

38th INTERNATIONAL UNIVERSITIES POWER ENGINEERING CONFERENCE (UPEC 2003)[#]

1-3 September 2003, Aristotle University, Thessaloniki, Greece

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The 38th International Universities Power Engineering Conference (UPEC 2003) was held 1-3 September 2003 at Aristotle University, Thessaloniki, Greece. It was of similar standing to previous conferences by the quality of the presentations, the technical content of the papers, the number of delegates attending and the number of countries represented. As in the past, it had a broad theme, covering all aspects of electrical power engineering, and was attended by academics, research workers, and members of the power service and manufacturing organizations. During the sessions, 185 papers from 32 countries were debated. A plenary session, 26 technical sessions, and a closing session were held, where all technical papers were presented orally in four groups of parallel sessions. The high standard of the papers, presentations, and technical discussions was particularly gratifying.

Held annually, UPEC provides a forum for the exchange of ideas among practicing engineers from the universities, consultants, and in the manufacturing and supply industries. The first full conference was held at the University of Glasgow, UK, in 1967, following an inaugural meeting in Newcastle. Last year (2002) the conference was held at Staffordshire University, UK. The thirty-ninth conference (2004) is to be hosted by the University of West England, Bristol, UK; and the 40th Conference (2005) will be held at the University of Cork, Ireland. Future venues under consideration by the International Steering Committee include University of Northumbria, UK (2006); and Universities in Germany, Portugal and Spain. The working language at all meetings is English.

This year the technical sponsors included IEEE PES Greek and UKRI Sections; CIGRE; IEE; the Technical Chamber of Greece (TCG); and industrial and public institution sponsors included the Ministry of Macedonia—Thrace, Technical Chamber of Greece (TCG), Public Power Corporation SA (PPC), Greece, Centre for Renewable Energy Sources, Greece, and Aristotle University of Thessaloniki, Greece.

The conference was hosted by the High Voltage Laboratory of the Department of Energy of the Faculty of Electrical and Computer Engineering at Aristotle University of Thessaloniki, Greece. It provided engineers and academia with the opportunity to explore recent developments, current practices and future trends in power engineering. Young engineers and research students were particularly invited to contribute. It was residential lasting 3 full days with both en-suite and standard accommodation provided at local hotels close to the Campus.

1. OPENING SESSION

Professor Costis A. Stassinopoulos, Chairman of the Organizing Committee, welcomed delegates and accompanying persons to the conference, Thessaloniki, and Greece. He outlined the aims of the conference, summarized the detailed organization of the meeting, and reviewed the

[#] This conference review article was prepared by T. J. Hammons, Chair of IEEE International Practices for Energy Development and Power Generation; and Past Chair of IEEE UKRI Section, University of Glasgow, United Kingdom.

program. He said that almost 300 abstracts were received from all five continents and 185 papers would be presented orally in four parallel groups of sessions. The full conference papers were published in the two volumes of the Conference Proceedings hard copy and on CD-ROM.

He said the International Universities Power Engineering Conference or UPEC as it is more commonly known, with a history of 38 years, has provided and still provides engineers and Academia with an opportunity to find and explore the newest trends in the development of Power Engineering and scientific methodology that is connected with it.

After a review carried out by the International Steering Committee and the local organizing Committee, papers reflecting the effort and knowledge of engineers and allied scientists from 32 countries have been published in the Proceedings. All these papers after being judged for their affinity to the subject of the conference in abstract form were then reviewed in full form by a committee of competent scientists. Further, all the papers would be presented by their authors and discussed in the oral sessions.

He then said that as is the custom of all the UPECs, besides being a scientific event helping engineers and allied scientists to get acquainted with state of the art in Power Engineering, UPEC has also a considerable social dimension not only in allowing personal contact and discussions with colleagues from various countries but also in helping them to know things about the country that hosts the conference. For this reason the following social events had been organized.

