

INTERNATIONAL COOPERATION IN EDUCATION



Preface



Aristotle University's School of Engineering has always put emphasis on international cooperation. This led to numerous fruitful collaborations and links with reputed Universities and Research Centers all over the world, with obvious benefits for the School's personnel and students. Cooperation in education opened new paths regarding postgraduate studies of our students in famous European and North American Institutes of Technology. Furthermore, opportunities arose for attracting distinguished scientists to Thessaloniki to teach in our School's postgraduate courses or to give lectures in seminars. By participating at international consortia, colleagues were able to widen their scientific horizon entering new, mostly interdisciplinary, fields of research. At the same time, they were given the chance to finance their research activities by ensuring necessary funds, the latter being essential in view of the insufficient resources provided to our School by the Greek government.

The present brochure contains an overview on the international cooperation of Aristotle University's School of Engineering, the main emphasis being on education. An important aspect is the bundle of options that our students have for participating at exchange programmes with other Technical Universities. Moreover, the role of our School in relation to major international networks is presented. The outcome of all these activities over the years makes us optimistic regarding the impression that our international partners have on the capabilities of our students and the level of the educational and research work conducted in our School. This is of particular importance in the present situation which is considered to be critical for the higher education system in Greece. Therefore I would like to express my deep gratitude to all colleagues devoting a considerable amount of time and energy to strengthen our international cooperation. Thanks to their effort I am confident that our School will find its way in the rapidly emerging European Higher Education Area.

*Professor Nicolas S. Moussiopoulos
Dean of the School of Engineering*

Table of contents

The ATHENS European Network	3
T.I.M.E.: Multinational and European character education	5
Cooperation between the School of Engineering, AUTh, and École Polytechnique, France	9
ENHSA: European Network of Heads of Schools of Architecture	11
F2f-Continuum: From the School Lab to the Fabrication Workshop	13
e-archidoct: Virtual Campus for Post-Master Studies in Architecture	16
Cooperation between the Engineering Schools of Thessaloniki and Lausanne	19
ERASMUS-MUNDUS: Network and e-Business Centred Computing	21
SEFI: European Society for Engineering Education	23
Engineering research and education through CESAER	25
RMEI: A Mediterranean breeze over engineering studies	26
BEST: Academic seminars all over Europe	28
IAESTE calling	31
ENHSA - Latin America	32

- Editor: Committee of International Collaborations of the School of Engineering, AUTh, consisting of:
 - K. Ptilakis, professor, Department of Civil Engineering
 - A. Avdelas, professor, Department of Civil Engineering
 - A. Zabaniotou, assist. professor, Department of Chemical Engineering
 - A. Karadimou-Yerolibou, professor, Department of Architecture
 - C. Baniotopoulos, professor, Department of Civil Engineering
 - A. Papadopoulos, assoc. professor, Department of Electrical and Computer Engineering
 - E. Sidiropoulos, professor, Department of Rural and Surveying Engineering
 - K. Tsouros, professor, Department of Mathematics, Physics and Computational Sciences
 - G. Chasapis, professor, Department of Electrical and Computer Engineering
 - Z. Samaras, professor, Department of Mechanical Engineering
- Coordinator: N. Tsakiris, teaching staff, Department of Civil Engineering
- Proof reading and editing: O.-J. Ktenidou, PhD candidate, Department of Civil Engineering
- DTP: thema, K. Kotoulas, 46, Kerasountos str., Thessaloniki
- Printing: Cromotyp s.a., 73, 17h November str.

SOURCE: A. AVDELAS PHOTO ARCHIVE



"ATHENS" students visit the Archeological Museum of Thessaloniki.

The ATHENS European Network

Created in 1996, the Advanced Technology Higher Education Network/Socrates ("ATHENS") consists of 15 European technological universities and institutions: the Universities and Technical Institutions of BME Budapest, ITU Istanbul, TU Delft, KU Leuven, IST Lisbon, UCL Louvain-la-Neuve, UP Madrid, Politecnico Milan, TU Munich, CTU Prague, AUTH Thessaloniki, NTNU Trondheim, TU Wien, Warsaw UT, and 9 of the 11 institutes of ParisTech "Grandes Écoles d'Ingénieurs de Paris" (AGROPARISTECH, AGROPARISTECH/ENGREF, ENPC, ENSAM, ENSCP, Mines ParisTech, Télécom ParisTech, ENSTA, and ESPCI). The School of Engineering of the Aristotle University has been a member of ATHENS since December 2007.

The principal goal of the Network is to facilitate the exchange of students, professors, and researchers among the major European technological universities, so that they can participate together under European technological development and training programmes.

One of the Network's first and most unique actions concerns the organisation of an intensive course given at each member institution during one of two defined periods ("Sessions") of the academic year (November and March). This training activity is called ATHENS (Advanced Technology Higher Education Network/SOCRATES).

Each Session includes 30 hours of scientific courses, as well as 10 to 15 hours of "European Dimension" activities. At the end of an ATHENS Session, the Home Institution officially recognises the work carried out according to the results ob-



by **Aris Avdelas**, professor, Department of Civil Engineering, coordinator of ATHENS for AUTH.



“ATHENS” students visit Meteora.

>>>

tained; this is done through an examination organised by the Host Institution and evaluated according to its own system of grading. Each complete Session is generally worth 2 to 3 ECTS credits.

The objective of the ATHENS Programme is to provide students coming from a certain Institution the possibility to get to know another European pedagogical system. The Programme permits students from different institutions to briefly integrate into courses of high scientific level. When possible, local students also participate in these courses. This experience, in many cases, gives students the desire to carry out studies of a longer duration (Master’s or

PhD level) at an institution different from their Home Institution, and thus favours exchanges between students of the major European technological institutions.

The ATHENS Programme was established with the support of the SOCRATES European Community Programme, receiving an annual subsidy of 50.000 Euros from 1997 to 2001. Today, financing of the Programme is continued by the member institutions, with the help of industrial partners and local authorities.

In order to participate in a Session, candidates are asked to do the following:

- ❑ Choose three or more possible courses in order of priority, taking into account the background knowledge (prerequisites) required in order to fully benefit from the course selected (additional information can be obtained from the professor organising the course, see the Course Description, and by consulting professors at the Home Institution).
- ❑ Fill in the Registration Form on the Web (found on either <http://www.athensprogramme.com> or <http://www.paristech.org>), and indicate, in addition to the course selected as first choice, a second and third choice as well, in order to have a strong chance of participating in the Session. ParisTech students will be asked to fill in up to six choices, depending on their institution.
- ❑ Fill in, print out and sign the Registration Form and the Commitment and return both forms to the ATHENS coordinator of their Institution. The coordinator is in charge of verifying that candidates have sufficient knowledge to follow the courses selected and of deciding whether or not to propose a student for the Programme.
- ❑ Take special note of the dates, hours and different European Dimension Programmes organised at each institution. These programmes are an integral part of an ATHENS Session.

The School of Engineering at AUTH offers, with great success, two ATHENS courses: “Genetic algorithms and related biological metaphors in Engineering” and “Impact of Metro construction on the long term sustainability of a Metropolitan city: The case of Thessaloniki”.

The Coordinator of the ATHENS Programme for the School of Engineering, AUTH, is professor Aris Avdelas of the Department of Civil Engineering (avdelas@civil.auth.gr).

Based on data from the ATHENS Programme web page:

(<http://www.athensprogramme.com/main>)

[x]



“ATHENS” students visit the TOPOLAB.

T.I.M.E. programme: “Top Industrial Managers for Europe”

SOURCE: A. ZABANIOTOU PHOTO ARCHIVE



The diploma presentation ceremony at Centrale, 12/12/2008.

Multinational and European character education

T.I.M.E. is a network of 51 leading Engineering Schools and Faculties as well as Technical Universities which offers, through a system of voluntary bilateral agreements between its members, promotion and recognition of academic excellence and relevance to the international labour market, in the form of Double Degrees in engineering and other related fields.

Students chosen from amongst the best in their respective Universities study for a total of five to six years and are awarded two Master’s-level Degrees from two different countries at the end of their studies.

