



# UNESCO International Centre for Engineering Education



## Newsletter

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### From the Director

The 13<sup>th</sup> year of the dynamic operation of the UICEE is gradually coming to an end. During the year, we have experienced several ups and downs, both on professional and personal levels. Hence, this moment of a year always tends to evoke some reflections on the past time.

One of the most significant setbacks of the year was the sudden resignation of Prof. Em. Peter LePoer Darvall, the former Vice-Chancellor of Monash University, a co-founder of the UICEE and its strong advocate, from the position of Chairman of the UICEE Academic Advisory Committee (UICEE-AAC). Although less active in this position in recent times, he has always been a pillar of the UICEE, eager to provide guidance and support. As a consequence, the position of Chairman of the UICEE-AAC was taken over by Prof. Em. Colin U. Chisholm of Glasgow Caledonian University, Glasgow, Scotland, UK.

The process of scaling down the professional activities by Prof. P. Darvall also resulted in his resignation from the position of Chairman of the International Liaison Group for Engineering Education (ILG-EE). However, the good news is that the Office of the ILG-EE will still remain at Monash University (UICEE), with the recent election of the UICEE Director as the new Chairman of the ILG-EE and Ms Dianne Q. Nguyen of the UICEE as its Treasurer. In order to revitalise itself and give itself a new impetus, the new ILG-EE Executive decided to carry out a membership drive to attract new academics to its cause and boost its activities.

On the UICEE membership front, our situation is reasonably stable, with only minor

changes, and the admission of several outstanding academic institutions to the UICEE Partnership division. Later in the year, we decided to establish a new membership grade (Honorary Member) in order to recognise the special role of those individuals who have helped the UICEE to achieve its present global status, as well as their considerable individual accomplishments in engineering education. Five outstanding engineering educators have been invited to this division, namely: Prof. Em. P. LeP. Darvall, Prof. Em.

C.U. Chisholm, Dr R.C. Jones, Prof. Em. T.W. Cole and Prof. H.P. Jensen. On behalf of the entire UICEE Global Family of Engineering Educators and, indeed, myself, I wish to thank these colleagues from the bottom of my heart for their continued support and wish them good health, success and longevity.

### 10<sup>th</sup> Baltic Seminar



The photo shows (l-r): Prof. J. Perenc, Prof. Z.J. Pudlowski and Prof. B. Kryk at the Opening Ceremony of the 10<sup>th</sup> Baltic Seminar.

The 10<sup>th</sup> Baltic Region Seminar on Engineering Education was held in the Faculty of Economic Sciences and Management at the University of Szczecin in the energetic seaport city of Szczecin, Poland, between 4 and 6 September 2006. Particular emphasis was placed on education and training for engineering entrepreneurship, which is a vital ingredient of any professional engineering activity. It should be pointed out that the Seminar was organised jointly with the 2<sup>nd</sup> Baltic Business Development Conference. It attracted about 50 participants from 18 countries worldwide and over 40 papers were presented at this successful event.

The Seminar was opened by Prof. Józef Perenc, Vice-Rector of the University. Prof. Barbara Kryk, a Vice-Dean of the Faculty of Economic Sciences and Management at the University, welcomed the participants on



#### UICEE Partners



behalf of the Faculty and the organising team. The picture on the first page shows (l-r) Prof. J. Perenc, Prof. Z.J. Pudlowski and Prof. B. Kryk at the Opening Ceremony.

The UICEE, as well as Seminar participants and guests, are grateful to the University for its logistic and organisational support provided, without which this event would have not been possible. Special gratitude is directed to Dr Jacek Batóg and his highly efficient team for their valuable support and help provided to the Seminar's organisation.

The Seminar was skilfully organised by members and associates of the UICEE. The team included Mrs Elena A. Danilova, representing the UICEE, Mrs Rodica Ciudin of *Lucian Blaga* University of Sibiu, Sibiu, Romania, and Ms Karolina Owczynik of Corvinus University of Budapest, Budapest, Hungary. The picture shows the enthusiastic organisational team in action staffing the registration desk.

It should be mentioned that the Seminar had a rich social programme, which included a visit to the medieval town of Kamień Pomorski, where participants were treated with a wonderful organ concert in the local cathedral. The organs in the cathedral are among the three best such instruments in Europe. The second picture shows happy participants at the Seminar's Cocktail Party (l-r): Prof. Derek O. Northwood, Prof. George F. Page, Mr David M. Holifield and Prof. Dieter Schott.

