



11th European Congress
OF CHEMICAL
ENGINEERING

4<sup>th</sup> European Congress
OF APPLIED
BIOTECHNOLOGY

### 10<sup>th</sup> World Congress of Chemical Engineering



Chemical and Biochemical Engineering in a Global World:

Solutions 4 Global Challenges Call for Abstracts

A place for all the Chemical and Biochemical engineering community

www.wcce10.org

(EFCE event number 741)

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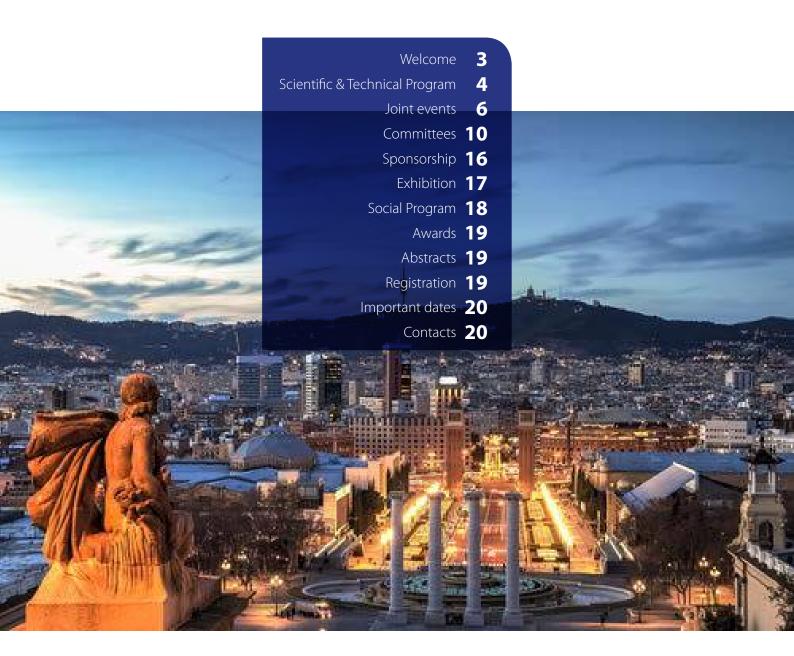








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### Welcome

It is a great pleasure for us to invite you to participate as delegate, sponsor and/or as exhibitor of the 10<sup>th</sup> World Congress of Chemical Engineering, and its joint events, held in conjunction with the 11<sup>th</sup> European Congress of Chemical Engineering and the 4<sup>th</sup> European Congress of Applied Biotechnology (WCCE10+ECCE11+ECAB4).

This congress will be held in October 1<sup>st</sup> - 5<sup>th</sup>, 2017, coinciding with Expoquimia in FIRA of Barcelona, Spain. The World Chemical Engineering Council (WCEC), the European Federation of Chemical Engineering (EFCE) and the European Society of Biochemical Engineering Sciences (ESBES) promotes this "three in one" congress. The EFCE-Spain Group host the congress, which is formed by four Spanish societies: The National Chemists Association of Spain (ANQUE), The Association of Industrial Engineers of Catalonia, The Spanish Society of Industrial Chemistry and Chemical Engineering (SEQUI) and the Association of Chemists and Engineers of the Institut Químic de Sarrià (AIQS).

The WCEC was formed in Melbourne to ensure a high standard of chemical engineering and related science and technology. The Council includes all regional confederations and the principal worldwide institutions and societies of chemical engineering.

EFCE is Europe's most active forum for chemical engineering. For sixty years, it has represented the profession in both industry and academia, crossing different disciplines and nurturing wide collaborations of innovative thinking, research and breakthrough. Its scientific congresses and symposia are the heart of its activities and have now become a biennial and world-famous event, bringing chemical engineering expertise on an unprecedented scale to a single location where all stakeholders can interact, share, debate, collaborate and inspire one another.

The participation of ESBES provides an important channel between industry and academia and fosters the cooperation of bioengineers from all over Europe and overseas.

The Congress will take place simultaneously and sharing venue with EXPOQUIMIA, the largest trade fair dedicated to Chemistry in southern Europe, ensuring the best context in terms of affluence and opportunities. The collaboration of all parties will bring innovative solutions to respond to major societal challenges.

The organizers are paying very special attention to young chemical engineers and future talents with knowledge, education and training as the first congress topic. Specific activities of special interest both for the future promises as well as for companies will enrich that focus, looking to identify and recruit talent for the future

This group of events will be a unique opportunity to meet with researchers and specialists in practically all areas of Chemical Engineering and to improve strategies for the development of innovative processes that will be vital for the industry of tomorrow.