T.I.M.E. helps its students develop qualities of (intellectual and physical) mobility, adaptability, openness and awareness of other cultures and realities, in addition to offering them in-depth engineering education.

For its member institutions, T.I.M.E. encourages and promotes mutual academic recognition, provides opportunities for benchmarking, and actively develops quality in higher education.

The programme is recognized and funded by the EU. The management of funds is performed by École Centrale Paris (<http://www.ecp.fr>).

History of T.I.M.E.

T.I.M.E. was created in 1989 at École Centrale Paris, a leading French engineering school. It was built around the concept, very innovative at the time, of the Double Degree in engineering at a Master’s level.

The network had 16 founding members, all leading institutions in their own countries, and there were 29 members when the “T.I.M.E. Association” was formally incorporated on May 15th, 1997.

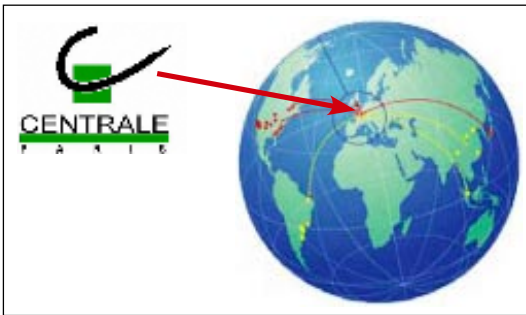
Current membership is 51 institutions from 20 different countries. New members join by invitation only. Only leading institutions, committed to T.I.M.E.’s

>>>



by **Anastasia Zabaniotou**, associate professor, Department of Chemical Engineering, AUTH.

Internationalization of high-level Education for Engineers through application of a common curriculum, addressing students from the best Universities and Engineering Schools of industrialized countries.



Through its double degree activities, T.I.M.E. promotes high-quality engineering education and produces graduates who are able to work in transnational and trans-cultural environments.

The objectives of the School of Engineering, AUTH, are to showcase its level of study and research and closely collaborate with powerful technical universities from the European Union in order to effectively face initiatives that could potentially downgrade the level of engineering studies.



goals, may join the network. Membership is institutional. Candidates for membership must be proposed and supported by existing T.I.M.E. members.

Though European by origin and membership, the network has already accepted its first two non-European members from Brazil and Japan. Others will follow.

There are over 2,500 T.I.M.E. graduates currently working all around the world. The output of T.I.M.E. Double Degree graduates increases annually as the network expands.

T.I.M.E. is one of the oldest-established and best-known networks in its field. It has remained faithful to its original goals: to promote quality, encourage recognition, and produce graduates who are able to work transnationally.

T.I.M.E. today

Since its foundation, T.I.M.E. has become one of the best-known and most respected networks for engineering education. Membership has since grown to 51 (in 2007).

On the occasion of the 2004 General Assembly at U.L.B. in Brussels, T.I.M.E. celebrated its 1500th Double Degree graduate and welcomed Aristotle University of Thessaloniki.

As the network expands and more bilateral agreements are signed, the annual output of T.I.M.E. graduates is increasing significantly.

Following a review of strategy and policies, proposals were made to the 2006 General Assembly in Lund, Sweden, and a number of projects are under way:

- TESS (Summer Programme in Sustainability: 5 ECTS credits), launched in 2007 and currently funded under ERASMUS (Intensive Programme).
- TEMP (Management Programme, to be launched in 2008: 30 ECTS credits).
- Strategy and Quality Initiative (to be implemented in 2008-9).
- Master's/PhD Project (under development).

Since 2004, there has been a successful Joint Programme (IMIM: International Master's in Industrial Management) with a 2-year duration, operated by UP Madrid, Politecnico di Milano, and KTH Stockholm, and currently funded under ERASMUS MUNDUS.

The T.I.M.E. Programme aims:

- Internationalisation of high-level education for engineers with the application of a common educational programme, directed towards students of the best technical universities from industrial countries.
- Possibility of acquisition of two degrees from two different higher education institutions. The two degrees are granted after attendance of courses at both institutions with a total duration of six years, two of which at a Technical University abroad. The two degrees are issued by the contracting institutions of origin and reception.
- Ensuring the degree issued by the institution of origin is recognized as one of the best at European and world level. Institutions that are members of the T.I.M.E. network adhere to a bilateral agreement which determines a number of common objectives and mutual obligations. Namely, they undertake to develop, via bilateral agreements, long-term exchanges of the highest-achieving students, aiming at educating "European cross-cultural" engineers with two equivalent degrees. The fundamental originality of the programme is the possibility of acquisition, after studies with a total duration of six years, two engineering degrees:



The university campus at Centrale.

T.I.M.E aims at Double Degrees and in-depth, bi-cultural, mobile, flexible, high-quality learning.

- a degree from the initial institution (that of origin), and
- a degree from the university chosen abroad (that of reception).

For this purpose, it is obligatory to attend the programme of studies at both institutions. More specifically, it is necessary to attend 8 semesters at the institution of origin and two years (or four semesters) at the foreign technical university of reception. Semester distribution is decided individually by the two contracting institutions. In order to ensure the cross-cultural and European character of education, exchanges are planned so as to offer, within the framework of the total body of courses, studies that merge the best elements of the instructive programmes of each institution.

The criteria that need to be fulfilled by institutions in order for them to enter T.I.M.E. are:

- High level of scientific engineering education, corresponding to the greatest duration of education for acquisition of the degree.
- National and international recognition of supremacy of educational level.
- International recognition of research achievements.
- Constant correlation among industry, education and research.

History of the School of Engineering of AUTH in T.I.M.E.

The School of Engineering, AUTH, after an honorary proposal on behalf of the founding members of the network, was included typically and substantially in the T.I.M.E. network in September 2004.

The Dean has created a special committee with representatives from all Departments of the School. The aim of this committee is to co-ordinate and organize student exchanges and the T.I.M.E. network in general.

In 2005, 3 students from the School of Engineering of Thessaloniki, Charoula Moka from the Chemical Engineering Department, Carolos Vidalis from the Civil Engineering Department, and Thanasis Kollias from the Mechanical Engineering Department, were chosen by École Centrale de Paris as double-degree students for the years 2006-2008. These students came back to AUTH in June 2007.

In 2007, a fourth student, from the Mechanical Engineering Department, became a T.I.M.E. student for the period 2007-2009.

In 2008, a fifth student, also from the Mechanical Engineering Department, became a T.I.M.E. student for 2008-2010.

The first 3 students obtained their diploma from École Centrale on 12-12-2008.

Business Forum at Centrale.





Rowing
on the Seine.



SOURCE: A. ZABANIOTOU PHOTO ARCHIVE

The Greek T.I.M.E. students' experience

École Centrale de Paris:

- Is one of the leading Grandes Écoles in France
- Collaborates with Europe, Asia, USA, Latin America, Japan, and China
- Develops strong relations with the industrial world

The Curriculum at École Centrale de Paris:

- French is the teaching language
- Strong knowledge in Math and Physics are necessary
- There is a personal tutor for each student
- Students work on projects in groups

Connection to business:

- Business Forum every year at ECP
- Frequent visits to industries
- Teaching by experts (SAFRAN, BOUYGUES, EADS)
- Practical stage

Extra-curricular opportunities:

- Languages
- Sports
- Scientific visits
- Arts

Life on Campus at Centrale:

- 1,000 students living on campus
- Housing at only a few minutes from the teaching buildings
- 100 student associations
- Multinational environment (over 33 nationalities present)

What are the benefits?

At an educational level...

- Practical knowledge
- Technology skills
- Connection to the business world
- Foreign languages

At a personal level...

- Ability to adapt and self confidence
- 'Double' culture
- Friends from all over the world
- Memories

Among 2,500 T.I.M.E. graduates, 3 come from the School of Engineering of Aristotle University.





Cooperation between the School of Engineering, AUPH, and École Polytechnique, France

At the end of 2007, the two institutions agreed on the establishment of a bilateral cooperation framework at undergraduate, postgraduate, and research level, through internships and exchanges of students, researchers, doctorate candidates and professors.

