the efforts of the organizing committee in terms of form and
- learn from participants' feedback in order to provide an even better knowledge exchange experience.

37 out of the 62 people surveyed in total (42 students and 20 teachers) agreed to reply to the survey, which is honourable for a first event of this kind since the launch of EuroBioRef. Amongst the 37 people who gave their feedback:

- 21 were students (meaning that ≈50% of participating students replied to the survey)
- 16 were teachers (meaning that ≈80% of participating teachers replied to the survey)

Basically, participants were asked how satisfied they were with:

- The **content** of the main presentations: Participants found that the presentations were mainly instructive, stimulating and well addressing the topic.
- The **performance** of the speakers: Respondents almost unanimously rated as "excellent" the performance of the speakers in terms of expertise, clarity, and accuracy of speech and of slides readability.
- The overall logistics:

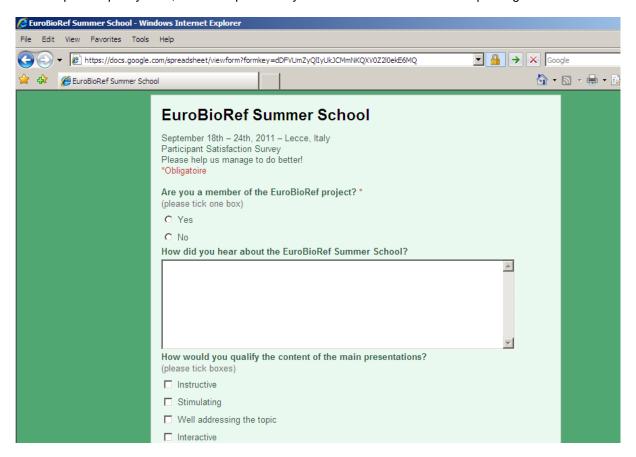
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The vast majority of participants found that the event was well organised, with a good price / quality ratio, excellent punctuality and a substantial information package.



On the whole, respondents showed great satisfaction and praised the **excellent scientific content**, **pleasant environment** and **good interactions** between people from all backgrounds as teachers and students found there an excellent opportunity to exchange on various issues of great interest to each one. It is worth mentioning, however, that some vectors for improvement remain with regards to:

- the **venue** (agreeable but not easily reachable)
- the **schedule** (courses in the evening appeared to be inadequate)
- the poster sessions (teachers were not present with students as they had a EuroBioRef meeting at the same time)
- the **level of information** delivered (keeping a good equilibrium between too basic information and information, which is too technical is essential)

All in all, the general feeling that came out of the training session is that it proved very useful both for students and teachers who found an occasion to exchange knowledge, practices, information and advice. In that sense, the first EuroBioRef Summer School can be considered as a good event in which participants can understand substantial concepts of biorefinery, evaluate the possibilities it offers and find out the real expectations and views of the academia and industrials.

Full evaluation form and survey results can be found in ANNEX I3

#### Deviation from objectives and corrective actions

Although all activities in WP10.3 were scheduled to begin after M12 in the official DoW, it was proposed by the SP10 leader and agreed by the participating partners during the kick-off meeting to start Task 10.3.1 (Scheduling, preparation and implementation of training events) and Task 10.3.4 (Summer Course) already in M1 so to organize the School in Y2. This has helped to better organise all

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other training events in the remaining time of the Project. Therefore, there are no negative deviations from the planned work and the tasks are running ahead of schedule.

#### Impact of the results

It is expected that by the completion of the training plans/courses/workshops and other events that are foreseen to take place in the frame of EuroBioRef, the objectives of the workpackage will have been achieved. The training activities will promote Sustainable Biorefinery Sciences and technologies through training, education, and mobility. Academia and industry inside and outside the project will be trained and educated on cutting edge technologies on aspects of biorefinery chains investigated within the project. The training events will also serve as dissemination activity for the EuroBioRef activities.

#### **Publishable information**

All the activities within this WP can be published on the website or presented in relevant events.

