



21st EUROPEAN SYMPOSIUM ON COMPUTER-AIDED PROCESS ENGINEERING

AN EVENT OF THE CAPE WORKING PARTY OF EFCE - EVENT NUMBER: 690

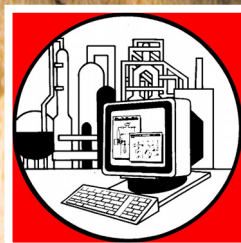
May 29 – June 1, 2011

Porto Carras Resort, N. Marmaras, Chalkidiki, Greece

Symposium Theme

***“Process Systems Approaches
for Addressing Grand Challenges in
Energy, Environment, Health,
Bioprocessing & Nanotechnologies”***

ESCAPE-21





Preface

The world is undergoing a global technology revolution that is integrating developments in **nanotechnology**, **materials technology**, **biotechnology**, and **information technology** at an accelerating pace. Future technological developments will continue to integrate innovations from multiple scientific disciplines in a “**convergence**” that will have profound effects on society.

The manufacturing and process industries are very diverse and cover a wide range of specific production systems ranging from extracting minerals to assembly of very complex products, with all intermediate processing steps in a long chain of industrial suppliers and customers. Extracting from this wide variety of businesses and processes, some general research priorities is far from easy. Despite the diversity of industrial production systems, the following research trends appear to be common to the majority of manufacturing and process industries.

- **New Business Models.** Confronted to the important changes in the human society (rise of emerging industrialized countries, demand for well designed and minimum cost products, demand for green products and processes, demand for social equity and time for leisure, etc.), the management of the whole industrial sector has to be renewed.
- **Adaptive Production Systems.** The business environment is changing faster and faster and this is bound to be even more the case in the future. Therefore, our production and design of products have to be flexible enough to adapt themselves to such rapid changes.
- **Networking in Manufacturing and Production Systems.** Another clear trend of manufacturing is the constant integration of parameters from upstream to downstream ensuring that in each process step, in the same company or across the supplier/customer borders, enough information is transferred to ensure that a global optimization is possible, making sure that the desired result is obtained even in complex products with a lot of sophisticated sub-parts. An important objective will be the overall quality of the production chain: tracking quality along each process step and across suppliers/customers boundaries.
- **Knowledge-based Engineering.** Further to the above trends of capacity to adapt to change and ability to integrate information through networking, is the ability to store and use the accumulated knowledge for design and manufacturing of future components and products. This trend is referred as: “Knowledge-based Engineering”.
- **Sustainable Production Systems.** A specific topic is the integration in the design and manufacturing practices for answering the new demand of society for green products and technologies. This requires new design methods balancing often conflicting objectives and drastic changes of existing processes. At last, most of the trends given above will heavily rely on the development of **Information and Communication Technologies (ICT)** .



Symposium Theme

The **European Symposium on Computer Aided Process Engineering (ESCAPE)** series presents the latest innovations and achievements of leading professionals from the industrial and academic communities. The **ESCAPE** series serves as a forum for engineers, scientists, researchers, managers and students to present and discuss progress being made in the area of Computer Aided Process Engineering (**CAPE**).

European industries large and small are bringing innovations into our lives, whether in the form of new technologies to address environmental problems, new products to make our homes more comfortable and energy efficient or new therapies to improve the health and well-being of European citizens. Moreover, the European Industry needs to undertake research and technological initiatives in response to humanity’s **“Grand Challenges”**, described in the declaration of Lund, namely, Global Warming, Tightening Supplies of Energy, Water and Food, Ageing Societies, Public Health, Pandemics and Security.

Thus, the Technical Theme of **ESCAPE 21** will be **“Process Systems Approaches for Addressing Grand Challenges in Energy, Environment, Health, Bioprocessing & Nanotechnologies”**.

