



POMSEBES: Policy Oriented Measures in Support of the Evolving Biosystems Engineering Studies in USA – EU

MINUTES of the 2nd POMSEBES Workshop meeting,

Hersonissos, Crete, June 21-22, 2008

Meeting Room: TV Room, Knossos Royal Village, Hersonissos

Chair: *Briassoulis Demetres, Agricultural University of Athens, EU Coordinator*

Present - POMSEBES Members (or their representatives):

Mostaghimi Saied, USA Coordinator
Aerts Jean-Marie, Belgium
Ayuga Francisco, Spain
Comparetti Antonio, Italy
Douzals Jean Paul, France
Febo Pierluigi, Italy
Fehrmann Jens, Germany
Kanwar Ramesh, USA (Iowa)
Nikopoulos Effie, Greece
Panagakis Panos, Greece
Riskowski Gary, USA (Texas)
Scarascia-Mugnozza Giacomo, Italy
Ting K.C., USA (Illinois)
Wolf Mary-Leigh, USA, (Virginia)

External Evaluator:

Day Bill, Ex-president of EurAgEng

Absent:

Ramon Herman, Belgium
Wulfson Dvorlai, Denmark

First day, June 21st 2008

1. Welcome and roll call of participants

The EU project coordinator, Prof. D. Briassoulis, opened the Workshop, welcomed the participants and presented the items of the agenda to be followed during the two-day meeting.

2. Approval of the Agenda

The participants unanimously approved the agenda (Annex 1).

3. Information on the status and prospective of the project

Prof. D. Briassoulis gave a short project overview, wherein he referred to the:

- Aims and objectives
- Activities undertaken

- Outputs achieved
- Outcomes of the 1st and 2nd year

He underlined that all actions should be finalised as soon as possible in order to meet the deadline of the USA Interim's report submission (the USA side has the obligation to submit their Progress Report by the middle of July 2008). It was agreed that the two parts of the report should be common for both sides (*Part 1*: Confirmation of the basic data on the project and the partnership and *Part 2*: A description of the project activities, products and results during the reporting period), differentiating only in the Financial Part (*Part 3*).

Thereafter, Prof. D. Briassoulis presented the most recent developments in Higher Education Area (HEA) in Europe, more explicitly the major structural changes resulted from the Bologna Process and the Lisbon Strategy and the European Higher Education and Research Areas. He stressed that the European Commission promotes combined measures to enhance the quality and the quality assessment of the offered programs of studies. Along this direction, universities are expected to:

- Identify their specific area of expertise and restructure their courses
- Seek governance leading to independence which must be accountable and financially sustainable
- Classify quality as number one priority
- Promote student centred learning
- Ask for progressive internationalization
- Develop reliable and accessible internal and external quality assurance schemes
- Encourage accreditation

Subsequently, Prof. S. Mostaghimi referred to the USA issues such as:

- On line students studying electronically off campus
- Green Engineering and sustainable campuses
- Student mobility aiming at knowledge and cultural exchanges
- Valorisation of ideas

This session was concluded with Prof. P. Panagakis who presented various alternative actions concerning future ATLANTIS proposals, their objectives and their prerequisites.

4. Objectives presentations

The second part of the afternoon session went on with presentations related to the four Objectives assigned during the 1st POMSEBES Workshop held in June 2007 in Minneapolis.

More specifically:

Prof. S. Mostaghimi presented Objective 1 related to the *"Development of a uniform structure (framework) for compatible programs of the Biosystems Engineering discipline"*

Profs. K. C. Ting, J.M. Aerts, M.L. Wolf and P. Panagakis presented Objective 2 on *"Description of the Biological / Biosystems Engineering programs of study in the U.S. and the current trends in EU, focusing on Education and Research"*

Dr. A. Comparetti presented Objective 3 dealing with *"Identify needs of industry (current and future employers)"*

Prof. J. P. Douzals and Dr. J. Ferhmann presented Objective 4 about *"Develop a pilot accreditation programme (in terms of policy / strategy) for the Biosystems Engineering discipline, in conformity to the existing accreditation process conducted by ABET in the US and by EUR-ACE in EU"*

It was agreed that draft reports on each Objective will be circulated again among the partners so as to receive new feedback. This should be done before long, in order to accompany the Final Report of the US side.

The first day was concluded with a unanimously accepted proposition made by Prof. S. Mostaghimi for a next day brainstorming related to the future proposal to be submitted under the ATLANTIS 2009 Call.

Second day, June 22nd 2008

6. Future proposal / Brainstorming

During this session the new proposal with regards to the EU-US Action “Excellence Mobility Projects” was thoroughly discussed. All POMSEBES partners agreed to continue their excellent cooperation and participate as well to this new initiative, while AUA and Virginia Tech will continue to act as project coordinators.