Two receptions will take place and there would be a guided tour of the city of Thessaloniki, with a 2300 year long history and a very rich collection of monuments for a very big array of cultures like Late Classical, Hellenistic, Roman, Byzantine, Post-Byzantine, Islamic and Modern. Also, for those interested and after the end of the conference, there would be an all-day excursion to the Meteora Monasteries.

Professor Stassinopoulos then thanked the institutions and the companies supporting the conference. The contributions of members of the International Steering Committee and the Local Organizing Committee, the reviewers, and the session chairpersons were highly appreciated. He thanked the Rector and Council of the University, the Dean and Council of the School of Engineering, the President and General Assembly of the Faculty of Electrical and Computer Engineering, the Director and General Assembly of the Department of Electrical Energy, the President and Governing Committee of the 'Technical Chamber of Greece' the Public Power Corporation S. A., CRES, the IEEE, CIGRE, and IEE for their support in bringing the Conference to fruition.

He also expressed personal thanks to members of the Local Organizing Committee, the staff of the Syntonos agency and especially to Assistant Professor P. N. Mikropoulos and Staff of the High Voltage Laboratory without whose selfless dedication the conference would not have been able to take place.

Professor Ch. Kaltsikis, Vice-Rector of the University, then addressed the Conference. He said the 38th International Universities Power Engineering Conference concerns Electrical Engineers that work on Energy subjects. It was a pleasure and an honour for him to welcome delegates to the 38th conference (UPEC 2003) here in Thessaloniki, the capital of Macedonia. There were present a good number of scientists from many countries and this in a way reflects development of this particular branch of science and technology in Greece. It is a fantastic achievement to have 185 papers from 32 countries in the Conference Proceedings and he congratulated the 200 or so delegates who have contributed to make today happen.

He wished all the participants a pleasant and fruitful stay in Thessaloniki and hoped that besides the conference they would find time to visit the many tourist attractions of the city and the region. On behalf of the University of Thessaloniki, he wished all a successful conference and an enjoyable stay in Greece and it gave him great pleasure to declare the conference open.

2. TECHNICAL PAPER SESSIONS

Topics debated in the four parallel groups of technical paper sessions on the first day included: power system operation and control, power system simulation and analysis, power electronics, power generation, and electrical machines and drives.

On the second day, there were further parallel groups of sessions on power system operation and control, together with sessions on transmission and distribution systems, power engineering education, high voltage engineering, power transformers, and high voltage engineering and lightning protection.

Topics debated in parallel groups of technical paper sessions on the third day included: power system protection, power system harmonics, and renewable energy systems.

3. OTHER CONFERENCE HIGHLIGHTS

Highlights of the conference included:

- Welcome Buffet Refreshments at the Main University Campus on the Sunday before the Conference.
- The Conference Reception on the Monday evening which consisted of a drinks reception and finger buffet, at 'Villa Bianca' that was gracefully provided by the Municipality of Thessaloniki. Coaches took participants and guests to the Reception.
- Conference Banquet on the Tuesday evening at the gardens of the Prefecture of Thessaloniki where attendees were taken in coaches.
- All-day Post Conference Tour on the Thursday to Cliff-top Monasteries of Meteora, near Kalambaka, Greece, by coach.

4. CULTURAL VISIT

Also arranged was a guided tour of Thessaloniki on the afternoon of the second day of the conference where delegates and their companions inspected a very rich collection of monuments that form a very large array of cultures like Late Classical, Hellenistic, Roman, Byzantine, Post –Byzantine, Islamic and Modern in the 2300 year old city. Of particular interest were the Byzantine walls of the city, the church of Agia Tride, and the Arch of Galerius, built before AD 305 in commemoration of Garius' victory over the Persians in AD 297.

5. TOUR TO METEORA

This was an all-day excursion to the Meteora complex of Monasteries midway between Thessaloniki and Athens. Here, following a short stop in Kalambaka, the guide commented on the topography of the rock, which rises 613 metres above sea level, and history of the monasteries that date back from the 14th century. Then, the monasteries, churches, the sacristies, libraries, views from the terraces of Meteora, and the balconies of St. Stephen's and the Great Meteora were seen.

