



UNESCO International Centre  
for  
Engineering Education



# Newsletter

Volume 11, Issue 2

July 2004

## From the Director

There is a growing concern about contemporary academia, which many view as being currently at the crossroads. Most academic institutions grapple with the lack of a clear institutional model, ever-diminishing levels of funding, ageing academic staff, pressure to establish clear, efficient and transparent quality control methods, to name a few. One might also add to this litany, the shockingly different level of access to modern technologies in various countries, lack of democracy and poor institutional management, bureaucratic interference from governments, and the picture is almost complete!

Against this backdrop, the UICEE, in collaboration with King Mongkut's University of Technology Thonburi, Bangkok, Thailand, conducted the 4<sup>th</sup> Global Congress on Engineering Education in Bangkok, Thailand, last July. The Congress attracted numerous university administrators and senior academics from 25 countries worldwide, with the objective to continue the dialogue about important issues and challenges in engineering and technology education for the 21<sup>st</sup> Century.

It was clear from formal and informal discussions that universities are preoccupied with the debate on the future of higher education at a time of global instability, changing societal needs, rapidly advancing technology, changing production processes and steadily increasing globalisation. This occurs when the world is preoccupied with war, serious contagious diseases, the limping global economy, the total shift in national and international priorities, and many other worldwide problems. The prevailing question was, and still is, how can modern academia cope in this situation?

A leading international educationalist based in Australia, Prof. Michael J. Osborne, Vice-

Chancellor and President of La Trobe University, Melbourne (Bundoora), Australia, as well as President of the International Network of Universities (INU), endeavoured to answer this critical question in his invited occasional address presented at the Congress Gala Banquet.

In particular, the speaker presented and discussed two models of academia, namely; the traditional model, where the objective of university education is to engage in pure academic discourse, and is grossly a way of life, whose protagonists claim that it upholds so-called *traditional values*, as well as the most contemporary model, whose

underlying objective is to prepare students for their professional life by developing utilitarian knowledge and skills. The speaker aired and debated many important issues mentioned above that international academia faces these days. Indeed, the address has stimulated a heated debate on how engineering and technology education fit into these models of higher education institutions, and what should be the role that engineering educators play in current and future developments.

Our readers will have the opportunity to read the full text of Prof. Osborne's address presented in Bangkok, as it will be included in the forthcoming issue of the *Global Journal of Engineering Education* (GJEE), Vol.8, No.2, soon to be published by the UICEE.



Prof. Michael J. Osborne, Vice-Chancellor and President of La Trobe University, Melbourne, Australia, presenting his address in Bangkok.

## 4<sup>th</sup> Global Congress

The successful 4<sup>th</sup> Global Congress on Engineering Education was held at Menam Riverside Hotel, Bangkok, Thailand, between 5 and 9 July 2004, with King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, as the principal co-sponsor and co-organiser.



### UICEE Partners



Although slightly smaller in attendance than expected, the Congress allowed the presentation of almost 70 papers. Furthermore, it facilitated a high level of interaction between participants, which should eventuate with many future international activities and collaborative projects.

The Congress was opened by Congress Patron, Dr Krissanapong Kirtikara, President of the KMUTT who, in his Opening Welcome address, presented the University and its achievements in engineering and technology education, including its wide range of collaborative ventures with many international universities. The picture on this page shows Dr K. Kirtikara delivering his speech at the Congress.

It should be noted that the KMUTT had a special half-day session, which included paper presentations based on research and development activities in engineering and technology education carried out at the KMUTT. The paper titled *South-East Asia Centre for Engineering and Technology Education (SEACETE): a UICEE satellite centre in South-East Asia*, co-authored by A/Prof. Kraiwood Kiattikomol and Mr Somchai Congmuang, both of the KMUTT, gave a comprehensive insight into the role, nature, progress and activities of this UICEE satellite centre, which is positioned in a very important region of the world, as its presence and operation will definitely and positively impact on the quality of engineering and technology education in South-East Asia.

This session also permitted the KMUTT to showcase its facilities and provide an evening reception, which featured a selection of Thai cuisine delicacies, as well as traditional cultural music and dancers.

The Congress was, indeed, very fortunate to have Prof. Michael J. Osborne, Vice-Chancellor and President, La Trobe University, Melbourne, Australia, and President of the International Network of Universities (INU), who delivered an impressive invited

occasional address at the Congress Gala Banquet, focusing on the status of international education. The picture on the first page shows Prof. Osborne giving his address.