Short presentation of École Polytechnique

(<http://www.polytechnique.fr/>, <http://www.polytechnique.edu/>)

Founded in 1794 by Napoleon, the École Polytechnique (known with its logo X), a state-supported institution of higher education and research, is the most prestigious of the engineering Grandes Écoles in France. The École trains the scientific, industrial, and economic elite of the nation. It is ranked first among the Universities and Grandes Écoles in France, and is among the thirty best Universities worldwide.

Teaching and research at École Polytechnique is organised in ten departments: biology, chemistry, mechanics, physics, computer science, mathematics, applied mathematics, economics, humanities & social sciences, and languages. The first four run experimental centers specifically designed to suit the students' needs.

Today, the École has 460 professors, fully equipped building facilities and laboratories, and a rich library with more than 300.000 references, some dating back to the 16th century. About 500 students are trained on a yearly basis, while the four-year curriculum leads to an advanced Master's degree in Science and Technology. The admission is based on highly competitive entrance examinations for students having completed 2 years of undergraduate studies in Science or Engineering. The following educational programmes are provided:

- Basic four-year "Ingénieur" programme
- Two-year Master's programmes
- Doctoral programme
- International exchange programme, which includes advanced studies in mathematics, applied mathematics, computer science, economics, mechanics, physics, chemistry, or biology, for a period between three months and a full academic year.
- Internship programme for international students, offering the opportunity for advanced undergraduate and graduate students from partner universities to carry out a 3- to 6-month research internship in one of the 21 laboratories at École Polytechnique.



by **Kyriazis Pitilakis**,
professor, Department of
Civil Engineering, AUPH.



*"École Polytechnique:
200 years of
scientific education
and research"*





Graduates of the École Polytechnique follow careers in just about every field of endeavor. Polytechniciens are especially prominent as corporate executives in France and abroad, heads of national administrations and institutions, researchers, and academics. They play a particularly important role in the French economy, occupying top executive positions in the industrial and service sectors. Of the fifty most important and best-performing corporate enterprises in France, nearly half are headed by a Polytechnicien. Finally, École Polytechnique counts numerous partners (institutions, universities, research centers, foundations, and companies).

“The bilateral agreement covers various actions in undergraduate, postgraduate, doctoral, and research level”

Basic axes of the bilateral agreement between the School of Engineering, AUTH, and École Polytechnique

The agreement covers the period 2008/2011, with the possibility of renewal. It already covers the following fields of interest: Mathematical Programming in Structural Mechanics and Engineering, Contact and Fracture Mechanics, and Electrical and Computer Engineering. The following actions are included:

- Undergraduate student mobility in the framework of Erasmus programme, in order for students to participate in research projects, to carry out their thesis or to take courses offered by the “Ingénieur Polytechnicien” programme for 1 or 2 semesters, preferably in the 3rd year of the curriculum.
- Professor mobility for lectures and research work. It could be organised in the framework of scientific seminars, one year in France and the next one in Greece. Each seminar lasts one or two weeks.
- Joint Master’s degrees in high-potential and innovative topics, in the framework of French-Greek cooperation in higher education.
- Ph.D. co-supervision, with financial support from École Polytechnique, from the Greek and French Government, and from the “VRIKA Scholarship programme” monitored by the French Embassy.
- Curriculum that leads to a double-degree in cooperation with the University of Karlsruhe.
- Post-doctoral studies, according to the available positions and funding from the industry or from European and national programmes.

The agreement covers all three education levels (undergraduate, postgraduate, Ph.D.) in the fields of engineering, applied mathematics, and informatics. At present, the agreement provides for the mobility of four Greek and four French students per year.



SOURCE: www.polytechnique.edu



A view of the campus at École Polytechnique.



From the Meeting of the Heads of European Schools of Architecture hosted in Chania, Crete.

ENHSA: European Network of Heads of Schools of Architecture

ENHSA (European Network of Heads of Schools of Architecture) Thematic Network is a programme financed by the European Commission in the framework of the programme “Lifelong Learning Erasmus Thematic Networks”. The partners of the programme are 82 Schools of Architecture and a significant number of bodies, such as the European Association of Architectural Education (EAAE), the Architects’ Council of Europe (ACE), the French Ministry of Culture, the Association of Heads of the Italian Schools of Architecture, the Association of Heads of the German Schools of Architecture, and the Association of Scandinavian Schools of Architecture. The Coordinating Institution of the programme is Aristotle University of Thessaloniki.

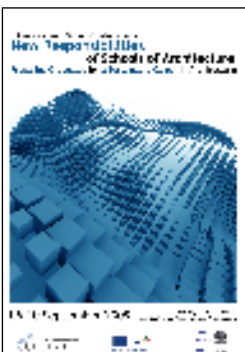
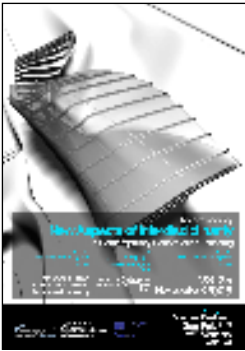
The Network aims at supporting schools of architecture in Europe by offering them an environment for communication and debate, in order to approach, discuss, and formulate answers to questions related to contemporary aspects of architectural education in the framework of the European Higher (Architectural) Education Area that is under construction. In order to achieve this objective, the Network develops its activities on three complementary and parallel axes.

The first axis has as its main theme the system of architectural studies and the strategies that schools of architecture apply to the education of architects. The most important issues on which the network focuses are:

- The perceptions of the expected profile of the architect in the modern globalised environment of fast changes and mobility.
- The structure of the education and the comparability of qualifications.
- The management of mobility and exchanges and the impact on the geography of architectural schools.
- The choice between general and specialised architectural degrees and their relation to professional rights.
- The impact on the schools’ education strategies of the new European directive on architectural education and the new recommendations regulating the process of recognition of European Degrees.



by **Constantin-Victor Spyridonidis**,
assistant professor, AUTH,
coordinator of ENHSA
Thematic Network.



>>>

- The redefinition of the relationship between schools and professional bodies.
- The initiatives towards the transparency of qualifications and quality management of education.
- The contribution of schools and professional bodies to lifelong learning.

The second axis is oriented towards the curriculum content and the pedagogical practices which need to be implemented in order to assure the necessary learning outcomes. To facilitate the exchange of views and experiences on this topic, the network has set up six sub-networks managed by separate areas of architectural education: the teaching of Architectural Design (coordinator K.-V. Spyridonidis-Thessaloniki), the teaching of Construction (coordinator Maria Voyatzaki -Thessaloniki), the teaching of Architectural Theory and History (coordinator Hilde Heinen-Leuven), the teaching of Urban Design (coordinator Aart Oxenaar-Amsterdam), the teaching of Restoration-Conservation (Stefano Musso - Genova), and Research in Architecture (Chris Yunes-Paris). A large number of conferences have been organised by the sub-networks and hosted by partners in Thessaloniki, Lyon, Athens, Barcelona, Leuven, Chania, Venice, Mons, Hasselt, Trondheim, Lisbon-Lusiada, Tallinn, Lisbon-Lusofona, Genoa, Marseille, Lille, Brussels, and Madrid. The number of participating teachers in these meetings during the last eight years was around 960 in total, which records the dynamic of the network.