On the occasion of the Seminar Gala Banquet of the *10<sup>th</sup> Baltic Region Seminar on Engineering Education*, held on Tuesday, 5 September, the UICEE Director was proud to present two Silver UICEE Badges of Honour for ...*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.* Prof. Andrew F. Nafalski from the University of South Australia, Adelaide, Australia, and Prof. George F. Page of Hochschule Wismar (HSW) – University of Technology, Business & Design, Wismar, Germany, were each accorded the



The photo shows the dynamic team at the registration desk of the 10<sup>th</sup> Baltic Seminar (l-r): Mrs R. Ciudin, Mrs E.A. Danilova and Ms K. Owczynik.

Silver Badge of Honour. The photo on the next page shows the two proud awardees, Prof. A.F. Nafalski (l) and Prof. G.F. Page (r), flanking the UICEE Director.

A volume of Seminar Proceedings has been published featuring almost all of the papers presented at the Seminar, representing 18 countries worldwide. More details can be found on the UICEE Web site.

## Best Paper Awards

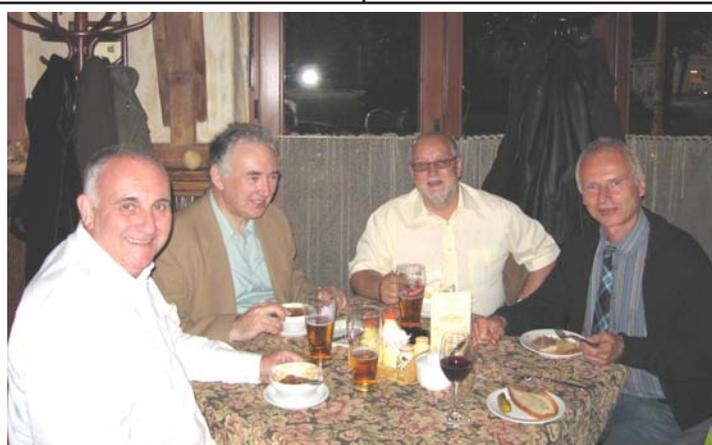
As with previous UICEE-run conferences, participants at the *10<sup>th</sup> Baltic Region Seminar on Engineering Education* had the opportunity to cast their personal votes regarding those papers presented at the Seminar that they considered to be the most outstanding.

Three best paper awards were announced during the Seminar's Closing Ceremony. As all three received the same number of votes, the Award Committee decided to bestow upon them the UICEE Gold (Third Place) Best Paper Award. In no particular order, the first award was conferred on Prof. H.P. Sjursen for his lead paper called *The new alliance between engineering and humanities educators*. The next award went to Prof. P. Junglas for his lead paper entitled *Teaching thermodynamics using simulations*. Prof. G.F. Page also received the award for his lead paper called *Turning a diffident student, new to practical work, into a competent experimentalist*.

It is envisaged that expanded and revised versions of these very interesting award papers will be included in a forthcoming issue of the UICEE's *Global Journal of Engineering Education*. Staff, students and associates congratulate these awardees for their sterling efforts and noteworthy contributions.

## ILG-EE Update

In order to revitalise itself and gain new momentum, the International Liaison Group for Engineering Education (ILG-EE), which has its office at the UICEE, has



The photo shows jovial participants at the 10<sup>th</sup> Baltic Seminar's Cocktail Party (l-r): Prof. D.O. Northwood, Prof. G.F. Page, Mr D.M. Holifield and Prof. D. Schott.

commenced a worldwide membership drive targeting particularly the younger generation of professors who are especially active in the research and development of engineering and technology education, and have demonstrated considerable activities in publishing research articles and conference papers.

It has to be pointed out that the ILG-EE is a friendly society of those engineering and technology educators who have shown a particular level of accomplishment, and hence membership is by invitation only.

So far, over 30 new members have been invited and admitted to this renown international grouping. We have to emphasise that the ILG-EE, which was established in 1989, has carried out a range of activities and has been co-sponsoring UICEE conferences and other ventures for the last 10 or so years.

One of the recent actions by the ILG-EE is that it will sponsor one registration fee for a UICEE conference supported by the ILG-EE (excluding accommodation costs) for the best UICEE paper award. The value of this award is about A\$900. This free registration is not transferable and can be claimed by the author within two years.