Copies of the volume of Congress Proceedings are now available for purchase from the UICEE, and cover a rich diversity of papers. This is demonstrated in the 69 collected papers taken from the Congress.

The Congress also provided time for enjoyment and entertainment at the rich social programme, which included a sightseeing voyage on the enchanting Menam River.

## Badges of Honour

The Gala Banquet of the 4<sup>th</sup> Global Congress on Engineering Education, held in Bangkok, Thailand, on 8 July 2004, provided the venue for the presentation of several prestigious UICEE Badge of Honour Awards.

The Gold Badge of Honour Award was bestowed upon Prof. Constantin Oprean, Rector of *Lucian Blaga University of Sibiu*, Sibiu, Romania, for his ...*distinguished contributions to engineering education, outstanding achievements in the globalisation of engineering education through the activities of the Centre, and, in particular, for remarkable service to the UICEE.*

Several other distinguished engineering education academics received the UICEE's Silver Badge of Honour, namely: A/Prof. Kraiwood Kiattikomol and Mr Somchai Congmuang, both from the KMUTT, and Prof. Frank McIntosh, Principal, Caledonian College of Engineering, Muscat, Sultanate of Oman. The photo next page shows the proud awardees.

The UICEE members, staff, students and associates congratulate the recipients for their exemplary efforts in attaining these awards.

## Best Paper Awards



Dr Krissanapong Kirtikara, President of the KMUTT, Bangkok, Thailand, and Congress Patron, presenting his Opening Welcome address at the 4<sup>th</sup> Global Congress.

Numerous exceptional papers were presented at the 4<sup>th</sup> Global Congress on Engineering Education. As at previous UICEE conferences, participants were asked to select the top papers included in the Proceedings and presented at the Congress to receive the UICEE best paper awards. Based on the highest frequency of votes, the chosen award papers were announced at the Congress Closing Ceremony.

Two papers received equal first place. The Diamond (First Place) Award for a distinguished Congress contribution was accorded to Ms T. Goodliffe, from the Caledonian College of Engineering, Muscat, Oman, for her insightful lead paper entitled *Introducing personal development planning: educating engineers for the workplace of the future*, as well as to Prof. P.D.

Chidgupkar and Prof. M.T. Karad of the Maharashtra Academy of Engineering and Educational Research, Pune, India, for their perceptive keynote address called *Vedic mathematics in engineering education and its applications*. It should be noted at this point that both papers come from Partner institutions of the UICEE.

As there were two Diamond Awards, no Platinum (Second Place) Award was given. Two other papers received equal next placing. The Gold (Third Place) Award was bestowed upon Mr L.N. Green of the University of New South Wales, Sydney, Australia, and Prof. E. Bonollo of the University of Canberra, Canberra, Australia, for their noteworthy lead paper titled *The importance of design methods to student industrial designers*. The other Gold Award was presented to A/Prof. Ö. Göl, Prof. A. Nafalski, Mr Q. Tran and Mr T. Nguyen, of the University of South Australia, Adelaide, Australia, for their engaging paper covering

*A Web-based conference management system as a design project.*

As no other paper gained the sufficient number of votes to meet the requisite minimum level, the Awards Committee decided not to allocate further awards.

## Director's Choice Awards

On the occasion of the 4<sup>th</sup> Global Congress, the Director was invited to allocate two Director's Choice Awards to papers also considered to make a significant contribution to the Congress.

The two equal awards were presented to Mr C. Hacker of Griffith University, Gold Coast, Australia, for his very interesting lead paper on *Implementing a software teaching module for the real-time simulation of digital logic circuits*; and to A/Prof. K. Rochford, Mr J. Baxen and Mr A. Inal from the University of Cape Town, Cape Town, South Africa, for their notable lead paper entitled *Student research conferences for developing countries*.

The UICEE members, staff, students and associates congratulate the awardees of both categories of papers for their noteworthy efforts. It is envisaged that these award papers will soon be expanded and published in the forthcoming issue of the *Global Journal of Engineering Education*, Vol.8, No.2.



Pictured are the proud awardees of the UICEE Badges of Honour (l-r): Mr S. Congmuang, Prof. F. McIntosh, Prof. C. Oprean and A/Prof. K. Kiattikomol.