In particular, the Technical Programme of **ESCAPE 21** will cover the following process systems engineering topics and grand challenges:

<p>Process Systems Engineering</p> <ul style="list-style-type: none"> ▪ Multi-scale Modeling ▪ Synthesis and Design ▪ Optimization and Control ▪ Production Operations ▪ Training and Education 	<p>Grand Challenges</p> <ul style="list-style-type: none"> ▪ Environmental Systems Engineering ▪ Bioprocess Systems Engineering ▪ Biomedical Systems Engineering ▪ Materials and Molecular Systems Engineering ▪ Energy Systems Engineering
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Sponsors

The Organizing Committee is grateful to the following sponsors for their contributions to the **ESCAPE 21**.



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ENTERPRISE LIMITED**



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OF THESSALONIKI**



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Bob Varelas, InterChem Hellas, S.A.



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Prof. Mike Doherty, University of California Santa Barbara, USA

Prof. Chris Floudas, Princeton University, USA

Dr. Conchita Jimenez-Gonzalez, GSK, USA

Prof. Ignacio Grossmann, Carnegie Mellon University, USA

Prof. Zheng Li, Tsinghua University, Republic of China

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Prof. Venkat Venkatasubramanian, Purdue University, USA





Call for Papers



All papers will be submitted on line. Submission guidelines will be available on the symposium website: www.escape-21.gr. Abstracts of approximately 500 words, written in English, should include: title of presentation, authors names and affiliations, address, keywords and the preferred theme. Abstracts will be reviewed and selected by the Scientific Committee of ESCAPE 21 Symposium. On notification of acceptance, authors will be asked to submit a paper which will be fully refereed. The final decision will be taken on the basis of the full paper.

Deadlines

25 July, 2010	<i>Submission of abstracts</i>
5 September, 2010	<i>Notification of acceptance</i>
15 November, 2010	<i>Submission of papers</i>

Proceedings

All accepted papers will be published by Elsevier in Computer Aided Chemical Engineering volumes. These proceedings will be distributed to all conference participants at the conference site. Extended version of selected papers will also be published in a special issue of *Computer and Chemical Engineering* after the conference.

Contact Information

Conference Secretariat

Centre for Research and Technology Hellas (CERTH)
6th klm Charilaou-Thermi Road, P.O. Box 60361
57001 Thermi-Thessaloniki, Greece

<http://www.escape-21.gr>

Fax: +30 2310 498110

e mail: escape21@certh.gr





Conference Venue

ESCAPE 21 will be held in **Porto Carras Grand Resort** in Chalkidiki, Greece. The hotel is located in a hidden paradise in Northern Greece, on the western coast of Sithonia, Chalkidiki's central peninsula, 120 km from Thessaloniki.



Chalkidiki has the longest stretch of coastline in mainland Greece, estimated to be more than 500 km of sandy beaches and attractive bays. The whole region is heavily wooded with pines and olive trees, while inland there are vineyards and fertile farmlands. The climate in Chalkidiki is generally mild with limited rainfall whilst sunshine and warm summers are well known. It enjoys over 300 days of sunshine on average annually.

Group Transportation

Group transportation will be arranged by the Organizers. Shuttle buses will depart from Makedonia Airport, Thessaloniki to Porto Carras Grand Resort and vice versa. The trip takes 90 min approximately.

Transportation from Makedonia Airport, Thessaloniki to Porto Carras Grand Resort:

Bus departure dates: Saturday 28 May, 2011 and Sunday 29 May, 2011

Transportation from Porto Carras Grand Resort to Makedonia Airport, Thessaloniki:

Bus departure dates: Wednesday 1 June, 2011 and Thursday 2 June, 2011

The final timetable will be announced in April 2011. Please fill in your flight details in the participation form and return it to us at your earliest convenience, so we can finalize the timetable for bus departures.