Those UICEE members who would like to contribute to the life and activities of the ILG-EE should contact the UICEE Director, who is also currently the ILG-EE Chairman.

ILG-EE members are cordially invited to attend the 19<sup>th</sup> General Meeting of the ILG-EE, which will be held on Sunday, 17 June 2007 at 17.00, at Tallinn University of Technology (TUT), Tallinn, Estonia. The meeting is arranged in conjunction with the 11<sup>th</sup> Baltic Region Seminar on Engineering Education, which will be held at the TUT between 18 and 20 June 2007. The notice of this Meeting can be found on the UICEE Web site under *ILG-EE*.

## New Partners

The UICEE is delighted to announce that two outstanding universities have recently joined the UICEE as Partner institutions.

The first is the AGH University of Science and Technology, based in historic Kraków, Poland. This University has a long history of excellence in teaching, research and community work, and has been regarded as one of the two most prestigious



The photo shows Prof. A.F. Nafalski (l) and Prof. G.F. Page (r) proudly displaying their Badge of Honour awards at the Baltic Seminar, along with the UICEE Director (c).

science and technology institutions in Poland. An Agreement on Partnership was signed on 19 September 2006, in the office of the University Rector, Prof. Antoni Tajduś, in the presence of a University Vice-Rector, Prof. Jerzy Lis, and Prof. Stanisław Mitkowski, a long-standing member, associate and friend of the UICEE. The first *Global Congress on Engineering Education*, organised by the UICEE, was held at this University in 1998.

The picture shows representatives of the two parties cementing the agreement with a joined handshake: (l-r) Prof. J. Lis, the UICEE Director, Prof. A. Tajduś and Prof. S. Mitkowski.

The second University that decided to join the UICEE as a Partner institution is Vilnius Gediminas Technical University (VGTU) in Vilnius, Lithuania. The partnership will officially commence

on 1 January 2007. It is envisaged that the Partnership Communiqué will be officially signed at the Gala Banquet of the 10<sup>th</sup> UICEE Annual Conference on Engineering Education, to be staged in Shanghai, China, in March 2007.

The VGTU, under the Rectorship of Prof. Romualdas Ginevičius, is the prime academic institution in the country and has been a member of the UICEE since 1997, gradually lifting its status over the years. In 1997, the VGTU provided the venue and organisational support for the 1<sup>st</sup> Baltic Region Seminar on Engineering Education.

## 4<sup>th</sup> Balkan Conference

The 4<sup>th</sup> Balkan Region Conference on Engineering Education, under the theme *Bridging Cultures and Technologies in the 21<sup>st</sup> Century*, is to be held in picturesque and enchanting Sibiu, Romania, between 9 and 15 September 2007. The host of this event is *Lucian Blaga* University of Sibiu (LBUS), a Partner member of the UICEE. Of note is the fact that Sibiu will be the *European Capital of Culture in 2007* (together with Luxembourg).

The two General Chairmen of this Conference are the UICEE Director, Prof. Zenon J. Pudlowski, and Prof. Constantin Oprean,



The photo shows (l-r) Prof. J. Lis, the UICEE Director, Prof. A. Tajduś and Prof. S. Mitkowski.

Rector of the LBUS and Director of the *Balkan Region Centre for Engineering Education* (BRCEE), a satellite centre of the UICEE based at the LBUS. It is anticipated that this Conference will further enhance the UICEE links and networks, especially in the Balkan Region, and will set the stage for more innovative and collaborative ventures.

## Brief Visit to the SUT

On Monday, 21 August, the UICEE Director paid a brief visit to the Silesian University of Technology (SUT) in Gliwice, Poland, Katowice campus, where he had discussions with Prof. Sylvester Marcusik, Vice-Dean of the Faculty of Transportation at the SUT.

The topics discussed covered future projects in engineering education and the involvement of SUT academics in UICEE-run conferences. Later on the day, the Director met the former Rector, Prof. Bolesław Pochopień, and his wife, Dr Ewa Pochopień, and they discussed several issues of mutual interest, including the future activities of the UICEE Polish Network (UICEE-PN), of which Prof. Pochopień is a Co-Chair. The picture shows Prof. B. Pochopień and Dr E. Pochopień in a friendly atmosphere.

## Meeting in Hungary

While in Hungary, the UICEE Director visited a very famous Hungarian resort and town, Balatonfüred, where he explored the possibility of staging a future UICEE conference there in collaboration with Pannon University based in Veszprém, Hungary, which has been a longstanding Contributing member of the UICEE.