## World Transactions Update

The current issue of the *World Transactions on Engineering and Technology Education (WTE&TE)*, Vol.3, No.1, featuring 35 highly informative articles from academics representing 14 countries worldwide, who endeavour to improve and advance engineering and technology education through their research and development activities, is presently being circulated. This Issue, the first in this third Volume of the WTE&TE, also marks the 11<sup>th</sup> year of vigorous operation for the UICEE.

Our readers should note that the deadline of end September 2004 for the submission of papers to the next issue of the WTE&TE, Vol.3, No.2, is fast approaching. Original article submissions have already been received from around the world, with many more expected.

UICEE members are encouraged to take up this opportunity and publish their new material in the World Transactions journal. The electronic kit for authors will be sent on request from Mr Marc Riemer of the UICEE on: marc.riemer@eng.monash.edu.au

## GJEE Update

The next issue of the *Global Journal of Engineering Education (GJEE)*, Vol.8, No.2, will be a regular issue that will feature award papers from the recent 7<sup>th</sup> UICEE Annual Conference on Engineering Education, held in Mumbai, India, last February, and the 4<sup>th</sup> Global Congress on Engineering Education, held in Bangkok, Thailand, last July. It is envisaged that the Issue will be released shortly.

Also, it is anticipated that the subsequent issue of the GJEE, Vol.8, No.3, will be a German language issue in a continuing tradition, under the Guest Editorship of Prof. Norbert Grünwald, Rector of Hochschule Wismar - University of Technology, Business & Design, Wismar, Germany. A Call for Papers has already been made to those for whom German is the main language of international communication.

## Director's Visits

A four-week long UICEE Director's overseas trip, which began in mid-May 2004, was dedicated to visits to Partner institutions of the UICEE based in Europe, plus visits to Bangkok, Thailand, in order to finalise preparations for the 4<sup>th</sup> Global Congress on Engineering Educa-

tion, which was held in early July this year.

Such visits permit the exchange of views and set the stage for the realisation of current programmes and projects, as well as the formulation of new actions and undertakings. Also, these visits are considered necessary to ensure the smooth operation of the presently extensive UICEE global network of members and, in particular, Partner institutions.

## Wismar

The first European stop was in Wismar, Germany, where Hochschule Wismar – University of Technology, Business and Design (HSW) is a Partner institution of the UICEE, and is host to the *Gottlob Frege Centre for Engineering Science and Design (GFC)*, a satellite centre of the UICEE. The visit included extensive meetings with the University Rector, Prof. Norbert Grünwald, who is also a Deputy Chairman of the UICEE Academic Advisory Committee.

Other important meetings included a working session with Prof. Winfried Schauer, which concerned the UICEE's

involvement in a collaborative educational project between the German multinational company Siemens and engineering academics from across Poland. This important initiative is being coordinated from the HSW and facilitates the further training of Polish educators, thereby updating their skills base in a truly relevant manner and generating closer industry ties, thus also advancing Polish engineering education generally, as well as bringing

Germany and Poland, the latter being one of the European Union's newest members, closer together through greater contact with each other's cultures and peoples. There was also a meeting conducted covering the collaborations of the GFC.

Thorough discussions were held on the formation of closer ties with the HSW and the establishment of the UICEE European Headquarters (UICEE-EHQ) in Wismar. The HSW Rector, Prof. N. Grünwald, and the UICEE Director had a meeting with Dr Rosemarie Wilcken, Mayor of the Hanseatic City of Wismar, in order to elicit support from the City and its officials to the idea of locating the UICEE-EHQ in Wismar.

Since Wismar, and another Hanseatic city, Stralsund, are both on the UNESCO World Heritage List, the concept of basing the European Headquarters of the UICEE as a global UNESCO Centre was very highly received by Dr Wilcken. She promised her personal involvement and support in realising this initiative.

It has been decided that the official launch of the UICEE-EHQ will take place on Thursday, 9 September 2004 at 15:00, being one of the activities of the Seminar for 9 and 10 September and dedicated to the achievements of the satellite centres of the UICEE. The Memorandum of Agreement between the two institutions concerning this matter will be signed at the 8<sup>th</sup> Baltic Region Seminar, to be held earlier in Kaunas, Lithuania. Those wishing to participate in the Seminar and, indeed, in the launch of the UICEE-EHQ, should contact Prof. N. Grünwald.