The guide discussed organization of Monasticism at Meteora, highlighting the aim of the monks, the penitence of the monks, the prayers of the monks, and visitors of the monks. The Monastery of the Transfiguration—the Great Meteora was then explained and seen—history, the Katholikon, the Murals, and the Refectory and Museum. Then, the Monastery of All Saints—Varlaam, Rousanou Monastery, Holy Trinity Monastery, the Monastery of St. Stephen, and the Monastery of St. Nicholas Anapafsas were briefly seen. The uninhabited and ruined Monasteries of Meteora were also discussed.

There was a stop for refreshments on the way out, and a very pleasant stop for Dinner was made on the way back. The strangeness and grandeur of the complex will be in the minds of participants for long in the future.

6. CONFERENCE PROCEEDINGS

All technical papers were incorporated in the UPEC 2003 Proceedings in Hard Copy and CD-ROM that was distributed to delegates at the conference. UPEC 2003 Proceedings may be purchased (Hard Copy and CD-ROM) for 150 Euro (plus postage), until supplies are exhausted, from Professor C. A. Stassinopoulos, UPEC 2003 Conference Chairman, High Voltage Laboratory, School of Engineering, Aristotle University of Thessaloniki, Thessaloniki GR-54124, Greece, E-mail: cas@eng.auth.gr, or cas@auth.gr Tel/Fax: +30 2310 996313

7. AWARDS

The main conference award 'for Services in Electrical Power Engineering' was awarded posthumously to the late Professor Basil Papadias, National Technical University of Athens, Greece. Professor Basil Papadias, a much-respected figure, has been a Professor of Power Systems at the National Technical University of Athens for over 30 years and has contributed greatly in the development of Power Engineering in Greece. Mrs. Papadias, accepting the prize in the name of her late husband, instituted an ad hoc prize for this year and for the best presentation by a Greek Author below 30.

Prizes were awarded for the Best Technical Paper, for the Best Technical Presentation by a Young Engineer under 30 years of age, and for the recently-established Basil Papadias prize for the best presentation by a Greek author below 30.

The recipients of the Best Technical Paper Prize were: S. B. Graham, A. R. Wallace and G. Connor, (University of Edinburgh and Scottish Energy Environment Foundation, Scotland, UK), for their paper entitled: 'Geographical Information (GIS) Techniques Applied to Network Integration of Marine Energy'. The paper was presented in a Session on Renewable Energy Sources.

The recipient of the Best Technical Presentation by an author below 30: was G. Iordanidis (University of Bristol, U.K) for their paper entitled: 'Design and Fuzzy Control of a High Performing Electro-Mechanical Gearbox Actuator' by G. Iordanidis, P. Holiday, P. Mellor, and P. Chum. This paper was presented in a Session on Electrical Machines and Drives.

The Basil Papadias prize for the best presentation by a Greek author below 30: was G. P. Fotis (National Technical University of Athens, Greece) for their paper entitled: 'Selection of the Optimum Insulator Type for a New Overhead Transmission Line using the Method of Multi-criteria Decision Making', by G. P. Fortis, V. T. Kontargyri, I. F. Gonos, and I. A. Stathopulios. It was presented in a Session on High Voltage Engineering and Testing.

8. CONFERENCE WRAP-UP

Papers were well thought out and benefited from the 15 minutes allowed for presentation and discussion of each paper. The general level of the discussions was extraordinarily high and stimulating. Of particular note was the high standard of the presentations by the younger members of the profession. The pleasure the participants experienced in meeting colleagues with similar interests from so many countries should be particularly noted.

Gratitude is expressed to Professor C. A. Stassinopoulos, UPEC 2003 Conference Chairman, Members of UPEC Steering Committee, and colleagues at Aristotle University for the detailed organization of the meeting.

Unanimous thanks are due to Professor Costis Stassinopoulos for organizing a very successful Conference.