#### **Conclusion**

WP10.3 proceeds smoothly ahead schedule. Training events have already been accomplished and several have been planned. The summer school of EuroBioRef has been a very successful training and dissemination event. Based on the above, the progress of this WP is very satisfactory.

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### **ANNEX I – Technical content**

# 1-Training course plan and seminars

The objectives/content/topics of the training event that will be organised early 2012 is presented here in detail.

Event number	1	Date and location of event	18-20 April, 2012			
Event title	ı	REACTIVE MOLECULAR SEPARA	TIONS			
Event type		SHORT COURSE				
Organizing Partners	Technical University of	Dortmund TUDO				
Objectives (1/2 page)						
	one unit operation a this way, investmen particular, because	processes combine the reaction of thus help to simplify complex and operation costs can be of versatile couplings and restrict necessary to develop appropriate	t production processes. In substantially reduced. In cted operating windows in			
	This course aims to convey current state of the art in teh area of reactive separation processes. First, the students will be conftronted with theoretical fundamentals. Based on this, the development of various modelling approaches will be presented. Last but not least, selected reactive separation processes will be treated in view of their modelling aspects in the practical applications.					
	In the frame of a computer exercise, modelling an simulation of reacti separation processes will be treated based on some typical practical example					
Targeted participants	Graduate master and group defined by the	d PhD students working in the pro Consortium.	ect and associated in a			
Participants number	20 - 30					
Content of event/preliminary schedule	12:15-13:00 Lunch 13:00-14:30 Lecture:	Introduction Thermodynamic Fundamentals Modelling (Equilibrium Modell) Modelling (Non-Equilibrium Modell	lell)			
	10:45-12:15 Tutorial: 12:15-13:00 Lunch 13:00-14:30 Tutoria Equilibrium Modell (A	Introduction of APSEN Plus Design of Depropaniser (ASPEN II: Comparison between Equili ASPEN Plus) Design of a Vacuum Column (ASPEN Plus)	ibrium Modell and Non-			
	12:15-13:00 Lunch 13:00-14:30 Tutorial:	Reactive Distillation Reactive Absorption  Reactive Distillation (ASPEN Plu Reactive Distillation (ASPEN Plu				

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## 2. Training events completed

#### Internships and diploma thesis in industry

1. Alexia Cordoba

Training in catalytic tests of Mo and W-based catalysts for the production of methanethiol from syngas/H<sub>2</sub>S mixture

Partners involved: UCCS-CNRS and Arkema.

Duration: 3 months and 2 weeks (18<sup>th</sup> April 2011 – 29<sup>th</sup> July 2011)

### Short visits for training in new techniques and use of facilities among partners

1. Training of RWTH Aachen PhD student (organometallic chemistry, catalysis and analytical procedures), in the UCCS CNRS Lille, 3 weeks (07/03/2011-25/03/2011)

#### Lectures in universities and schools on biorefinery-related subjects

1. Franck Dumeignil

"Biorefineries & Catalysis" (Invited lecture)

Workshop of the State Key Laboratory of Physical Chemistry of Solid Surfaces of Xiamen University, January 9-12, Xiamen (China) (2011).

2. Franck Dumeignil

"Catalysis in biorefineres (Invited lecture)

Workshop of the State Key Laboratory of Physical Chemistry of Solid Surfaces of Xiamen University, January 9-12, Xiamen (China) (2011).

3. Franck Dumeignil

Public Event on 'Vegetal Chemistry', 'Biomasse et Chimie' International Year of Chemistry, 27-30 January 2011, Lille (FRANCE)

4. Franck Dumeignil

Public Event on 'Vegetal Chemistry', 'L'UCCS Leader pour la Création d'une Bioraffinnerie', International Year of Chemistry, 27-30 January 2011 Lille (FRANCE)

5. Franck Dumeignil

"Bioraffinerie du Futur"

Année Internationale de la Chimie, 'Les Chimistes s'Invitent au Lycée', Lycée Saint Adrien, 4th of February, Villeneuve d'Ascq (France) (2011).