The third axis of the ENHSA Network activities is the mapping of architectural education in Europe. The purpose of these activities is the investigation of the state of the art of architectural education in Europe, so that this information could support discussions in the context of previous axes. For this purpose, a large number of research questionnaires has been carried out among schools of architecture in Europe, which recorded:

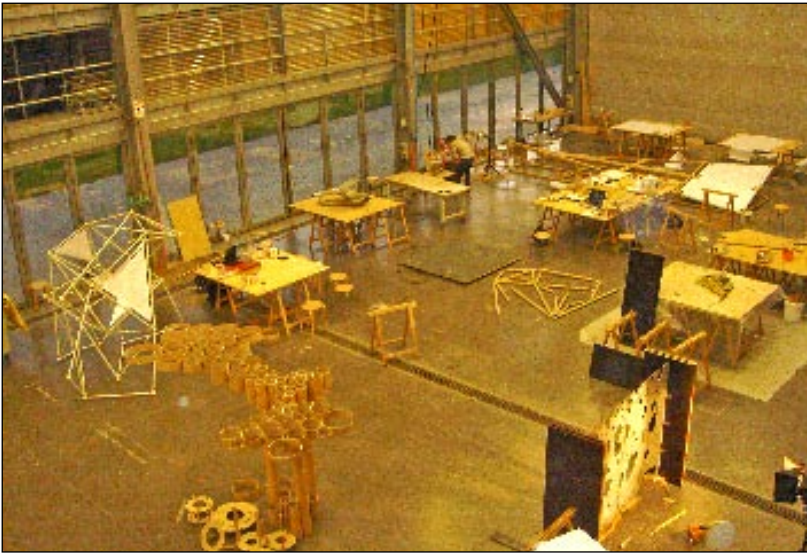
- The weight of various disciplines in the curricula of architecture.
- The evaluation and quality assurance practices implemented by the European schools of architecture.
- The profile of the schools as compared to the number of students, number of teachers, and student-teacher ratio.
- The involvement of the schools in exchange programmes for students and teachers.
- The performance of schools in research and strategies implemented to produce new architectural knowledge.
- The system of studies carried out by schools and their incorporation to the European Higher Education Area.
- Their preferences as to general education or specialised education. The processed data of these surveys were presented to the meetings of Heads and published in the minutes.

For the next three years, the network will make a new mapping to update the data, as they change very fast. Another project of the network is to organize the European Center of Research in Architecture Education, which will record all the research work carried out in Europe on architectural education.

ENHSA Thematic Network is an environment of cooperation that has created a very large number of collaborations among the partners. All partners recognise that the presence of the network, with its discussions and exchanges of information, data, and views, has played a decisive role so far in shaping the image of modern architecture education in Europe. The recent cooperation of the network with schools of architecture in the U.S. - Canada (ACSA) and Latin America has opened up important prospects for the near future. The development of the network is monitored through www.enhsa.net.

[x]

SOURCE: M. VOYATZAKI PHOTO ARCHIVE



From the student workshop that took place in September 2008 at the Grands Ateliers de l'Isle d'Abeau.

From the School Lab to the Fabrication Workshop

F2f Continuum (www.f2f-continuum.eu) is a Lifelong Learning Erasmus Multilateral Project under the broader umbrella "Cooperation between Universities and medium-sized enterprises". F2f-continuum, in particular, aims at putting together schools of architecture and small to medium-sized enterprises to exchange research results, information, ideas, techniques, methods, and expertise in the domain of design-to-manufacturing. It is a two-year, EU-funded programme, potentially renewable.

The Partners

The schools participating are schools of architecture. Namely, Aristotle University School of Architecture is the coordinating institution, and partner schools are the National Technical University of Athens School of Architecture, the Bartlett, University of Central London, the Technical University of Delft School of Architecture, the University of Catalonia Valles School of Architecture, the Technical University of Vienna School of Architecture, La Sapienza School of Architecture, Rome, the University of Applied Sciences School of Architecture Liechtenstein, the School of Architecture in Lyon, and the School of Architecture in Grenoble. The last two schools represent in the first contractual year an innovative centre based in France. The centre, Les Grandes Ateliers de l'Isle d'Abeau, is an institution of 13 schools of architecture, civil engineering and the fine arts that share a purpose-built edifice that has the infrastructure to accommodate student workshops to experiment with real materials on 1:1 scale constructions using innovative materials and/or construction methods.



by **Maria Voyatzaki**,
assistant professor,
AUTH, coordinator of f2f
Continuum.





The partner enterprises are Pôles d'Excellence, Pôles Innovations Constructives (a group of very well known industries, among which St Gobain glass industry, Ferrari textile industry, Vicat and Lafarge reinforced concrete industries, etc.), Materialise based in Belgium and the United Kingdom, Construcccion Textil, and Industrias Be from Barcelona.

The Rationale

A large number of contemporary buildings is generated through parametric design, that is the design of forms with the irreplaceable aid of computer software in a continuum to their manufacturing. At the same time, technological advances in the genesis of new materials and methods for the fabrication of components creates a natural continuum from the design process of a building to its fabrication.

Despite this evident continuum, in real terms, work that is produced as the result of continuous efforts of research at universities and the respective research produced in the building industry is hardly communicated and rarely becomes common knowledge. The two parties involved, universities and enterprises, are not in the necessary close contact to promote creativity, innovation and competitiveness in the domain of the creation of contemporary architecture with the use of advanced technology at a European level. However, these two parties are complementary in their strengths and weaknesses. Namely, universities possess dedicated researchers with profound academic interest in conducting research but lack the infrastructure to test their ideas, whilst enterprises have the aforementioned infrastructure but cannot exploit it as they lack profound academic research. Moreover, teachers of architectural design always aware of contemporary tendencies in architecture never convey these tendencies to the building industry that tries speculatively and tentatively to adjust and adapt to these needs. Continuum will develop a series of activities such as student workshops to visit small to medium-sized enterprises that work with cutting-edge CAM/CNC techniques to become familiar with their limitations and potentials.

The Aim

The aim of the proposed Project is to support the quality of education and research in architectural design and construction offered by schools of architecture of the consortium, by reinstating the channels of communication and information flow between schools of architecture and those enterprises who are applying digital fabrication technologies to produce new building materials, full scale components and prototypes, as well as surface structures. The broad and publicised availability of these channels will also enable practising architects to be in a continuum of information from their life as students to their current life as professionals.

The Objectives

This project proposes the creation of a consortium of schools of architecture and small to medium-sized enterprises activated in the area of digital manufacturing, having as its main objectives to:

- Establish an exchange of experiences, information knowledge and expertise regarding the contemporary trends and specific demands of architectural creation between teachers, researchers and enterprises.
- Enrich the architectural design and construction courses offered with new teaching material, new teaching subjects, new formal aspects, new construction techniques, and new teaching and pedagogical strategies.
- Bring students closer to real contemporary conditions of architectural production by making the processes of design and manufacturing seamless.



Student participation from the School of Architecture, AUTh, at the first f2f Continuum student workshop.

- Establish access to the production space for students, and a familiarisation with the experimentation and research in the industry and the material production.
- Generate new research inputs from the world of production and materialisation for the researchers in the schools of the consortium.
- Inform the enterprises of the consortium about the research outputs, the themes of the contemporary debate on architecture, and the main trends of architectural avant-garde.
- Bring enterprises closer to their future clients, the students, and facilitate their first step towards a more comprehensive collaboration.
- Bring back to and inform the practising architects around Europe about the academia and its research potential and achievements.
- Inform practising architects about the latest cutting-edge technologies, techniques, components and products available from enterprises.

The Activities

Staff from the enterprises has been delivering informative lectures at two levels: the basics to students, the advanced to researchers and teachers. The latter have yielded further avenues for research and exchange. Two student workshops on innovative designs have been scheduled aiming at producing prototypes, the best of which have been 'built' by the enterprises involved in the first contractual period at Grands Ateliers de l'Isle d'Abeau in September 2008, with 9 schools around Europe participating, 30 students, 11 teachers and researchers, and 6 building industries. The images accompanying the present article have been taken from the first student workshop. The second student workshop has been planned for May 2009 in Barcelona to work on the parametric design and manufacturing of tensile structures. Meanwhile, apart from the workshops and lectures, guided tours and seminars on the infrastructure of the industries involved took place, and educational material was produced firstly to aid students to participate in the workshops but also to be disseminated through a web portal to schools, enterprises and practising architects around Europe. Four meetings of university teachers/researchers and the industrial partners of the project took place to discuss the teaching practices and their link to real manufacturing techniques. The Project is ultimately trying to use the results of the activities of the two years of the Programme as these have run and will be running towards creating a teaching protocol on the f2f-continuum process.