A meeting with Prof. Akos Redey, a Vice-Rector of the University and the joint visit to Hotel Marina provided the opportunity for the parties to discuss current issues of interest, possible collaborative future ventures, as well as the staging of a future conference.

We wish to mention with pleasure that Prof. Redey recently received a major grant support by the European Union (EU) for research into engineering education and is contemplating of staging a Centre dedicated to this research, which would have a formal relationship with the UICEE. We look forward to this new and exciting stage of our collaboration.

## 2<sup>nd</sup> North African Seminar

The 2<sup>nd</sup> North African Region Seminar on Engineering and Technology Education will be held at the University Mohamed Boudiaf in M'Sila, Algeria,

from 2-4 June 2007. This is being organised by the North Africa Centre for Engineering & Technology Education (NACETE), a UICEE satellite centre based at the University of Science and Technology Houari Boumediene (USTHB), a Partner institution of the UICEE in Algiers, Algeria.

The Seminar's main objective is to bring together educators from the North African Region to continue discussions on important and common issues on engineering and technology education. The Seminar will seek to facilitate collaboration among educators of North African universities.

This is just one example of how the UICEE realises its special mission to enhance the transfer of information, expertise and research findings to developing countries, mainly in the domain of engineering education.

A call for papers has just been made and can be found on the UICEE Web site under *Conferences and Meetings*.

## 11<sup>th</sup> Baltic Seminar



The photo shows Dr E. Pochopień and Prof. B. Pochopień.

We are delighted to announce that the 11<sup>th</sup> Baltic Region Seminar on Engineering Education will be held at Tallinn University of Technology (TUT) in Tallinn, Estonia, between 18 and 20 June 2007, with the TUT being the host, principal co-sponsor and co-organiser. On this occasion, it has been suggested that Seminar theme is the *Attractiveness of Engineering Education*. In selecting this theme, we hope that several issues related to the recruitment

of students into engineering and technology education courses will be aired and discussed as a matter of priority at the Seminar. It is also hoped that the Seminar will repeat the structure and organisational method used at the last Seminar in Szczecin, Poland, so that the 3<sup>rd</sup> Baltic Business and Development Conference will coincide and be run in tandem with the Seminar.

UICEE readers are cordially welcome to look at the Seminar announcement on the UICEE homepage under *Conferences and Meetings*. We are particularly anxious to visit Tallinn, which is famous for its beauty, historical infrastructure and hospitality of its population.

## 10<sup>th</sup> UICEE Conference

Preparations are well underway for the 10<sup>th</sup> UICEE Annual Conference on Engineering Education, planned to take place at the East China University of Science & Technology (ECUST) in Shanghai, People's Republic of China, from 19-23 March 2007.

The Conference theme of this gala event at this exciting

location is *Reinforcing Partnerships in Engineering Education*, which was chosen to facilitate personal interaction between academics representing different cultures, who are involved in engineering education. To identify and present best collaborative programmes and projects, as well as examples relevant to the main theme, address issues of concern, and to discuss the status and quality of global engineering education, are also important objectives of the Conference.

Abstracts are rapidly coming in from around the world, with the Call for Papers on the UICEE Web site at: <http://www.eng.monash.edu.au/uicee/meetings/10thUICEE.html>

## GJEE Update

Vol.10, No.2 of the *Global Journal of Engineering Education* (GJEE) features assorted revised and expanded award papers presented at UICEE conferences in 2006. Also included in this Issue are two invited contributions; firstly, an article by Prof. Shan-Tung Tu, a Vice-Rector of East China University of Science & Technology, Shanghai, People's Republic of China, a Partner institution of the UICEE, titled *Total Engineering Education: the Way to Shape our Future Leadership*, which gives a comprehensive overview of the so-called *Total Engineering Education* (TEE), a new concept devised to enhance engineering and technology education in China. The second invited article, entitled *The Internationalisation of Higher Education: a Challenge for Universities*, is by a former Vice-Rector and now Dean of the Faculty of Mechanical Engineering at Vilnius Gediminas Technical University, Prof. Algirdas V. Valiulis, and his co-author Mr Donatas Valiulis. Several issues of importance to academic institutions in Europe, and in Lithuania in particular, in relation to the sweeping changes to higher education going on in the European Union (EU), are raised and discussed in this article.