Alternatively, you can reach the Conference Venue (*Porto Carras Grand Resort*):

- **By Taxi:** Taxis are available at the airport arrival level. The cost from Makedonia Airport to the Porto Carras Grand Resort is approximately 95 Euro.
Thessaloniki Radio Taxis: tel. (+30) 2310-525000 / 531567 / 550500 / 214900 / 866866
- **By Car:** You can rent a car from the airport.
Thessaloniki Car Rental: <http://www.saloniki.org/en/catalog/carrental.htm>

Accommodation

Porto Carras Grand Resort consists of 3 hotels and a number of Villas for exclusive vacations. Two of them, Meliton Deluxe Thalasso & Spa Hotel and Sithonia Thalasso & Spa Hotel were selected for the accommodation of Escape-21 participants. **Hotel Meliton, Porto Carras Grand Resort** is synonymous with luxury. Meliton's innovative architecture is complemented by spacious Lobbies, restaurants with fine cuisine, wonderful lagoons, entertainment and relaxation areas as well as a magnificent beach. **Hotel Sithonia Porto Carras Grand Resort** is built by the sea, offers its customers the experience of comfortable vacations in a fully renovated and functional environment, with a touch of aesthetics and quality.

Please note that the Symposium Organizers have agreed special booking rates for all the ESCAPE-21 participants. It is recommended that reservations be made by **February 28, 2011** to guarantee rooms at the conference rates. Requests received after this date will still be accepted, but on a space and rate availability basis only. After that date, the Conference room blocks will be released and hotel may charge higher rates.

	SINGLE ROOM	DOUBLE ROOM
Hotel MELITON	102 €	116 €
Hotel SITHONIA	82 €	93 €

* All rates are quoted in euro per night and include American Buffet Breakfast and all local taxes.



Social Programme

The social programme planned is centered around the theme of spouse appreciation and aims to motivate the participation of all spouses and accompanying persons. Swimming, sunbathing, short excursions and other social activities will be available.



Welcome Cocktail

Sunday 29 May, 2011

You are invited to enjoy a Welcome cocktail to be taken place by the Hotel Meliton's swimming pool.



Gala Dinner

Tuesday 31 May, 2011

Besides the traditional Greek dinner, it will also include a cultural programme with live music and traditional Greek dancing.

Things to Do in Chalkidiki

Dine around and Night life

Chalkidiki is a cosmopolitan resort, where a visitor can find everything. Many restaurants, ranging from the luxury class to simple tavernas and grills, cater to all tastes, carrying international and Greek menus. There are also plenty of nightclubs, folklore and modern music halls.

Places you can visit: www.halkidiki.com



Just for the male participants, they can visit the AGHION OROS (The Holy Mount):

www.medialab.ntua.gr/athos.html



Participation Form

SYMPOSIUM REGISTRATION FORM

All conference attendees **must register**. Personal badges will be provided to identify registered participants. Please fill in and submit this form. Registration confirmation will be sent to the registrants via e-mail as soon as we have received your payment. Registrations that have not been processed on-line will not be considered.

Title* :	<input type="radio"/> Ms	<input type="radio"/> Mrs	<input type="radio"/> Mr	<input type="radio"/> Dr	<input type="radio"/> Prof
Name* :	First/Given Name		Last/Family Name		
Paper ID(s) :					
Organization* :					
Address* :					
Country* :	Albania ▼				
Email* :					
Phone :					
Fax :					

Symposium registration fees :

Please tick the appropriate box

	Early Registration Before 28 February 2011	Standard Registration After 28 February 2011
Full Participant	<input type="checkbox"/> 630.00 €	<input type="checkbox"/> 700.00 €
Student*	<input type="checkbox"/> 470.00 €	<input type="checkbox"/> 550.00 €
Accompanying Person**	<input type="checkbox"/> 150.00 €	<input type="checkbox"/> 200.00 €

On-site registration: Standard Registration fees. Payments on arrival at the Symposium can only be made in cash as no credit card facilities will be available.

* A copy of student identification must be submitted with the registration form to ensure eligibility for this rate.