[x]



SOURCE: COMMEMORATIVE ALBUM FOR THE 50 YEARS OF THE SCHOOL OF ENGINEERING, AUTH



e-archidoct: Virtual Campus for Post-Master Studies in Architecture



by **Constantin-Victor Spyridonidis**,

assistant professor, AUTH,
coordinator of e-archidoct.

e-archidoct is an Erasmus Programme under the “Lifelong learning - Multilateral Projects - Virtual Campuses” umbrella. It is an organised course of postgraduate studies in architecture offered by fifteen institutions from different countries of the European Union. The programme addresses two types of postgraduate students. The first type includes students already attending postgraduate programmes in the schools of architecture that participate in the programme, or in any other equivalent institution worldwide. These students can select modules from the programme as free electives to complete their graduate studies. The second type includes students who are graduates of a five-year architectural master’s-level course and wish to begin postgraduate studies in architecture. In this case, the programme offers a course which will provide an introduction to research in architecture, and will bring them in contact with different educational and research environments, helping them choose the institutions that best fit their research expectations. In this case, the programme will give them a recognised certificate useful for their selection in one of the postgraduate courses of the partner institutions. The e-archidoct course is designed to last six months and is equivalent to 30 credits. The course is offered in the winter and spring semester and runs from November to February and from March to June.

The basic assumption on which the programme is based is that basic architectural studies are primarily oriented to professional practice, leaving little space for preparation and adaptation to research logics, ethics, and methods. The con-

sequence of this situation is that students who join postgraduate programmes spend considerable time from their postgraduate studies in developing the consciousness of a researcher, in familiarising themselves with research methodology, and in developing the ability to formulate research questions, and define the areas of their research interests. In most cases, the time spent in this process of adaptation is of crucial importance, as it is usually costly and not always unlimited. e-archidoct programme is expected to bridge this gap and -from a distance- prepare students both in terms of “maturing” as to their research interests and in terms of familiarising themselves with research methodology in the area of their research interests.

The logic of the organisation of the programme is as follows: Each of the institutions participating in the programme offers a number of modules, depending on their interests and availability of teaching staff. In this way, a number of modules is available, each carrying a number of ECTS credits specifying the required time of student work. These modules are offered for selection on the part of the students. Student selection is based on the CV submitted by the candidates to the secretariat of the programme.

The Schools of Architecture participating in the programme are the following:

- Aristotle University of Thessaloniki, School of Architecture (Coordinating Institution).
- École Nationale Supérieure d'Architecture de Lyon, FRANCE.
- University “Roma La Sapienza”, Department of Architecture, ITALY.
- Technical University of Delft, Faculty of Architecture, THE NETHERLANDS.
- Royal Danish Academy of Arts, School of Architecture, Copenhagen, DENMARK.
- University College London, Bartlett School of Graduate Studies, UNITED KINGDOM.
- The Oslo School of Architecture and Design, NORWAY.
- Warsaw University of Technology, Faculty of Architecture, POLAND.
- Polytechnic University of Catalonia, School of Architecture of the Valles, Barcelona, SPAIN.
- Technical School of Architecture of Madrid, SPAIN.
- Liechtenstein University of Applied Sciences, Faculty of Architecture, Vaduz, LIECHTENSTEIN.
- University College Dublin, School of Architecture, IRELAND.
- Dublin Institute of Technology, Dublin School of Architecture, IRELAND.
- Ion Mincu University of Architecture and Urban Planning, Bucharest, ROMANIA.
- Les Grands Ateliers de l'Isle d'Abeau, FRANCE¹.

In the winter semester 2008-2009, the e-archidoct course offers the following modules.

- Multiplicity: An Approach to the Contemporary Production of Space.
University of Catalonia, Higher Technical School of Architecture of Valles Barcelona (ETSAV):
Alberto Altés, Elean Albareda, Daniel Calatayud, Josep María García, Antonio Millán, Jose Luis Oyón, Jos, Angel Sanz, Marta Serra, Miguel Usandisaga.
- Research Methods in Architecture.
- Revisiting Communist Architecture.
“Ion Mincu” University of Architecture and Planning Bucharest: Augustin Ioan.
- Urbanisation and Physical Activity.
Royal Danish Academy of Fine Arts, School of Architecture: René Kural.
- Digital Design Practice.
Royal Danish Academy of Fine Arts, School of Architecture: Mette Ramsgard Thomsen, Martin Tamke.
- Sustainable Strategies in Industrialised Architecture.

>>>



1. The Grands Ateliers is not a school of architecture, but an institution for experimentation in the domain of construction materials, construction techniques and morphological investigations, established by a number of schools of architecture, civil engineering and fine arts in the region Rhône-Alpes.



Map of Europe marking the locations of the fifteen EU institutions participating in e-archidoct.



- Royal Danish Academy of Fine Arts, School of Architecture: Anne Beim.*
- Non-Standard & Interactive Architecture.
Technical University of Delft - Faculty of Architecture: Kaas Oosterhuis, Henriette. H. Bier, Sander Korebrits.
- Territory & Border Conditions: SpaceCustomizer.
Technical University of Delft - Faculty of Architecture: Kaas Oosterhuis, Henriette. H. Bier, Sander Korebrits.
- Territory & Border Conditions: Architectural Positions.
Technical University of Delft: S. Umberto Barbieri, Marc Schoonderbeek.
- Territory & Border Conditions: Architectural Theory TaBC.
Technical University of Delft: S. Umberto Barbieri Tom L.P. Avermaete.
- The Philosophy and Practice of Doctoral Studies.
Dublin Institute of Technology: Lloyd Scott.

- Methods for Architectural Morphology Analysis.
Higher Nation School of architecture of Lyon (ENSA Lyon): Bernard Duprat, François Tran, François Fleury.
- Criticism of Contemporary Social Housing in Europe.
Polytechnic University of Madrid, Higher Technical School of Architecture of Madrid (ETSAM): Nicolás Maruri, Carmen Espejel, Atxu Amann, Pilar R. Monteverde.
- Span and Space. A pragmatic and Aesthetic Discourse on Structures in Architecture Oslo.
School of Architecture (AHO): Bjørn N. Sandaker.
- Introduction to Urban Theory.
Oslo School of Architecture (AHO): Edward Robbins.
- Overview to IT Revolution in Architecture.
University of Roma "La Sapienza", Faculty of Architecture "Ludovico Quaroni": Antonino Saggio.
- Daylight and Architecture.
University College Dublin, School of Architecture: Paul Kenny.
- Introduction to Adaptive Architecture & Computation.
University College London, Bartlett Graduate School: Sean Hanna, Alasdair Turner, Alan Penn, Sam Griffiths.
- (Re)searching the "Other".
Aristotle University of Thessaloniki, School of Architecture: Constantin Spiridonidis.
- Intellectual Systems and the Materiality of Architecture.
Aristotle University of Thessaloniki, School of Architecture: Maria Voyatzaki.
- Sampling Architecture.
Warsaw University of Technology, Faculty of Architecture: Stefan Wrona, Jan Slyk.

The total number of students attending the e-archidoct modules is 42 students coming from different countries of Europe. The programme lasts two years and it is now in its second year. For more information you can visit the programme website at www.e-archidoct.eu.



Cooperation between the Engineering Schools of Thessaloniki and Lausanne

With the scope of improving its international activities, the School of Engineering has recently initiated a new scientific cooperation with the Engineering School of Lausanne. New avenues are opened for the students of the School, while at the same time, members of the teaching staff will have the opportunity to develop further international relations and activities.

The cooperation of our School with the “École Polytechnique Fédéral de Lausanne” (EPFL) will provide the students of the School with the opportunity to work on their Diploma Theses within the framework of research programmes that are underway in the EPFL. In a similar way, students studying in Switzerland will have the opportunity to work on various scientific areas where the Laboratories of the School of Engineering of AUTH are currently active.

The scientific cooperation between the two Engineering Schools was put in force through the signing of the Cooperation Memorandum, in recognition of the two institutions’ common interests in various areas of modern technology and of the importance of their collaboration in both education and research. This cooperation aims at student exchanges as well as the participation of students in research activities of the various institutes, especially during work on their Diploma Theses. Based on the various research programmes in which students from both universities are involved, the cooperation between supervising professors from the two institutions will bring long-term gains through consolidation of the cooperation and development of innovative ideas.