The venue adds an important attraction to the congress. Spain is a beautiful country with an excellent climate, gastronomy and unparalleled hospitality. It is the fourth European economy and a vibrant society in all respects. Barcelona is one of the world's most visited cities. Its privileged position in the Mediterranean shore, gateway and home of several ancient cultures has always represented the essence of art, culture and progress in Spain. Barcelona is the flagship city of the wealthiest region of Spain, leader in art, design, industry and lifestyle, a must visit for travellers and an endless source of inspiration.

#### Join us in Barcelona!







### Scientific & Technical Program

The Scientific & Technical Program is structured in three branches:

- Chemical & Biochemical Engineering Core (Topics)
- Grand Challenges for the 21st Century (Industrial Program)
- Specialized Joint Events

The Chemical & Engineering Core includes 7 main topics, with 35 subtopics, covering cutting-edge research, new technologies, and emerging growth areas in Chemical and Biochemical Engineering. The Grand Challenges covers the four wide and well-known priority areas for the 21<sup>st</sup> Century: Energy, Water, Health & Well-being and Food & Nutrition. Every congress day will focus on one of these Grand Challenges, which will be closely related to the industrial program to make it relevant for the real life and the current industrial scenarios.

### Get all the details in the congress website!



(S&T Program, Joint Events and Student program sections)

CALL FOR PAPERS IS OPEN FOR ALL PROGRAM BRANCHES. GET GOING NOW AND PARTICIPATE ONLINE IN ABSTRACTS SUBMISSION

This figure shows the integration between the C&BE Core, Industrial Program and Specialized Joint Events.



# Main Topics 1 Knowledge, Education & Training 2 Unit Operations & Separation Processes 3 Chemical Reaction Engineering 4 Process Systems Engineering & Advanced Materials 5 Applied Biotechnology

Environmental & Sustainable Chemical Engineering



And a complete
Student Program specially
designed for both Undergraduates
and PhD students

AICHE
Charleson

WCCE10

#### **Specialized Joint Events**

- 27<sup>th</sup> European Symposium on Computer-Aided Process Engineering (JE-ESCAPE27)
- International Process Intensification Conference /European Process Intensification Conference / Asia-Pacific Symposium on Process Intensification and Sustainability (JE-IPIC1/EPIC6/APSPIS3)
- International Congress on Sustainability Science and Engineering (JE-ICOSSE´17)
- International Conference on Processing, Handling and Characterization of Particulate Materials (JE-PARMAT 2017)
- Process Safety Symposium (JE-PSS)
- International Symposium on Lignocellulosic Materials -IntSympLignCellMat 2017 (JE- IntSympLignCellMat 2017)
- 7<sup>th</sup> International Symposium on Spouted Beds (JE-ISSB-7)
- 8 (JE-IUT)
- Advanced Oxidation Processes Symposium (JE-AOPs)
- (JE-CFD) in Chemical Engineering: Process Design Symposium (JE-CFD)
- Fibre Suspensions In Process Engineering Symposium (JE-Fibre Suspensions)
- Nanocelluloses: Engineered Applications and Sustainability Symposium (JE-Nanocelluloses)
- Opportunity and Challenge for Energy Storage Engineering Symposium (JE-Energy Storage)
- 2nd Workshop on Electrochemical Engineering: new bridges for a new knowledge on electrochemical engineering (JE-Electrochemical Engineering)
- (JE-Gas Hydrates and Applications Workshop (JE-Gas Hidrates)



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#### **Undergraduate Student Program**

Included in the agenda, you will soon find a program specifically designed for undergraduate students. Three days of career information, CV-Clinic, competitions and networking activities. These activities will take place from September 30th and include:

- Chem-E-Car® World competition. Organized by AlChE, this competition engages students in designing and constructing a car powered by a chemical energy source that will safely carry a specified load over a given distance.
- Workshops and mini-courses focus on Career Development.
- Best presentation and poster award.
- Technical tours to chemical enterprises.
- Expoquimia guided tour.
- Networking and entertainment.

#### **PhD Student Program**

PhD-Students and young professionals will have the opportunity to participate in activities specifically organised for them during the congress days, that aim to provide a discussion forum and to offer deep insights into topics of their interest. These activities will include:

- Keynote Speakers.
- · Workshops.
- Career fair, will match employers with young science and engineering professionals seeking employment.
- Competitions and networking opportunities

A <u>specific student committee</u> has been stablished to analyse new ideas and suggestions for discussion to include those most strongly supported.