The key elements of the new proposal was agreed to be as follows:

- ◆ Students and staff exchange
- ◆ PhD students mobility
- ◆ Innovative program in Biosystems Engineering in support of the evolving discipline in EU
 - *Joint teaching*
 - *Research experience for undergraduates*
 - *Undergraduate thesis: part in US and part in the EU*
 - *Internship – industry involvement*
 - *Cross cultural*
 - *On-line teaching*
 - *Industry-linked capstone design – multidisciplinary areas*
 - *Social dimensions in design projects*
 - *Investigation of dual accreditation*
- ◆ International curriculum development that involve short term transatlantic mobility
- ◆ Joint universities-industries research proposals
- ◆ Participation in conferences/ design contest
- ◆ Assessment plan
- ◆ Dissemination and exploitation plan

The main objective of this new multilateral project, benefiting first of all from the successful work and cooperation scheme of POMSEBES, will be to support the international curriculum development in the Biosystems Engineering discipline that involves short term transatlantic mobility and to provide a platform to enhance the multicultural interaction among students and staff in the broader area of BE. Among others it will work on the subsequent issues:

- ◆ Provide comprehensive educational experience through enhanced global interaction
- ◆ Benefit out of the experience gained in US in BE program development
- ◆ Develop innovative curricula modules for BE
- ◆ Develop lifelong learning skills
- ◆ Sustain global development of BE
- ◆ Prepare the next generation to deal with global challenges such as food, environment, water, energy and related issues

Some of the potential areas of interests to be investigated will be the following:

- ◆ Bioprocess Engineering
- ◆ Natural resources
- ◆ Renewable energy
- ◆ Bio-based materials
- ◆ Biosystems automation
- ◆ Biosensor
- ◆ Biomechatronics
- ◆ Robotics
- ◆ Exploration life support system (International space station, Moon, Mars...)
- ◆ Machine development
- ◆ Precision Agricultural and Animal farming
- ◆ Appropriate technology for developing countries

- ◆ Water
- ◆ GIS application – land planning/ management
- ◆ Disappearing knowledge / cultural heritage
- ◆ New food technology
- ◆ Waste management / recycling / energy recovery
- ◆ LCA
- ◆ Controlled environments
- ◆ Systems analysis and engineering
- ◆ Human factor

The most common challenges to overcome and handle in this project will concern issues as:

- Institutional and government administrative structures
- Lack of established MoUs in all participating organisations, esp. with regards to the EU side
- Language differentiation
- Lack of students
- Efficiency of Engineering background
- Industrial interest
- Groupings of partners for the exchange scheme
- Sustainability of the program
- Industrial partnership– third parties participation and funding

The new Call will most possible be launched in January/February 2009 but all participants agreed to start the preparations and discussions before long and set a first deadline by October 2008.

7. Invited speakers

Prof. B. Day, former president of EurAgEng, has been invited to participate in the activities of this meeting and act as external evaluator. He promised to prepare a brief report, taking into consideration the time frame on behalf of the US side, which has the obligation to submit their Progress Report the latest by the 15th of July.

Prof. T. Gemtos, professor of Agricultural Engineering of the University of Thessaly, on his turn, presented his experience from the EU-US Mobility Project entitled TAPEC (the TransAtlantic Precision Agriculture Consortium). This project was focused on the preparation of students for international careers in precision agriculture and forty two students were mobilized in equal numbers vice versa. Students did not pay tuition fees in the host University while host universities assisted students in finding accommodation and in their everyday life.

The main problems encountered were:

- VISA issue was a time consuming procedure for Greek citizens.
- It required a long preparation period.
- Some problems of student integration in the host societies were encountered but mostly solved.
- The coordinators expecting a continuation of the programme but that was not the case. The new call was completely different.

Prof. G. Papadakis, Chairman of the AgEng2008 Conference, referred to the Conference agenda and invited the consortium to attend. He stressed that the latest developments in agricultural and biosystems engineering will be presented combining science with the industry exhibition, stimulating exchange of information and opinions between the actors involved in the different sectors of agricultural engineering. It is anticipated that the parallel organisation of scientific sessions with the industry exhibition will provide unique possibilities of bringing, in close contact academics, industry players, manufacturers and services providers.

8. Project evaluation

The 2nd Workshop concluded with the evaluation of the effectiveness of the project management process and the timing and quality of the deliverables preparation.

It was agreed that the organisational structure, participation and contribution to workshops / meetings was quite successful and almost all partners of the consortium attended both two workshops. Group leaders and members that undertook that tasks to develop their assigned objectives in both two proceedings worked in most cases effectively.

Group leaders have the obligation to send one week after this meeting their final reports so as to AUA to produce the 2nd volume of the proceedings.

The sustainability of the project beyond the edibility period will be supported through the up-to-date of the web-site. Furthermore the preparations of the new proposal on Action 2 of the EU-US Cooperation Programmes, to be launched in forthcoming January-February 2009, will start before long and a first draft will be circulated by October 2008.

The project's web-site was found efficient and a good dissemination tool.