The Memorandum of Cooperation was signed in the autumn of 2008 by the Deans of the two Schools of Engineering, prof. Nicolas Moussiopoulos of AUTH and prof. Demetrios Psaltis of EPFL. Prof. Maher Kayal (photo), who along with the author has taken up promotion of the cooperation scheme for the two Institutions, visited Thessaloniki in the beginning of the year 2009.

During the initial phase of implementation of the agreement, a significant number of Laboratories from various Departments of both the AUTH School of Engineering and EPFL expressed their interest to participate in the mobility and exchange scheme. Participation increases continuously as the cooperation becomes publicly acknowledged and the mutual gains are widely recognised. From EPFL, there are currently 16 Laboratories participating in the scheme in the fields of Mechanical and Electrical Engineering, Metallurgy, and Micro-technology. From AUTH, a number of Laboratories from the Departments of Mechanical, Electrical and Chemical Engineering are currently participating, along with the Department of Mathematics,

>>>

by **Anestis I. Kalfas**,
associate professor,
Department of
Mechanical Engineering,
AUTH.

*From the recent visit of
prof. Maher Kayal (right) to
the Dean of the School of
Engineering of AUTH, prof.
Nicolas Moussiopoulos
(left).*





SOURCE: <http://media.mode5.ovaz.ch>



Physics and Computational Sciences, and also the remaining Departments, who are still preparing the areas of cooperation and will announce them in the near future.

The University

The world-renowned École Polytechnique Fédérale de Lausanne is the French-speaking Institution of the Swiss Federal Institute of Technology. Along with its German speaking counterpart, the Technical University of Zurich, as well as a number of smaller federal institutions, EPFL belongs to the centrally-governed institutions of Research and Education of the Swiss Confederation.

The city of Lausanne

Lausanne is a city full of young people because a lot of them choose to study at its Universities and are attracted by the city itself, which is full of activities despite its relatively small size. Lausanne attracts not only the winter sport enthusiasts but also those that love city life. It combines the positive elements of a large European city without losing the traditional elements of the countryside that make Lausanne a unique place. Lausanne is the capital of canton Vaud and the second largest city on lake Lemane (after Geneva). Finally, Lausanne is the Olympic capital of Switzerland and of the world, as it has hosted the International Olympic Committee since 1914.



[K]

The ERASMUS-MUNDUS Postgraduate Programme

SOURCE: G. CHASAPIS PHOTO ARCHIVE



Postgraduate students of the "Erasmus-Mundus" programme at AUTH.

Network and e-Business Centred Computing

The Department of Electrical and Computer Engineering of the School of Engineering of AUTH, the Department of Computer Science of the University of Reading in the UK, and the Department of Telematics of the University of Carlos III de Madrid in Spain designed and organised a joint course of postgraduate studies which was approved and funded by the ERASMUS-MUNDUS Initiative of the European Union.

The title of the course is "Advanced Erasmus-Mundus M.Sc. in Network and E-Business Centred Computing" and its abbreviation is NeBCC.

The aims of the course are:

- To prepare future professionals for the digital economy, so that they are capable of understanding the technical underpinnings and business opportunities of the new economy.
- To provide students who have chosen the specialist e-business route with in-depth study and training encompassing state-of-the-art principles and techniques. This is provided through a set of in-depth specialist modules.
- To provide students with research and development skills through a substantial 6-month research and development project undertaken in one of the participating institutions.
- To provide students with an opportunity to study in a multi-cultural environment, sharing knowledge with other students from different backgrounds.

The Department of Electrical and Computer Engineering considers that its participation in this programme gives it the opportunity to prove that it can offer postgraduate educational services comparable and perhaps superior to those offered by other European Universities which are ranked high in the University Evaluation lists of their countries.



by George Chasapis,
professor, Department of
Electrical and Computer
Engineering, AUTH.



The Department of Electrical and Computer Engineering considers that its participation in the ERASMUS-MUNDUS programme gives it the opportunity to prove that is able to offer postgraduate educational services comparable and perhaps superior to those offered by other European Universities which are ranked high in the University Evaluation lists of their countries.



Course Description and Administration

The course is organised in modules, each of which may have a duration that varies from one to two weeks. Each participating University has the responsibility to organise and teach a group of modules with the same overall ECTS credit units. The modules are taught over a nine-month period at all three Universities participating in the course. During the first trimester, students move to Reading to attend the modules offered by the University of Reading, in the second trimester they move to Thessaloniki to attend the modules offered by AUTH, and in the third trimester they move to Madrid to attend the modules offered by Carlos III University. Each student has the obligation to carry out a dissertation thesis over a six-month period at any of the Universities participating in the course.

A Multilateral Agreement signed by the three Universities commits them to apply uniform teaching and examination standards which must be in compliance with the legislature of the country each University belongs to. A student selection policy which has been mutually agreed upon is applied. A joint degree signed by the Rectors of the three Universities is awarded to the students. This degree is equivalent to the M.Sc. degrees awarded by the Universities of each country. For this course, a ministerial decree has been issued in Greece, recognizing this equivalence.

Student issues

Students from countries outside the EU receive a scholarship by the ERASMUS-MUNDUS Initiative, covering their maintenance and study expenses.

The programme has entered its fourth year, and the students from the first two intakes have already graduated. Most graduates have found employment in countries all over Europe.

Students from Ethiopia, Argentina, Vietnam, Brazil, Guatemala, Equador, U.S.A. India, Indonesia, China, Canada, Lagos, Mexico, Bangladesh, Nigeria, Honduras, Ukraine, Pakistan, FYROM, Russia, Serbia, and Taiwan have been accepted to the course over its four-year period of running.

One can find additional information about the course at the following address:
<http://www.sse.reading.ac.uk>



The virtual reality lab ("VR Cave") at Reading University. ERASMUS-MUNDUS students carry out their postgraduate theses in this lab.

SOURCE: G. CHASAPIS PHOTO ARCHIVE



SEFI: European Society for Engineering Education

SEFI numbers 175 institutions as members in 42 countries (July 2008). The School of Engineering of the Aristotle University of Thessaloniki has been a member of SEFI since 2005 and is represented in the SEFI Administrative Council elected for the period from October 2006 to October 2009.

SEFI was founded in 1973 as a non-profit organisation under Belgian Law. It is the largest network of higher education engineering institutions and of individuals involved in engineering education in Europe. SEFI's mission is to contribute to the development and the improvement of engineering education in Europe. SEFI is the first example of an association directly linking institutions of higher engineering education. Hence it is independent of national and/or community filters in establishing its policy, as an international forum for discussing problems and identifying solutions relating to engineering education.

Aims and Objectives

The aim of the Society is to contribute to the development and improvement of engineering education in Europe, as well as to the improvement of the position of both engineering education in society in general and of engineering professionals in particular.



by **Aris Avdelas**,
professor, Department of
Civil Engineering, AUTH,
elected member of the
administrative council and
national correspondent of
SEFI.





The next SEFI conference will be held at the Technical University of Delft on 1-4 July, 2009.



SEFI's objectives are

- To provide appropriate services and promote information about engineering education
- To improve communication and exchange between teachers, researchers, and students in different European countries
- To develop cooperation between educational engineering institutions and establishments of higher technical education
- To promote cooperation between industry and those engaged in engineering education
- To act as a link between its members and other societies or organisations
- To contribute to the recruitment of good students in engineering education
- To promote development of the European dimension in higher engineering education

The society does not assume any direct responsibility for the formulation or implementation of specific policies which could be imposed on member institutions.

The diversity of courses and teaching methods and the freedom of choice for those involved are fundamental qualities and valuable assets which must be preserved.

The society serves as a European forum and should be considered as a service to European institutions, academic staff, students, and industry.