### **Specialized Joint Events**

The offer of specialized Joint Events is ample, concrete and very practical for professionals as well as students seeking to delve further into specific knowledge of processes and technologies. This third and vital branch of the Scientific and Technical program offers the following events to which you can already submit papers:

(You can find all the detailed information including committees, topics, call for papers and more in the

+JOINT EVENTS congress website section



27<sup>th</sup> European Symposium on Computer-Aided Process Engineering (**JE-ESCAPE27**)

ESCAPE-27 will offer you the ideal scenario to present and discuss the last advances in methods and tools for Computer-Aided Process Systems Engineering. Specifically, this time it will focus on the global challenges of the 21st century: sustainability, energy efficiency, water management, health and food.



2 International Process Intensification Conference/European Process Intensification Conference/Asia-Pacific Symposium on Process Intensification and Sustainability (JE-IPIC1/EPIC6/APSPIS3)

IPIC1/EPIC6/APESIS3 will be an excellent opportunity to learn about recent implementations in industry, the latest advances in research, and the current offer from technology providers. Furthermore, discussions on the state of the art and future perspectives of process intensification will keep you updated on future trends.



International Congress on Sustainability Science and Engineering (JE-ICOSSE 17)

The urgent need for more sustainable products and processes is a huge opportunity for innovation. ICOSSE'17 will consider the background trends that are driving this tendency, a wide range of new process technologies, and how to promote sustainable solutions.







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### 4 International Conference on Processing, Handling and Characterization of Particulate Materials (JE-PARMAT 2017)

PARMAT2017 is devoted to all the aspects related to the chemical and mechanical processing, handling and characterization of particulate materials in industry, including hazards and risks that are usually presented during these operations. This International Conference will provide a unique opportunity to integrate academic/scientific research and industry issues and requirements from researchers and industrialists around the world.



#### Process Safety Symposium (JE-PSS)

CCPS, EPSC, IChemE, MKOPSC, and WPLP will be holding a joint Process Safety Symposium as part of WCCE10. This will be a 2-day single track joint event.

The scope of this joint process safety symposium is to have a dialogue on this call for action, and raise awareness and understanding on the importance of process safety amongst all stakeholders. The focus will be to foster discussion among scientists, professors, engineers, industrial professionals by sharing process safety lessons learned, process safety leadership and management best practices, and highlighting the critical need to improve process safety education and competence.



#### [ International Symposium on Lignocellulosic Materials (IntSympLignCellMat 2017)

The conference will set the stage to critically analyze biorefining production platforms for building block chemicals, complex materials, value-added products and underutilized by-products from biomass. Opportunities will arise to accelerate scientific discovery and help promote, advance and disseminate new knowledge in all aspects of lignocellulosic biorefineries.







### **Specialized Joint Events**

#### 7 | 7th International Symposium on Spouted Beds (JE- ISSB-7)

ISSB-7 will uphold the tradition of this series of conferences by focusing on fundamental research on spouted beds, but it will significantly expand into emerging applications of spouted bed and nobel spouted bed technologies, especially those related to new processes for the production of eco-friendly chemicals, pharmaceuticals, and renewable and sustainable energy.



#### **Q** | 4<sup>th</sup> Symposium on Industrial Use of Thermodynamics (**JE -IUT**)

The objective of this joint event is to trigger innovation by encouraging on joint industry-academic collaboration. The proposed event wants to be an opportunity for practicing engineers to be in close contact with the most recent scientific developments in the area of thermodynamics.



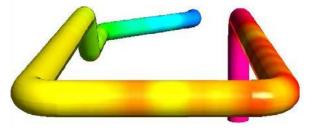
#### Advanced Oxidation Processes Symposium (JE-AOPs)

The main scope of this symposium is to foster discussion among scientists, professors, engineers, industrial, and environmental professionals regarding their latest results and cutting-edge issues in the development and use of advanced oxidation processes. Presentations and posters will particularly focus on recent scientific and technological progress in AOPs application to the treatment of water, groundwater, industrial, municipal and agro-industrial wastewater; air, odour and VOC control; soils and wastes; the combination of AOPs with other treatments; the reduction of energy use; water-energy-food nexus, and new developments in pilot and full applications at industrial scale.