The leaflets produced will not only be disseminated among the AgEng 2008 Conference attendants and any other interested body but as well at the 2008 Annual International Meeting to take place on June 29 - July 2 in Providence, Rhode Island.

The last administrative obligations (this concerns only EU partners) will be to prepare and send to AUA the 2nd part of the Time Sheets.

9. Closure

The meeting came to an end and members agreed to meet again soon.

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**POMSEBES: Policy Oriented Measures in Support of the Evolving Biosystems
Engineering Studies in USA – EU
2nd Workshop, Crete, Greece,
June 21 - 22, 2008**

Meeting Room: T.V. room, Knossos Royal Village, Hersonissos

2nd Workshops' Agenda on

“Develop policy measures to enhance the quality and the linkage of Education and Research in Biosystems Engineering, promote bilateral research cooperation and establish common recognition procedures for the EU and the US relevant programs of studies”

Saturday, June 21

- 10:00 Welcome; Time schedule; project overview
D. Briassoulis, EU.
- 10:15 State-of-the-art regarding the “Recent developments of Higher Education in Europe” by D. Briassoulis, EU Coordinator
- 10:30 State-of-the-art regarding the “Latest developments of Higher Education in USA” by Saied Mostaghimi, US Coordinator
- 10:45 Opportunities and possibilities for the preparation of a new proposal in the framework of the Actions for Transatlantic Links and Academic Networks for Training and Integrated Studies programme, by Panos Panagakis, AUA
- 11:00 Coffee Break
- 11:30 Objective 1: “Develop a uniform structure (framework) for compatible programs of the Biosystems Engineering discipline”
Prepared by: D. Briassoulis, P. Panagakis, (EU, Greece), S. Mostaghimi (US, Virginia), E. Nikopoulos (EU, Greece).
Summary presentation by: S. Mostaghimi
- 12:00 *Objective 2:* “Describe the Biological / Biosystems Engineering programs of study in the U.S. and the current trends in EU, focusing on Education and Research”
Prepared by: K. C. Ting (US, Illinois), M. L. Wolfe (US, Virginia), J M. Aerts (EU, Belgium), P. Panagakis, D. Briassoulis, E. Nikopoulos (EU, Greece)
Summary presentation by: K. C. Ting, J.M. Aerts, M.L. Wolf, P. Panagakis
- 12:30 Lunch (at your own cost)
- 14:00 Objective 3: “Identify needs of industry (current and future employers)”

Prepared by: P. Febo (EU, Italy), F. Ayuga (EU, Spain), G. Scarascia (EU, Italy), R. Kanwar (US, Iowa), D. Briassoulis, P. Panagakis, E. Nikopoulos (EU, Greece), G. Riskowski (US, Texas), A. Comparetti (EU, Italy)

Summary presentation by: A. Comparetti

14:30 *Objective 4:* “Develop a pilot accreditation programme (in terms of policy / strategy) for the Biosystems Engineering discipline, in conformity to the existing accreditation process conducted by ABET in the US and by EUR-ACE in EU”.

Prepared by: J. P. Douzals (EU, France), J. Fehrmann (EU, Germany), P. Febo (EU, Italy), M. L. Wolfe (US, Virginia)

Summary presentation by: J. P. Douzals & J. Fehrmann

15:00 Working groups meetings – Discussions

15:30 Presentation of final conclusions by each group leader as they will appear in the final report

16:00 End of first day meeting

21:00 *Social Dinner (at your own cost)*

Sunday, June 22

10:30 “Evolution of Agricultural to Biosystems Engineering”
B. Day, ex-EurAgEng President (POMSEBES external evaluator)

10:50 “Learning Lessons from EU-US Student Mobility”
T. Gemtos, Professor at the Department of Agriculture, Crop Production and Rural Environment of the University of Thessaly

11:10 Introduction of the “Agricultural Engineering 2008 Conference and Industry Exhibition”
G. Papadakis, AgEng 2008 Conference Chairman

11:30 Coffee break

12:00 Project Evaluation (internal and external) with regards to the set assessment criteria:

- Meeting the milestones (quality and timing of deliverables preparation)
- Organisational structure and timing, participation and contribution to conferences/workshops/meetings
- ✓ Discussions on Final Report Obligations
- ✓ Evaluation/discussion of 2nd Workshop
- ✓ Sustainability of project beyond the eligibility period
- ✓ Project’s website

POMSEBES 2nd Workshop, Hersonissos, Crete, June 21-22, 2008

- ✓ Investigation of the possibility of participating in the new Call for proposals for development of student mobility programs between US and EU institutions
- ✓ Administrative obligations (this concerns only EU partners)
- ✓ Synergies and Dissemination of the project's results and outputs outside the consortium (distribution of the POMSEBES leaflets during the AgEng 2008 Conference)

13:00 Adjourn

.... Registration and Welcoming Reception to the AgEng2008 Conference