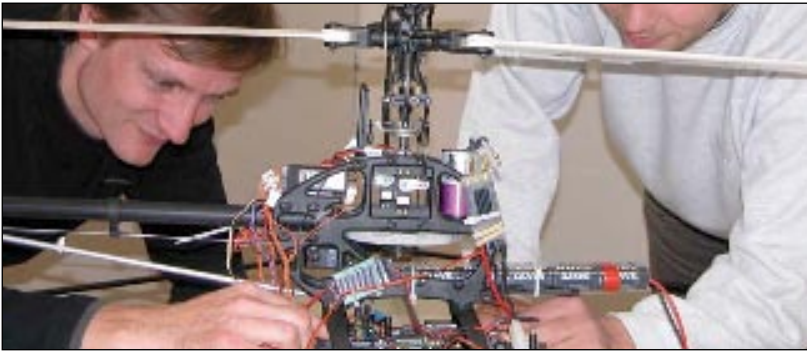
The School of Engineering, AUTH, is represented in SEFI by professor Aris Avdelas of the Department of Civil Engineering (avdelas@civil.auth.gr). Professor Avdelas has been elected in the SEFI Administrative Council for the period from October 2006 to October 2009, and is also the SEFI Correspondent for Greece.

Based on data from the SEFI web page: <http://www.sefi.be/>.

[x]

The European Journal of Engineering Education, SEFI's official scientific journal.





CESAER

conference of european schools
for advanced engineering education
and research

Engineering research and education through CESAER

In 1999 the School of Engineering of the Aristotle University of Thessaloniki, having as its aim to participate in yet another international academic forum, performed all actions necessary to join the Conference of European Schools of Advanced Engineering Education and Research (CESAER). CESAER was founded in 1990 in Leuven, Belgium, and nowadays numbers as members 60 Faculties of Engineering and Technical Universities from various European countries. Its purpose is to improve Engineering education, research, and academic innovation within the European academic area, to strengthen collaboration among its members in research as well as graduate and postgraduate studies, and to enhance continuing education for engineers.

This joint activity of the Engineering Schools belonging to CESAER ultimately aims at achieving excellence in advanced Engineering education and research within Europe, as well as internationally. It is well known that a lot of changes and transformations were made during recent years in the European academic world; for this reason, CESAER tries to be present at any forum, group, or lobby where discussions are held on the role and formation of modern Engineering education and research, so that mature and profitable decisions, accepted by all members, can be made.

Since our School was first accepted in CESAER, it participated actively in all activities, as well as in forming the policy of this strong academic group. Items discussed in detail within CESAER in order to reach commonly accepted positions include Engineering education in the 21st century, the introduction of informatics and ICT into Engineering education, the vision of the CESAER partners concerning advanced Engineering education with the Bologna process, and the role of Engineering Schools in improving concurrence in Europe.

For the forthcoming years, the principal issues on which CESAER efforts are focusing are, among others, the investigation of quality in European Engineering education, the development of an appropriate framework for collaboration between European Schools of Engineering and the European Institute of Technology (EIT), and the framework of quality assurance for doctoral dissertations performed and defended in European Engineering Schools.

The Responsible for the collaboration of the School of Engineering, AUTH, is professor Dr.-Ing. C.C. Baniotopoulos from the Department of Civil Engineering (tel. +30 2310 995753 Fax: +30 2310 995642 E-mail: ccb@civil.auth.gr).



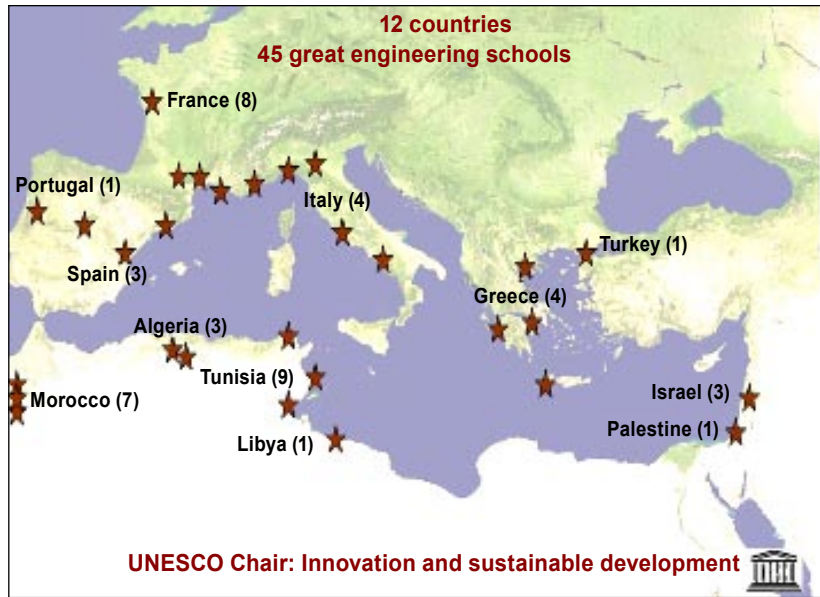
by **Charalambos**

Baniotopoulos,

professor, Department of
Civil Engineering, AUTH.



The RMEI Network



*Geographic distribution
of schools in the
Mediterranean
Engineering Schools
Network.*

A Mediterranean breeze over engineering studies

by **E. Sidiropoulos**,
associate professor,
Department of Rural and
Surveying Engineering,
AUTH.

Identity and origin of the Network

The Mediterranean Engineering Schools Network (RMEI) was founded in 1997, following an initiative of the Technical University of Marseille. Enjoying an autonomous legal status, it is supported by several public organisations of France. It is governed by the General Assembly, a six-member directorate, and a ten-member administrative council.

Geographical and other characteristics

RMEI extends so far to 12 countries, represented by 45 Engineering Schools. The distribution of these Universities is shown on the map, where it can be seen that the majority of Greek Engineering Schools are already in the Network.

Our own School of Engineering was accepted as a member in the summer of 2006. It “convinced” the Assembly based on its overall appearance. The support offered by the School of Engineering of the University of Patras, as well as the significant role the network’s general coordinator played, must both be acknowledged at this point.

Despite its European origins, RMEI deviates considerably from the Central European character in terms of various environmental as well as cultural aspects.

Themes and actions of the Network

Viewing the Mediterranean as a hub of cultural interactions, RMEI seeks to promote Education, Research and Innovation and, at the same time, Peace in the



and **Anastasia Zabaniotou**,
associate professor,
Department of Chemical
Engineering, AUTH.

area. Most notably, both Israel and Palestine are represented in RMEI.

Under sustainable development as an umbrella subject, themes of natural resources, renewable energy sources, waste management, land development, atmospheric pollution, and cultural heritage were assigned to working groups during the Barcelona Meeting (February 2008) and the Hammamet General Assembly (March 2008). In both these conventions, our School was represented by Anastasia Zabaniotou, Associate Professor of the Chemical Engineering Department.

Also, with the participation of our representative and other members of our School, three projects were initiated regarding renewable energy development and the creation of a sustainability observatory.

In every University network, the character of its members is slowly but steadily affected by the network's collective actions. Thus, our School, too, is already feeling the presence of a fresh Mediterranean breeze.



The admittance document issued for the School of Engineering, AUTH, in July 2006 (D. Tolikas was Dean at the time).

[x]



Commemorative photographs of the ending procedures of the RMEI general assemblies held at Izmir (top), Barcelona (middle), and Hammamet (bottom).



Active students discover Europe

Discussing the future of engineers: Supply and demand for engineers in Europe, Milan 2007.



SOURCE: A. ZISIDOU PHOTO ARCHIVE



by **Anastasia Zisidou**,
Electrical and Computer
Engineering student, AUTH.

Dionisis Petridis,
Mechanical Engineering
student, AUTH.

and **Thalia Christaki**,
Civil Engineering student,
AUTH.

BEST: Academic seminars all over Europe

BEST (Board of European Students of Technology) is a non-speculative and non-political organism created by students for students of European Technical universities. BEST was founded in 1989 in Berlin as an answer to the need for an organisation that would promote communication between the students of European technical universities. During the 20 years of its existence, BEST has expanded to include 30 European countries, with a network of 81 local groups in as many technical universities.

The objectives of the organisation include:

- Creation of strong bonds between European students.
- Briefing on the latest technological issues, but also on issues of general interest.
- Contact between students and the job market, i.e. the companies, and development of capacities that will help them work at an international level.
- Understanding European culture and familiarisation with the European reality.