The picture above shows (l-r) Prof. Norbert Grünwald, Dr Rosemarie Wilcken, and the UICEE Director, Prof. Zenon J. Pudlowski, discussing the promising future of this collaborative effort.

## Gdynia

The second major stop on the UICEE Director's itinerary was at Gdynia Maritime University (GMU), Gdynia, Poland,



Engaged in discussions on the UICEE-EHQ in Wismar are (l-r) Prof. N. Grünwald, Dr R. Wilcken and the UICEE Director .

which is one of the most active Partner institutions of the UICEE network. The Director was hosted by Prof. Romuald Cwilewicz, Vice-Rector for International Affairs at the GMU and the Director of the *Centre for Maritime Engineering Education (CMEE)*, a satellite centre of the UICEE.

A range of existing and new activities was discussed at a meeting of staff and collaborators of the CMEE, especially the hosting of the 9<sup>th</sup> Baltic Region Seminar

on *Engineering Education* to be held in June 2005 at the GMU in Gdynia, with the special theme of *Education and Training of Maritime Personnel*, which will hopefully attract many international delegates and guests. This Seminar will be a part of weeklong celebrations of the 85<sup>th</sup> Anniversary of Maritime Education in Poland.

The UICEE Director was also received by the University Rector, Prof. Józef Lisowski, where both Prof. Cwilewicz and Prof. Pudlowski briefed the Rector on the earlier discussions concerning joint collaborative ventures. Prof. Lisowski accepted the honour of being the Patron of next year's Seminar, and promised substantial intellectual and financial support for this venture.

Also, on this occasion, the UICEE Director was presented with a commemorative University plaque as a valued gesture of longstanding collaboration and friendship. The picture below shows Prof. Lisowski presenting the UICEE Director, in the presence of Prof. Cwilewicz, with the commemorative plaque from the GMU.

## Częstochowa

On the way from Gdynia to his beloved hometown of Kraków, the UICEE Director visited Częstochowa in Poland, the location of the Faculty of Management at the Technical University of Częstochowa, a Partner institution of the UICEE.

At a meeting with the University Vice-Rector, Prof. Maria Nowicka-Skowron, the Dean of the Faculty, Prof. Janusz Szopa, and Prof. Eugeniusz Gurgul, Head of the Department of Agribusiness Management, several important topics were raised concerning the participation of Faculty academics in upcoming UICEE conferences, as well as future activities and ventures to be carried out by the *Centre for Engineering Management and Agribusiness*



Prof. J. Lisowski (r) presents a commemorative plaque, witnessed by Prof. R. Cwilewicz (l), to the UICEE Director (c).

*Education* (CEMAE), a satellite centre of the UICEE, which is co-directed by Prof. Szopa and Prof. Gurgul.

The resolution of the meeting was that the official launch of the CEMAЕ be conducted on Monday, 6 September 2004, immediately after the 8<sup>th</sup> *Baltic Seminar on Engineering Education* in Kaunas, Lithuania, so that international guests can extend their stay in Europe and visit Częstochowa.

Częstochowa is a vibrant industrial and cultural city, and has numerous tourist attractions, including the famous fortified monastery that dates back to the Middle Ages, which displays the celebrated painting of the *Black Madonna*.

It should also be mentioned at this point that the Faculty of Management is one of the most dynamic of its kind regionally and is renowned for its research, development and community involvement in Poland, and has been very fortunate to be led by outstanding academics in this field. The UICEE is indeed very fortunate to have a partnership with this Faculty as engineering management, and agribusiness in particular, are vital areas of human endeavour.

representatives from other academic institutions in Poland and abroad, as well as representatives from industrial organisations collaborating with the FAEI.

In the afternoon, a brief meeting of the management of the *UICEE Polish Network* (UPN) was convened by its Coordinator, Prof. Bolesław Pochopięń, the former Rector of the SUT, and attended by Prof. Stanisław Mitkowski, Co-coordinator, and the UICEE Director. The present status of the Network, involving several institutional and individual members in Poland was discussed and potential future actions debated.

It was decided that the UPN would seek to establish an annual conference on engineering education, to be held in Poland in the Polish language to consider numerous issues and matters related to Polish engineering education in the context of the transition and adaptation of Poland into the European Union, the impact of the Bologna Declaration on Polish higher education, and the establishment of the *Bologna Process* and the *European Higher Education Area*.