6. Franck Dumeignil

"Les Bioraffineries du Futur" (Conférence invitée)

Des chimistes dans la société, Cité des sciences et de l'industrie de la Villette, May 31, Paris (France) (2011).

7. Franck Dumeignil

'Outline of the EuroBioRef Project', Chinese-French Symposium on Bioresources and CO2 Valorisation, Fudan University, Shanghai

8. Franck Dumeignil.

"Bioraffinerie du Futur"

Année Internationale de la Chimie, 'Si on parlait Chimie!', CERLA, 5th of March, Villeneuve d'Ascq (France) (2011).

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#### 9. Franck Dumeignil

"Bioraffinerie & Catalyse du Futur" (Conférence invitée) Ecole Normale Supérieure de Paris, October 24, Paris (France) (2011).

#### 10. Franck Dumeignil

"Activités de l'Equipe 'Valorisation des Alcanes et des Composés Issus de la Biomasse' de l'UCCS" Séminaire invité au Laboratoire de Réactivité de Surface, UMR CNRS 7197, 24 Octobre, Ivry (France) (2011).

#### 11. UCCS / CNRS members

Public Event 'FÊTE DE LA SCIENCE 2011-

Villaage des Sciences de la

métropole Lilloise', Lille France, Stand 5 : Chimie durable, du Végétal et chimie verte ou « de l'or noir à l'or vert »

#### 12. Franck Dumeignil,

"Biomass, Chemistry and Next Generation Biorefineries" (Invited Conference) Shennong Forum, October 28 - November 2, University of Forestry, Dalian (China) (2011).

#### 13. Franck Dumeignil

"Biomass, Chemistry and Next Generation Biorefineries" (Invited Conference)
Shennong Forum, October 28 - November 2, University of Nanda, Dalian (China) (2011).

#### 14. Franck Dumeignil

Invited Conference at the Ecole Centrale de Lille, 13th of March, Villeneuve d'Ascq (France) (2012). 'Biomasses, Chemistry and biorefineries of the future"

#### 15. UCCS - CNRS

Lille Grand Palais, 'Salon des formations supérieures et de la recherche' (2011)

#### **Master Courses**

#### 1. Franck Dumeignil

'Within the 'Eco-conception : une démarche responsable' course: 'Biomasse, Bioraffineries & Catalyse', Ecole Centrale de Lille, 2<sup>nd</sup> year students, Villeneuve d'Acsq

#### 2. Franck Dumeignil

'La catalyse au cœur des bioraffineries du futur' 20h of lecture in the master 'CEE' (Chemistry Energy Environment). 16h by Franck Dumeignil, 4h by Andréi Khodakov (September-December 2010)

3. Franck Dumeignil 'Impact des carburants Bilan environnemental des différentes filières énergétiques pour les applications mobiles, amélioration des carburants et biocarburants 'CEE' (Chemistry Energy Environment). 16h. (September-December 2010)

#### 4. Franck Dumeignil

'La catalyse au cœur des bioraffineries du futur' 20h of lecture in the master 'CEE' (Chemistry Energy Environment). 16h by Franck Dumeignil, 4h by Andréi Khodakov (September-December 2011)

5. Franck Dumeignil 'Impact des carburants Bilan environnemental des différentes filières énergétiques pour les applications mobiles, amélioration des carburants et biocarburants 'CEE' (Chemistry Energy Environment). 16h. (September-December 2011)

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6. Sébastien Paul - Processes of Today and Tomorrow, March to May (32h), lecture to 20 second year engineer students of the Ecole Centrale de Lille