#### 1 CFD in Chemical Engineering: Process Design Symposium (JE-CFD)

The symposium will provide a forum for engineers and researchers who work with CFD to exchange ideas and present their contributions. The scope of the symposium covers the application of CFD in chemical processes, equipment design and optimization and also new emerging CFD technologies.







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#### 11 Fibre Suspensions In Process Engineering (JE-Fibre Suspensions)

This special Symposium aims at bringing together researchers working in different fields, also participants working in related industries, as well as those in charge of equipment design for industries involving the handling of fibrous suspensions to generate new ideas to go a step forward in the current state of the art.



### 12 Nanocelluloses: Engineered Applications and Sustainability (JE-NANOCELLULOSES)

This Symposium will review recent progress in production and applications - both industrial and emerging. It will be divided in three topics: 1) fundamentals; 2) applications and emerging fields and 3) sustainability.



#### 1 2 Opportunity and Challenge for Energy Storage Engineering Symposium (JE-Energy Storage)

This symposium organized by The Chemical Industry and Engineering Society of China (CIESC) is focused on both fundamental and applied aspects of energy storage science and technology.



### 2<sup>nd</sup> Workshop on Electrochemical Engineering: new bridges for a new knowledge on electrochemical engineering (**JE-ELECTROCHEMICAL ENGINEERING**)

This workshop will combine the great impulse of the electrochemical technology in many developing regions and connect it with the tradition of the European community of researchers, of course not excluding researchers from all other regions of the world.



#### **15** Gas Hydrates and Applications (**JE-Gas Hidrates**)

This special workshop on gas hydrates and applications is meant to bring together scientists from both industry and academia to share current state of the art and stimulate new ideas and practice on the topic of gas hydrates covering experimental, theoretical and simulation studies.



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### **Committees**

#### **Executive Board Committee**



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Congress Chair.
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Oriol Martínez.
Chairman Exhibition.
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Lorenzo Baselga.
Secretary. ANQUE Representative.
ANQUE Technical General Secretary, (ES)

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**Ángel Irabien.**International Relations Chair.
University of Cantabria, (ES)



Anton Valero.
Chair Industrial Program. President Dow Chemical Iberica.
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Juan Antonio Labat. Cochair Industrial Program. General Manager of FEIQUE, (ES)



Juan José Rodriguez. Student Program. University Autónoma of Madrid, (ES)







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Guohua Chen.
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Guilherme Ferreira.
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Carlos Negro. WCCE10 Chair. UCM, (ES)



Martine Poux LGC-INP Toulouse (FR)



**June Wispelwey. Executive Director AIChE,** (USA)







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**Greg Stephanopoulos. AICHE President.** *Massachusetts Institute of Technology,* (USA)



David Shallcross.

S&T Chairman of WCCE6-Melbourne

2001. U. Melbourne, (AU)



**Ganapati Yadav.** Institute of Chemical Technology Mumbai, (IN)



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#### **Topic Coordinators**



### TOPIC 1 Knowledge, Education

& Training

Eric Schaer. Chair. ENSIC. (FR)
Jenni Case. Cape Town University, (ZA)
Bingzhen Chen. Tsinghua University, (CN)
Sebastian Engel. Dortmund University, (DE)
Jarka Glassey. Newcastle University, (UK)

Carme González. University of Barcelona, (ES) Redhouane Henda. Laurentian University, (CA) M. Sam Mannan. Texas A&M University, (USA) Pitt Martin. Sheffield University, (UK) Kamarza Mulia. Indonesia University, (ID)



#### **TOPIC 2**

Unit Operations & Separation Processes **Eva Sorensen.** Chair. *UCL*, (UK) **Jerzy Baldyga.** *Warsaw University of Technology*, (PL)

Elisabetta Brunazzi. Pisa University, (IT) Jean Charles de Hemptinne. IFP Energies Nouvelles, (FR)

**David Shallcross.** Chair. *Melbourne University*, (AU)

Antonio Marcilla. Alicante University, (ES) Martin Morgeneyer. Université de Technologie de Compiègne, (FR)

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Chemical Reaction Engineering **Jamal Chaouki.** Chair. *Polytechnique Montreal*, (CA)

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Martin Olazar. Pais Vasco University, (ES)

 $\textbf{Manuel Rodrigo.} \ \textit{UCLM}, (ES)$ 

**Eberhard Schlücker.** *Erlangen University*, (DE) **Alfredo Soldati.** *Udine University*, (IT)



#### **TOPIC 4**

Process Systems Engineering **Ignacio Grossmann.** Chair. *Carnegie-Mellon University*, (USA)