## Gliwice/Katowice

A visitation to the Silesian University of Technology, Gliwice, Poland, a Partner institution of the UICEE, was the next stop in the European tour of the UICEE Director. This permitted activities at both campuses, namely Gliwice and Katowice.

The campus in Katowice houses primarily two faculties, that is the Faculty of Transportation and the Faculty of Engineering Materials and Metallurgy, which organised on 7 June 2004 a joint Seminar on engineering education for academic staff and students. After the introductory address by Prof. Sylwester Markusik, Deputy Dean of the Faculty of Transportation and organiser of the Seminar, the UICEE Director spoke briefly about current issues facing engineering and technology education globally, and led a discussion on this matter. Several senior academics took part in the debate on global and local issues, which then evoked some interesting responses from junior staff and postgraduate students.

The following day, the UICEE Director visited the campus in Gliwice, where he was received by the University Rector, Prof. Wojciech Zieliński, and other senior University officials over a gala breakfast. Both parties briefed each other on their current activities and achievements in engineering and technology education, as well as potential future collaborative ventures. The UICEE Director reiterated his invitation to Prof. Zieliński to visit the UICEE in Australia, which was accepted with satisfaction.

After the meeting, participants went to attend the official ceremony dedicated to the 40<sup>th</sup> Anniversary of the opening of the Faculty of Automation, Electronics and Informatics (FAEI), which attracted close to 1,000 participants representing current staff and students, alumni,



Prof. H. Schaedel at his special Seminar held at Fachhochschule Köln.

## Köln

Köln in Germany was the next step where the UICEE Director and Prof. Grünwald took part in a Seminar dedicated to Prof. Herbert Schaedel, an extremely active and distinguished member of the UICEE, based at Fachhochschule Köln (FHK), which is a Supporter member of the UICEE. The purpose of the Seminar was to celebrate the life achievements of Prof. Schaedel in engineering education at the time of his retirement from active duties.

Prof. Schaedel was one of the first German professors to respond to the call by the UICEE to become an individual member. He has attended numerous UICEE-run conferences and published extensively on topics related to engineering education in his field. He was also instrumental in the FHK becoming a Supporter member of the UICEE in late 1998.

The Seminar, apart from Prof. Schaedel and his wife, Waltraub, was well attended by numerous academics of the FHK, including the Rector, Prof. Joachim Metzner, and the Dean of the Faculty of Information, Media and Electrotechnics, Prof. Heinrich Dederichs, as well as UICEE active members, Prof. Georg Hartung and Prof. Gregor Büchel, numerous former students and industry collaborators who came to the Seminar to celebrate this memorable occasion.

More than half a dozen presentations were made, which included such topics as automation and control, and engineering education. The UICEE presentations included the UICEE by its Director, the *Gottlob Frege Centre for Engineering Science and Design* (GFC) and the activities of Hochschule Wismar by Prof. N. Grünwald, as well as a presentation of his research by Mr Detlev E. Jansen, a postgraduate student of the UICEE based in Wiesbaden, Germany.

The participants expressed their appreciation, and thanked Prof. Schaedel for his longstanding career and his dedication to the cause of the sound preparation of German engineers, and wished him and his wife longevity, good health and a happy retirement. Staff, students and associates of the UICEE join in these wishes, and hope that Prof. Schaedel will remain a member of the UICEE, and will contribute further to its activities.

The picture on the previous page shows a gratified Prof. Schaedel at the Special Seminar.

## Wildau

In his efforts to promote engineering education globally and attract new members to the vision of the UICEE, the Director's last European visit during this tour was to the Technische Fachhochschule Wildau – University of Applied Sciences (THFW), Wildau, Germany, on the invitation of the University Vice-President, Prof. Asta Richter.

The UICEE Director was asked to deliver a talk on the role and activities of the UICEE at a special seminar organised for University staff and students, and entertained numerous questions on engineering education and the global network of the UICEE. The seminar was very well attended, the audience including the University President, Prof. László Ungvári.

After the seminar, the Director was offered a brief tour of the University and met with the University President in his office to discuss the possibility of the THFW becoming an institutional member of the UICEE. The discourse also included a wide range of potential projects and joint activities within the *German Network of Engineering Education*, as well as the UICEE itself. The UICEE Director also invited Prof. Richter and Prof. Ungvári to visit the UICEE in Melbourne, Australia.