**Inventory of Theses (PhD and Master)** 

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No	Eurobioref SP/Task	PhD	Master	Student Name	Thesis Title	Partner/University
	100 (701)				Experimental and theoretical investigation of 1-butanol	
1	4.2.3, (7.3.1)			Anna-Katharina Kunze	extraction from aqueous solutions with an ionic liquid	TU Dortmund University
2	4.2.3, (7.3.1)			Anja Müller	Extraction of 1,3-Propanediol (tentative)	TU Dortmund University
3	4.2.3, (7.3.1)			Martin Stoffers	Process design of extraction of bioproducts with ionic liquids	TU Dortmund University
4	4.2.3			Leo-Kamau Buning- Weddewer	Experimental and theoretical invesitgation of ionic liquid-based pervaporation membranes for recovery of n-butanol	TU Dortmund University
5	4.2.3			Sebastian Heitmann	Membrane Processes for Separation of Alcohols from Fermentation Broth	TU Dortmund University
6	5.1.1			Adrien Mekki-Berrada	Development and characterization of catalysts for the production of fatty nitriles from fatty acids	CNRS, IRCELYON
7	5.1.2, (5.1.3, 5.1.7)			Johan Bidange	Preparation of fatty nitriles using metathesis transformations	CNRS-Rennes
8	5.1.2			Paul Vignon	Heterogeneous catalysts for fatty acid derivatives cleavage	CNRS
9	5.1.3			Anna Matzen	Immobilized catalysts for cross-metathesis of fatty acid derivatives	CNRS
10	5.1.4			Paul Vignon	Heterogeneous metathesis of olefins	Lille1 University
11	5.2.1			Ge Fang	Production of DEE from bio-ethanol over bifunctional catalyst	Lille1 University
12	5.2.1			Zhu Wenli	Production of DMM from methanol over bifunctional catalyst	Lille1 University
13	5.2.1, 5.2.2, 5.2.3			Kaew-A. Thavornprasert	Production of acetals from bio-resourced alcohols over bifunctional catalyst	Lille1 University
14	5.2.4			Rui Pedro Faria	Glycerol valorization as biofuels: Glycerol acetals production by Simulated Moving Bed Reactor	FEUP
15	WP5.3			Lishil Silvester	Synthèse des alcools de Guerbet	Lille1 University
16	5.4.3			Luigi di Bitonto	Synthesis of heterogeneous catalysts for glycerol carbonate synthesis and conversion	University of Bari

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17	5.4.4	Carsten Liebig	Conversion of glycerol to acrylonitrile in a two-step reaction with the intermediate acrolein	Lille1 University
18	5.4.4	Cyrille Guillon	Conversion of glycerol to acrylonitrile in one step and in the gaseous phase	Lille1 University
19	WP5.5,	Alexander Niesbach	Esterification of acrylic acid and n-butanol from renewable resources by reactive distillation.	TU Dortmund University
20	6.1.1	Christos Christodoulou	Biomass gasification in fluidized bed for power and biofuels production	CERTH/NTUA
21	6.1.4	Efthimia – I. Koytsoumpa	Quality monitoring and gas cleaning technologies of biomass product gas for power and biorefinary applications employing novel sorbent materials	CERTH/NTUA
22	6.1.4	Fotis Dallas	Experimental evaluation of gas cleaning with activated carbons	CERTH/NTUA
23	6.3.1	Alexia Cordova	Upgrading of Biosyngas to Methylmercaptan	Lille1 University
24	6.3.2, (7.3.7)	Eleni Liakakou	Catalytic conversion of bio-syngas to higher alcohols	CERTH/AUTH
25	6.3.2	Jorge Miguel Beiramar	Synthesis of heavy alcohols from biomass derived syngas	Lille1 University

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# 2. Evaluation forms for the training sessions, forms consolidation and assessment

EuroBioRef Summer School	
September 18th – 24th, 2011 – Lecce, Italy Participant Satisfaction Survey	
Are you a member of the EuroBioRef project? (please tick one box)	
C Yes	
C No	
How did you hear about the EuroBioRef Summer School?	
	<b>-</b>
How would you qualify the content of the main presentations? (please tick boxes)	
☐ Instructive	
☐ Stimulating	
☐ Well addressing the topic	
☐ Interactive	
☐ Well-structured	
Accessible	
Disappointing	
☐ Inadequate duration (too long / too short)	
☐ Not in-depth enough	
☐ Not in-depth enough	
<ul><li>Not in-depth enough</li><li>□ Boring</li></ul>	
<ul><li>Not in-depth enough</li><li>□ Boring</li><li>□ Lacking clarity</li></ul>	