** Accompanying person registration includes welcome reception and gala dinner.

Symposium registration includes:

Standard Symposium registration fees include admission to all sessions, one copy of the Symposium Proceedings (Volume/CD), coffee breaks and lunches, welcome cocktail and gala dinner.

Student registration includes all the above with the exception of the gala dinner, which can be purchased on-site.



Payment details:

All payments must be made in one of two ways [Please tick the appropriate box]:

Payment by credit card

[after submission you will be redirected to Eurobank's secure payment area]

Payment by bank transfer

Please send the bank transfer receipt via e-mail to escape21@certh.gr

Bank :	EUROBANK EFG
Account name :	ESCAPE 21
Account number :	0026-0336-7 3 0200523406
IBAN :	GR6802603360000730200523406
SWIFT code :	EFGBGRAAXX

Bank Address :

Business Center East Thessaloniki
 Eth. Antistaseos 54 & Kazazi 9, 55133 Thessaloniki
 Tel: +30 2310 480023, 459701
 Fax: +30 2310 441400

Please indicate on the payment your **full name** and that it is for the Symposium **registration**. In case you transfer an amount for a group, please specify the payment per person in writing. Payment should be net without bank charges, which should bear exclusively the participant account.

Amount of payment 0.00 €
Date of payment 17/02/2011 17:24

Agreement to terms and conditions:

I wish to register for the ESCAPE-21 Symposium and I acknowledge the registration terms including the cancelation policy.

Please indicate on the payment your **full name** and that it is for the Symposium **registration**. In case you transfer an amount for a group, please specify the payment per person in writing. Payment should be net without bank charges, which should bear exclusively the participant account.

Amount of payment 0.00 €
Date of payment 17/02/2011 17:24

Agreement to terms and conditions:

I wish to register for the ESCAPE-21 Symposium and I acknowledge the registration terms including the cancelation policy.

Notes:

- ✓ The submission of this form confirms the participation and becomes a valid registration when the payment has been received.
- ✓ The fee is valid for the participation of one author and the presentation of one paper.
- ✓ All cancellations received before May 1st, 2011 will be charged with a cost of 20% of the total Symposium fees. No refund will be given for cancellation after May 1st, 2011 however substitutions will be possible.
- ✓ Registered participants can be substituted upon written notification sent to the Symposium Secretariat.
- ✓ Please note that due to organizational reasons, all refunds will only be processed after the meeting.



Recommended Places to Visit in Thessaloniki

The White Tower (*Nikis Avenue, Thessaloniki, Tel: +30 2310 267 832*)

The White Tower once stood with many others, surrounding the medieval city, until the Ottoman Turks destroyed all but two in 1866. Constructed in the 15th century this tower served as a defensive bulwark, an infamous prison, a place of execution, and now is home to a wonderful collection of sculptures, frescoes, and other interesting artefacts from 300 to 1400 AD portraying the amazing history and culture of the city. The White Tower, once known as the Bloody Tower, has become the city's most famous landmark.

Archeological Museum of Thessaloniki (*Hanth Square 6, M. Andronikou Street, Thessaloniki Tel: +30 2310 830 538*)

With a wonderful collection of artifacts from Neolithic times and amazing sculptures from the Archaic to the Late Roman period, this museum is a house of treasures. There are many thematic units that are very significant, and which provide a thorough and unforgettable exhibition of the history of Thessaloniki and the surrounding areas.

Aghia Sofia (*Pavlou Mela Street, Aghia Sofia Square, Thessaloniki Tel: +30 3 1270 253*)

Built in the 8th century, Aghia Sofia is a beautiful Christian church modeled on the magnificent church of Aghia Sofia in Istanbul. The church contains superb mosaics and wall paintings including a wonderful mosaic of The Ascension.

Byzantine Museum (*2 Stratou Avenue, Thessaloniki Tel: +30 2310 868 570*)

Containing the finest collection of Byzantine art in Greece, this museum focuses on preserving, researching, and studying the remains of the Byzantine civilization. The treasures housed in this fine museum include priceless icons, frescoes, sculpted reliefs, mosaics, jewellery, manuscripts, and pottery.