It should be noted that the GJEE is the world's only journal dedicated to engineering education available on the Internet free of charge, along with the *World Transactions on Engineering and Technology Education* (WTE&TE), which is also published by the UICEE. Both journals can be accessed via the UICEE Web site.

## World Transactions

A Special Edition of the *World Transactions on Engineering and Technology Education* (WTE&TE), Vol.5, No.2, is now in circulation and presents 27 internationally peer-refereed articles that span a wide range of concepts and activities from the *Conceive – Design – Implement – Operate* (CDIO) Initiative. This Initiative is international in its scope and is an important component for the future of engineering and technology education. This Initiative, based at Massachusetts Institute of Technology (MIT), Boston, USA, sought to publish a selection of articles concerning the current status, activities and achievements of institutions and individuals who are involved in this Initiative.

The CDIO Initiative is one of the most prominent activities to modernise and advance engineering and technology education. With the major changes in higher education coming from enormous technological advancements and the process of globalisation, the CDIO Initiative, through its Syllabus and the CDIO Standards, goes to the very core of engineering and technology education by offering a holistic approach to the design of a modern curriculum in engineering and technology education, including all the stakeholders involved. Moreover, the CDIO Initiative may have a tremendous impact on the global process of the accreditation of engineering and technology programmes.

Vol.5, No.3 is a standard issue featuring papers from academics around the world. The entire Volume 5 (2006) has shaped up to be the largest Volume yet of the WTE&TE, demonstrating its continued and successful growth in the publication of internationally peer-refereed academic papers from all around the world. This Volume includes two regular issues (No.1 & No.3) and one Special Edition (No.2). Altogether, there are 101 articles included in this Volume, published by authors representing 27 countries in almost every corner of the world.

It should be pointed out that this Volume represents the five-year milestone of the dynamic publishing activities of the WTE&TE. This Journal has become really and truly an international Journal open to a wide community of global engineering and technology educators. Over the last five years, the WTE&TE has published 12 separate issues, consisting of 366 articles authored and co-authored by representatives from 47 countries worldwide.

UICEE members should be aware of the deadline of 31 March 2007 for the next issue of the WTE&TE, Vol.6, No.1, and are encouraged to take up this opportunity and publish their original material in the *World Transactions*. Notably, this growing journal has already received papers for the first 2007 issue. The electronic kit for authors will be sent on request from Mr Marc J. Riemer of the UICEE on: [uicee@eng.monash.edu.au](mailto:uicee@eng.monash.edu.au). Further details can be found at the UICEE Web site under *World Transactions on Engineering and Technology Education*.

Readers should also note that the first two volumes of the WTE&TE are now available for free access on the UICEE Web site, with the third Volume to go up in early 2007. This augments the UICEE's dissemination of refereed published information on engineering and technology education and enhances the availability of such education materials for every educator and student, as well as other interested parties, around the world.

## News from Wismar

A two-day Round Table Workshop was held between 7 and 8 September at the UICEE European Headquarters (UICEE-EHQ) in Wismar, Germany, immediately after the 10<sup>th</sup> *Baltic Region Seminar on Engineering Education* held in Poland. The Workshop was mostly attended by representatives of several Partner institutions of the UICEE, some of whom presented ideas for new

collaborative projects. It has been decided that potential project leaders create draft proposals for their projects by the end of November when they will be circulated to the UICEE Partners involved to elicit potential collaborators.

Our readers should be advised that, due to unnecessary confusion as to the position of the UICEE and where the hub was, we have made the decision to terminate the UICEE-EHQ at Hochschule Wismar (HSW), Wismar, Germany, effective 28 February 2007.

We wish to offer our sincere gratitude to Prof. Norbert Grünwald, Rector of HSW, and Mrs Regina Krause, UICEE-EHQ Coordinator, for their work to date and their cooperation, and look forward to our continued relationship and collaboration for the benefit of the *UICEE Global Network of Engineering Education*.

Any outstanding business and any future collaborative matters related to the European scene, including proposals for potential projects mentioned above, should be referred to the UICEE Director.

## German Visitor

On 2 November 2006, the UICEE welcomed Dr Hans Plagemann of Hochschule Wismar (HSW) – University of Technology, Business & Design in Wismar, Germany, a special advisor to the Rector of the University. The HSW is a longstanding and active Partner member of the UICEE.