9. UPEC 2004

In closing the conference, Professor C. A. Stassinopoulos stated that the 39th International Universities Power Engineering Conference (UPEC 2004) will be organized by University of West of England (UWE), Bristol, UK, and will be hosted by the School of Electrical and Computer Engineering at the University's Main Campus, September 6~8, 2004. It will be co-sponsored by IEEE, IEE, and CIGRE. Its aim will again be to provide engineers and academia with the opportunity to explore recent developments, current practices and future trends in power engineering. Young engineers and research students are especially invited to contribute. The conference will have a broad theme covering all aspects of power engineering. The working language will be English. Accepted papers are to be presented in oral sessions.

For more information on UPEC 2004, contact Dr Hassan Nouri, School of Electrical and Computer Engineering, Faculty of Computing, Engineering, and Mathematical Sciences, University of the West of England (UWE), Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY, UK, Tel: +44 117 32 82631, Fax: +44 117 32 83800, E-mail: Hassan.Nouri@uwe.ac.uk

Abstracts are to be submitted by January 31, 2004; notification of acceptance of papers will be on March 15, 2004; and receipt of full papers will be required by May 20, 2004.

T. J. Hammons
September 30, 2003

39TH INTERNATIONAL UNIVERSITIES POWER ENGINEERING CONFERENCE (UPEC 2004)

UNIVERSITY OF THE WEST OF ENGLAND (UWE), BRISTOL, UK

SEPTEMBER 6-8, 2004

Call for Papers

Abstract Deadline: January 31st, 2004

The 39th International Universities Power Engineering Conference (UPEC 2004) will be organized by University of West England (UWE), Bristol, UK, and will be hosted by the School of Electrical and Computer Engineering at the University's Main Campus, September 6~8, 2004. It will be co-sponsored by IEEE PES, IEE, and CIGRE. Its aim will be to provide engineers and academia with the opportunity to explore recent developments, current practices and future trends in Modern Power Engineering. Young engineers and research students are especially invited to participate and contribute. The conference will again have a broad theme covering all aspects of power engineering. The working language will be English. Accepted papers will be presented in oral sessions.

UPEC 2004 seeks papers in all aspects of power engineering, including the following topics:

- 1) Transmission and Distribution Systems
- 2) Circuit Breakers
- 3) High Voltage Engineering
- 4) FACTS: Power Electronic Applications
- 5) ANN, Fuzzy, Genetic Algorithms and Expert System Applications
- 6) Electrical Machines and Drives
- 7) Renewable Energy Sources
- 8) Power Systems Protection and Control
- 9) Power Generation, Utilization, and Transformers
- 10) Power Systems Harmonics and Power Quality
- 11) Power Systems Operation, Reliability, Optimization and Stability
- 12) Power Systems Modeling and Analysis
- 13) Power Engineering Education
- 14) Power Systems Planning and Load Management

Prospective Authors are invited to submit brief abstracts not exceeding one side of A4 before January 31 2004. Each Abstract must include: Topic Number, Paper Title, Author(s), Affiliations and complete PO and E-mail Mailing Addresses. Please designate a principal author with E-mail Address for correspondence. The conference will referee each paper. It will be obligatory for each paper to be presented by one of the authors. Publication guidelines will be provided in due course through the Conference home page at <http://www.uwe.ac.uk/upec2004>.

For more information on UPEC 2004, contact: Dr Hassan Nouri, UPEC 2004 Conference Chairman and Organizer, E-mail: Hassan.Nouri@uwe.ac.uk or the conference office, E-mail CEMSResearch.Office@uwe.ac.uk

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The mailing address is: UPEC 2004, Dr Hassan Nouri, School of Electrical and Computer Engineering, Faculty of Computing, Engineering, and Mathematical Sciences, University of the West of England (UWE), Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY, UK, Tel: +44 117 32 82631, Fax: +44 117 32 83800, E-mail: Hassan.Nouri@uwe.ac.uk