To achieve the above, each technical university is represented by an active group of students who dedicate their time and energy to organizing various academic activities such as academic seminars, intensive seminars for training, and meetings with companies and industries, as well as other activities such as discussions on educational subjects, career days, international competitions for engineers, cultural exchanges, excursions, etc.

The Local BEST Group (or LBG) in each member-university is one of the “cells” that make up the body of BEST. The local groups are the starting points of each

initiative. They consist of students, undergraduate and postgraduate, who are dedicated to the objectives of the organisation in each Technical university.

At the moment, more than 1,800 students in all member-universities work voluntarily for the maintenance and improvement of the activities that BEST offers the students. Greece is officially represented by 4 local teams:

- National Technical University of Athens (LBG Athens).
- Technical University of Crete (LBG Chania).
- School of Engineering of Aristotle University of Thessaloniki (LBG Thessaloniki).
- School of Engineering of the University of Patras (LBG Patras).

Activities of the organisation

In order to achieve their aims, the local groups of BEST organize a variety of activities:

- **BEST Courses**

In a learning event, participants attend lectures given by the university's teaching staff or by experts from companies. They visit companies, industrial plants or research centers, and sometimes take part in case studies. The main topics of learning events cover various fields of technology, economics, marketing, and management. At the end of the course students take an exam, which is designed to test the results of the course and evaluate the participants' success. An increasing number of courses are recognised by many universities, and students attending these courses can get credit points (ECTS -European Credit Transfer System) from their home universities.

- **BEST Events on Education**

BEST Events on Education are seminars that last for about 6 days. They gather engineering students and professors from Europe with the purpose of evaluating and finding new paths for higher engineering education in Europe. There are currently two kinds of such events: BEST Symposiums on Education and BEST-Academics and Companies forums.

BEST, the Board of European Students of Technology, is a continuously increasing, non-profit and non-political organisation. Since 1989, we provide communication, collaboration and the possibility of exchange for students all across Europe.



“Energy BANG!”: Seminar on various energy forms, Tallinn 2008.





"Bridge your life": Seminar on bridge construction, Trondheim 2006.



• BEST Engineering Competitions

An Engineering Competition is an event where teams of students use their technical, social and communicative skills to compete in different categories: Team Design, Case Studies, Negotiation and Debates.

Beyond these three main activities of the organisation, BEST also provides the students with services of career support.

BEST Career Support is the online service of BEST that connects internationally-minded students and engineers with companies. It is your unique opportunity to discover a new exciting future and start an international career.

Local BEST Group Thessaloniki

BEST Thessaloniki was created in the spring of 1999 through the motivation of students from the School of Engineering of the Aristotle University of Thessaloniki. It is aimed at engineering students of the School of Engineering and all students studying science and technology at the Aristotle University of Thessaloniki, while its members are undergraduate and postgraduate students of AUTH.

Our local team has successfully organised:

- 6 international academic seminars,
- 1 international competition of engineers,
- 2 annual meetings of the 4 Greek local teams,
- 6 cultural exchanges,
- 2 meetings of the local Balkan and Italian teams,
- 1 meeting of the international board of BEST,
- 1 meeting of the internal committee of the exterior activities of BEST,
- 1 internal seminar for members,
- 1 general assembly with the attendance of 300 European students, in collaboration with the teams of Athens and Chania,
- 2 competitions of engineers for the students of the School of Engineering of AUTH.

At the same time, the team has organised a lot of other activities (presentations, discussions, meetings) and has participated for three consecutive years as a student organisation in the Money Show exhibition in Thessaloniki.

More detailed information on our organisation can be found in our web page, <http://www.best.eu.org/thessaloniki>. For further information you can contact Nikos Chandolias, president of the local BEST group Thessaloniki (e-mail: nikos.chandolias@best.eu.org).



"Bridge your life": Seminar on bridge construction, Trondheim 2006.



IAESTE calling

Once upon a time, in the year 1992, there was a group of students in the engineering school of Thessaloniki who tried to send our university on a journey into the world of IAESTE, a journey that originally started in the rest of the world in 1948. And they achieved it! But what is this trip all about?

by **Eleni Panayotou**,
Civil Engineering
student, AUTH.

International Association for the Exchange of Students for Technical Experience

IAESTE is exactly what its name indicates:

- **International:** Over 80 countries from around the world participate in the programme.
- **Association:** A mix of students and professors, independent, non-governmental, non-political. In Greece it's based in NTUA (National Technical University of Athens) with Local Committees in AUTH (Aristotle University of Thessaloniki) and DUTH (Democritus University of Thrace).
- **Exchange:** For each Greek student going abroad, a foreign one comes to Greece. Big Greek companies and many professors support and enhance our efforts to broaden the offer range of the programme by providing us with internship placements each year.
- **Students:** All undergraduate students from the School of Engineering and some departments of the School of Sciences can apply to this exchange programme.
- **Technical Experience:** Application of the knowledge acquired during the course of studies under real working conditions. A valuable working experience added to the CV of all participants.

IAESTE LC Thessaloniki consists exclusively of students who work on a voluntary basis to successfully continue the IAESTE journey despite all difficulties emerging. For further information about our work, don't hesitate to contact us!!!

Tel: (+30)2310995829

Email: iaeste_incoming@eng.auth.gr

Website: <http://iaeste.eng.auth.gr>



ENHSA - Latin America



by **Constantin-Victor
Spyridonidis**,
assistant professor,
AUTH.

The ENHSA Latin America Programme is an extension of the activities of Thematic Network ENHSA in Latin American Countries and the USA. It is an Erasmus-Mundus Action 4 Internationalisation of the Thematic Networks programme, whose participants include -in addition to the Institutions that are Members of the ENHSA TN- the ACSA (Association of Collegiate Schools of Architecture) and 19 Schools of Architecture from 13 countries of Latin America.

In the strong internationalisation dynamics of our era, architecture, as the spatial manifestation of our lives, is experiencing a radical worldwide transformation and redefinition of its referential values, principles, and conceptions. The profile of the contemporary architect is no longer commonly agreed upon, and its re-definition constitutes a central issue of all local and international professional associations, education institutions, and governmental bodies. Architectural education in this rapidly changing and increasingly mobile world becomes a critical international issue demanding new strategies to direct curricula reforms.

As the isolation of our days appears to be a non-promising strategy, Schools of architecture need to approach the issue of contemporary architectural education collectively. In order to do that, they must develop a creative environment of effective academic dialogue, which will permit us to better understand others and, consequently, to better understand ourselves. The overall principle that must direct our initiatives is that the international dimension must not threaten or intimidate the invaluable cultural, regional, national, and pedagogical identity of Schools of Architecture in different regions. In order to achieve this rather difficult objective, which is to be international without losing our local identities, we have to develop new strategies to structure our curricula and teach our students, while at the same time implementing new pedagogical tools.

This is why in this programme we focus on the interest of our activities in the investigation of the contemporary profile of an architect, in order to work collectively on the strategies, paths, educational structures, and pedagogic processes which will be able to generate this profile. As a basic tool in this approach we use the notion of competences. We understand the notion of competences as a basic component of the deep structure of the profile of the graduate architect, the condensed information on the basis of which it is generated, something like its DNA: not completely pre-defining it, but adequately prescribing it to assure quality, flexibility, transparency, and clarity. On this understanding, the structure of the curriculum is a project aiming at the generation of this DNA on the basis of competences, capable to reflect the local socio-cultural particularities, the specific conditions of the professional practice, the precise policy-strategy of the school as a reflection of its own visions for the future. In the same contexts, teaching is no longer conceived as a process concentrated on what students have to know in order to become architects, but mainly on what they will be able to do by knowing what they have been taught.

The programme is developed on the basis of a number of planned academic events, which will promote a systematic academic dialogue between the partners on issues related to the necessary reforms the traditional architectural education system has to realise in order to be adapted in our fast changing world. More specifically, the main theme of the programme will be the construction of new architectural curricula and the development of new teaching practices compatible with the contemporary profile of the architect, the conditions of the labour market, and the new trends in education sciences. More information on this project is available at the ENHSA Thematic Network site: www.enhsa.net.

✉

INTERNATIONAL COOPERATION IN EDUCATION