Opportunities for future collaboration were discussed, as well as issues to be aired in upcoming UICEE conferences. High on the agenda was a special project undertaken by the HSW concerning the design and development of inexpensive houses particularly suited for developing countries. The objective of this initiative is to assist underprivileged countries in the process of the eradication of slums.

## RAEE-UICEE Project

On the occasion of the *Round Table Workshop* held in Wismar, Prof. Alexander I. Chuchalin, first Vice-Rector of Tomsk Polytechnic University (TPU), Tomsk, Russia, a Partner institution of the UICEE, presented a concept of a joint project to be undertaken by the Russian Association for Engineering Education (RAEE) and the UICEE, titled *The RAEE-UICEE International Ranking of Engineering and Technology Education Institutions*.

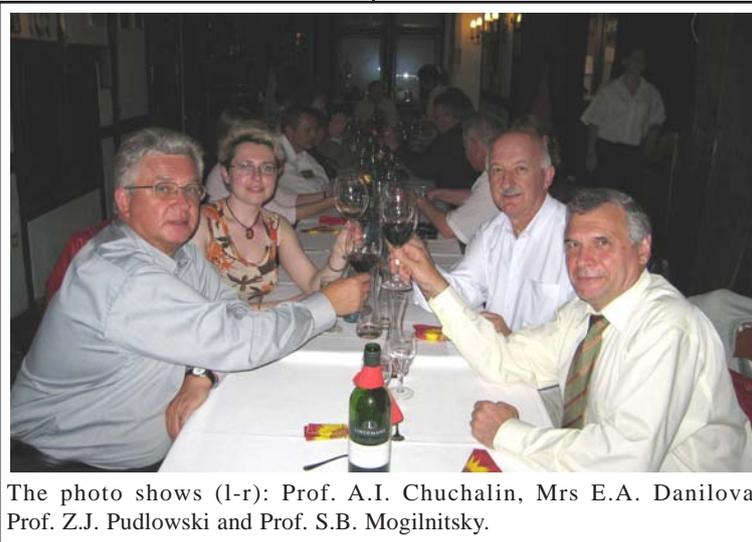
It was decided that the project would be based at the TPU, which is also the home of the headquarters of the RAEE,

with Prof. Yuri P. Pokholkov, Rector of the University, as the President of the Association. The intellectual input to the project will be based on earlier expertise and research carried out by several members of the RAEE, with the UICEE providing efficient access to the UICEE member institutions, and being a collaborator and international promoter of this project.

One outstanding and very important issue is the funding of this project. This and other issues will be aired, discussed and resolved at the forthcoming UICEE Annual Conference on Engineering Education, to be held in Shanghai, China. It is envisaged that the TPU will provide a discussion paper to introduce a separate session at the Conference.

The photo shows: (seated front l-r) Prof. Alexander I. Chuchalin and Prof. Sergey B. Mogilnitsky of the TPU, with Mrs Elena A. Danilova and Prof. Zenon J. Pudlowski, both of the UICEE, raising a toast to the success of the RAEE-UICEE project.

## Russian Seminar



The photo shows (l-r): Prof. A.I. Chuchalin, Mrs E.A. Danilova, Prof. Z.J. Pudlowski and Prof. S.B. Mogilnitsky.

Next year, Taganrog State University of Radio Engineering (TSURE), Taganrog, Russia, a longstanding Contributing member of the UICEE, will be celebrating the 55<sup>th</sup> anniversary of its establishment. On this occasion, the TSURE and the UICEE decided to join forces and organise the 5<sup>th</sup> *Russian Seminar on Engineering Education*, with the TSURE

being the host institution. This Seminar will be held in Taganrog from 24-26 September 2007 under the theme *Innovations in Engineering and Natural Sciences Education*. It is envisaged that the format of the Seminar will be a Round Table Meeting consisting of 30 senior Russian academics and 30 international guests, predominantly members of the UICEE Global Network.

The Seminar Announcement, including a Call for Participation, will soon be available on the UICEE Web site under *Conferences and Meetings*. Also, an invitation letter to selected members of the UICEE network will be sent from the UICEE Director in due course.

It should be noted that Peter the Great founded the city in 1698 as a fortress on the Sea of Azov, near the mouth of the River Don. The distinguishing features of the city are its numerous museums, historical monuments, parks, gardens and beaches. Closeness to the sea, fresh air and a lot of sunshine provide excellent conditions for life, work and recreation. Taganrog is only about 60 km from Rostov-on-Don, which has direct connection with Frankfurt via Lufthansa.