The evening's activities included an invitation from Prof. Richter to the official opening of an art exhibition in Berlin, which attracted 100s of Berliners from all walks of life, where the UICEE Director had the pleasure to meet with the exhibition's organisers, including Prof. Ernst Sigmund, President of the Brandenburg Technical University of Cottbus, Cottbus, Germany, and Prof. Gerhard Lappus, of the same institution. The UICEE Director received an invitation to visit Cottbus in the near future in order to present the UICEE, its network and achievements.

## Seminar in Lithuania

The 8<sup>th</sup> Baltic Region Seminar on Engineering Education, to be held in Kaunas, Lithuania, between 2 and 4 September 2004, is progressing very well, with over 50 papers already proposed. Kaunas University

of Technology (KUT), a Contributing Member of the UICEE, is the Seminar host and co-organiser of the Seminar venue.

Kaunas offers a beautiful venue that is rich academically, being host to five universities, and rich culturally, with a multitude of galleries and museums. Further, the KUT combines classical traditions with new research and study areas. These reasons make Kaunas an excellent Seminar venue.

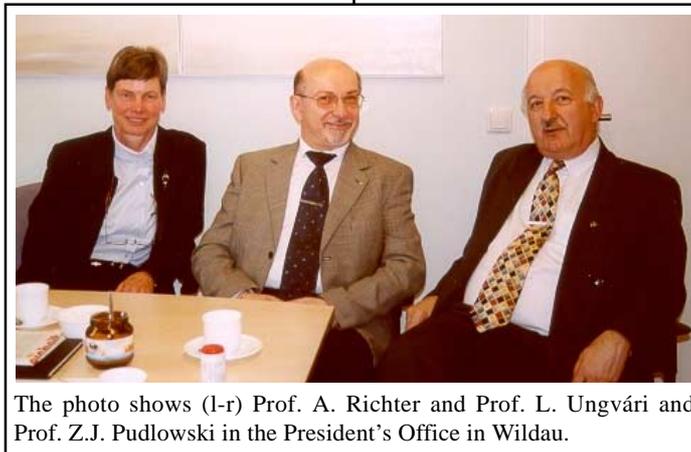
Members and Newsletter readers are advised that some late paper proposals can still be accepted for this Seminar.

## Jamaican Conference

Preparations are well underway for the 8<sup>th</sup> UICEE Annual Conference on Engineering Education, set to be staged in Kingston, Jamaica, from 7 to 11 February 2005, under the theme of *Bringing Engineering Educators Together*. The University of Technology, Jamaica (UTech), a Partner institution of the UICEE in Kingston, is the principal co-sponsor and co-organiser of the Conference. The UTech is also home to the *Centre for Engineering*

*Education in Central America and the Caribbean* (EECAC), a satellite centre of the UICEE.

Excellent arrangements have been made with the Conference venue to facilitate attendance of Conference delegates and their spouses at absolutely competitive prices. Members and readers of the Newsletter are encouraged to submit a paper proposal at their earliest convenience.



The photo shows (l-r) Prof. A. Richter and Prof. L. Ungvári and Prof. Z.J. Pudlowski in the President's Office in Wildau.

## 2<sup>nd</sup> Mediterranean Seminar

The UICEE is pleased to inform UICEE members and Newsletter readers that the *Mediterranean Seminars on Engineering Education* have been revived, the first being held in Pavia, Italy, in September 1997. The Mediterranean region, and southern Europe in particular, is developing rapidly, with significant expansions of its academic base. This requires the development of a discussion forum for engineering and technology education.

Hence, the 2<sup>nd</sup> Mediterranean Seminar will be co-sponsored by the UICEE and the University of Science and Technology Houari Boumediene, (USTHB), Algiers, Algeria, and be organised by the *North Africa Centre for Engineering and Technology Education* (NACETE), a satellite centre of the UICEE at the USTHB, between 29 and 31 May 2005 in Algiers, Algeria. We are indeed very fortunate to have an extremely active member of the UICEE, Prof. Khedidja Allia of the USTHB and Director of the NACETE, who will champion the Seminar.

It is envisaged that these Seminars will circulate around the Mediterranean basin. The Call for Papers can be found at the UICEE Web site under *Conferences and Meetings*.