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enerally speaking, what did you th	nink of the performa	nce of the mai	n speakers?
please tick boxes)	Insufficient	Average	Excellent
Overall expertise	О	О	О
Clarity in delivering speech	О	0	О
Accuracy in answering questions	О	0	О
Slides readability	О	О	О
Well-organised?	Yes C	No C	Can do better
		_	_
Venue accessible?	0	O	0
Starting on time?  Good price/quality ratio	0	0	0
(accommodation, catering)?  Substantial information			
package?	О	0	0
Nas the EuroBioRef Summer School please tick boxes)  O Yes  O No  f no, please explain why:	ol globally in line wit	h your expecta	ations?

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How would you sum up in one sentence the EuroBioRef Summer School?	
Would you like to participate in another EuroBioRef Summer School again ar recommend it? (please tick boxes)	ıd/or would you
C Yes	
C No	
If no, please explain why:	
Any other comment or suggestion?	
J	
Envoyer	

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# Feedback on the 1st EuroBioRef Summer School

#### EuroBioRef Summer School

September 18th - 24th, 2011 - Lecce, Italy

Feedback on the Participant Satisfaction Survey

- Online questionnaire sent by email on Sept. 26th 2011
- . 62 people surveyed in total :
  - 42 students
  - 20 teachers
- 37 responses received (≈60%) :
  - 21 students (≈50% of participating students replied to the survey)
  - 16 teachers (≈80% of participating teachers replied to the survey)

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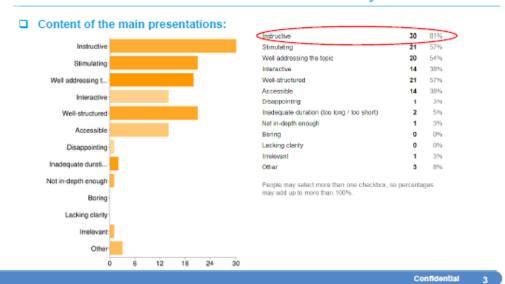
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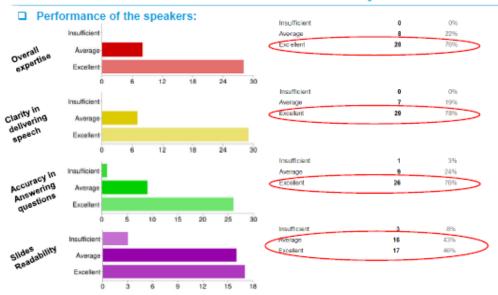


# EuroBioRef Summer School: a summary of answers





# EuroBioRef Summer School: a summary of answers



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# EuroBioRef Summer School: a summary of answers







# The 1st EuroBioRef Summer School in a nutshell

□ Critical assessment

- Good scientific content
- Pleasant environment
- Good interactions between people



- Venue not easily reachable
- Inadequate schedule
- · Absence of teachers during poster sessions
- · Lack of in-depth information (information too basic sometimes)

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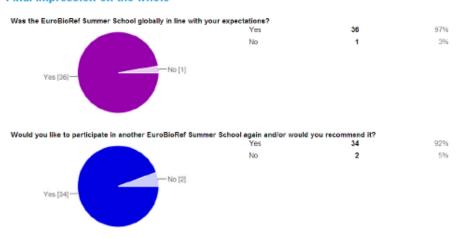






### The 1st EuroBioRef Summer School in a nutshell

### ☐ Final impression on the whole



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### Conclusion

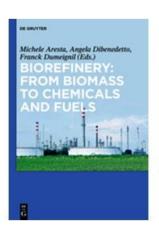
« A nice week with interesting people, in a nice sunny place, about listening to topics we're not specialized in, trying to understand why and how people from industry, biotech, economics and overall sciences can work together, and why it makes sense for Europe to give some money for such a project »

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# **Biorefinery (erscheint June 2012)**

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