Rotonda (*Dimitriou Gounari Street, Thessaloniki Tel: +30 2310 213 627*)

This monument was built in 306 AD as the mausoleum of the Roman Emperor Galerius. Later the Rotonda became a church dedicated to St. George and wonderful 4th century mosaics were added. After serving as a mosque for the Ottomans, the Rotonda now houses Christian art and occasionally holds art exhibitions and concerts.

Aghios Dimitrios (*Aghiou Dimitriou and Aghiou Nikolaou at Egnatias Street, Thessaloniki Tel: +30 2310 221 3627*)

After the great fire of 1918 the church was restored with the aim of preserving the details of the original. Originally the church was built on the ruins of a Roman bath. Beneath the church is the crypt of the martyr Aghios Demetrios containing sculpture from the 3rd to 5th centuries and Byzantine artifacts.

The City Walls

The City Walls were erected during the time of Theodossios the Great to guard the city from Democracy Square of nowadays across Eptapyrgio up to the site later occupied by the White Tower, a work of the architect Sinan (first half of 16th century).

Modiano Market *Ermou, Thessaloniki*

Here, one can not only shop, but eat, drink, listen to the music provided by gypsy musicians and enjoy the culture and diverse crowd visiting the open-air market.





Archaeological Places to Visit

Archaeological Site of Aigai (modern name Vergina): The city of Aigai, the ancient first capital of the Kingdom of Macedonia, was discovered in the 19th century near Vergina, in northern Greece. The most important remains are the monumental palace, lavishly decorated with mosaics and painted stuccoes, and the burial ground with more than 300 tumuli, some of which date from the 11th century B.C. One of the royal tombs in the Great Tumulus is identified as that of Philip II, who conquered all the Greek cities, paving the way for his son Alexander and the expansion of the Hellenistic world.

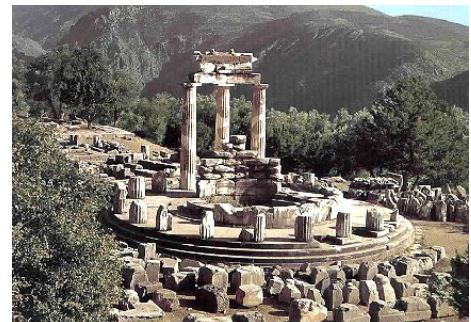


Dion: Ancient Dion was an important religious center for worshipping the Gods of nearby Mount Olympus. This is where Phillip II came to celebrate his victories and his son Alexander came to make his sacrifices here before going off to conquer the East. While most of the statues which were not only found virtually intact, but with traces of color, are in the nearby museum in the town of Dion, they have been replaced with copies. The Sanctuary of Isis is perhaps the most interesting discovery so far. An earthquake had displaced water and mud and the building was hidden for centuries under 6 feet of water which protected it from vandals. The temple still sits in the water and a copy of the statue of Aphrodite can be seen there.



Meteora: Meteora is from the biggest and most important group of monasteries in Greece after those in Mount Athos. We can locate the first traces of their history from 11th c. when the first hermits settled there. The rock monasteries have been characterized by Unesco as a unique phenomenon of cultural heritage and they form one of the most important stations of cultural map of Greece.

Delphi: At the foot of Mount Parnassos, within the angle formed by the twin rocks of the Phaedriades, lies the Pan-Hellenic sanctuary of Delphi, which had the most famous oracle of ancient Greece. Delphi was regarded as the centre of the world. According to mythology, it is here that the two eagles sent out by Zeus from the ends of the universe to find the navel of the world met. The sanctuary of Delphi, set within a most spectacular landscape, was for many centuries the cultural and religious centre and symbol of unity for the Hellenic world.



And if all this seems like a little too much culture you can always just travel to the Greek Islands...

<http://www.gtp.gr>

<http://www.greekferries.gr/domestic.htm>