Joaquin Casal. UPC, (ES) Antonio Espuña. UPC, (ES)

Bruno Fabiano, Genova University. (IT)

**Thomas Van Gerven.** *KU Leuven*, (BE) **Jiri J. Klemes.** *Pannonia University*, (HU)

**Miguel Ladero.** *UCM*, (ES)

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#### **TOPIC 5**

Product Engineering & Advanced Materials Ulrich Brockel. Chair. Birkenfeld University, (DE) José M. Asua. País Vasco University, (ES) Markus Busch. TU Darmstadt, (DE) Tomás Cordero. Málaga University, (ES) Christoph Herwig. Vienna University of Technology, (AT) Reinhard Kohlus. Hohenheim University, (DE) Inmaculada Ortiz. Cantabria University, (ES) José Santiago Torrecilla. UCM, (ES) Jens Uhlemann. Bayer Tech. Serv., (DE)



#### **TOPIC 6**

Applied Biotechnology Guilherme Ferreira. Chair. Algarve University, (PT)
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Mario Díaz. Oviedo University, (ES)
Michel Eppink. Wageningen University, (NL)
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Jack Legrand. Nantes University, (FR)

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#### **TOPIC 7**

Environmental & Sustainable Chemical Engineering Ángel Irabien. Chair. Cantabria University, (ES) Juan Adánez. CSIC-Zaragoza, (ES) M. Uxue Alzueta. Zaragoza University, (ES) Jesús Arauzo. Zaragoza University, (ES) Adisa Azapagic. Manchester University, (UK) Henk Van Den Berg. University of Twente, (NL) Sophie Duquesne. Lille University, (ER) Eloy García. Alcala University, (ES)

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Juan José Rodriguez. UAM, (ES)
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#### (JE-IPIC1/EPIC6/APSPIS3)

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(*JE-PARMAT 2017*)

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Martin Morgeneyer, Co-Chairman. Characterization of Particulate Systems

**Stefan Heinrich.** Agglomeration

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(JE-IntSympLignCellMat 2017)





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Song Won Park, Chair. U. Sao Paulo, (BR)

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**Daphne Hermosilla.** Valladolid University, (ES)

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**Jos Derksen.** Aberdeen. University, (UK)

**Vivek V. Ranade.** National Chemical Laboratory, (IN)

(JE-FIBRE SUSPENSIONS)

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**Cristian Marchioli**. *University of Udine*, (IT)

**Fredrik Lundell.** *KTH*, (SE)

**Bandaru V. Ramarao**. *State University of New York*, (USA)

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**Noemi Merayo.** Complutense University of Madrid, (ES)

#### (JE-Electrochemical Engineering)

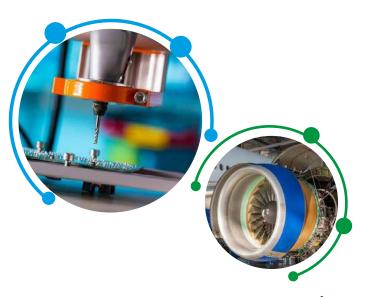
Manuel Rodrigo, Chair. Universidad Castilla la Mancha, (ES)

**Ann Cornell.** *KTH*, (SE) **Karel Bouzek.** *UCT*, (CZ)

Enric Brillas. Barcelona University, (ES) Vicente Montiel. Alicante University, (ES) Ignacio Sirés. Barcelona University, (ES) Ane Urtiaga. Cantabria University, (ES)

#### (JE-Gas Hidrates)

**Peter Englezos,** Chair. *University of British Columbia*, (CA) **Praveen Linga.** *National University of Singapore*, (SG)







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### **Sponsorship**

The 10<sup>th</sup> World Congress of Chemical Engineering held in conjunction with the 11<sup>th</sup> European Congress of Chemical Engineering and the 4<sup>th</sup> European Congress of Applied Biotechnology is a unique opportunity for companies, organizations and governments to contribute to the advancement and development of up-to-date and imperative scientific and technical issues rela-

ted to the field of Chemical Engineering and proposing solutions for global challenges.

The fact that it integrates three events in one with different geographical, thematic and specialization scopes converts it in a the widest ranging event in the world for chemical engineering.

Partnering with WCCE10, ECCE11 and ECAB4 will guarantee Sponsor business success attracting pertinent partakers in and around the three Congresses.

#### **Reasons to Sponsor this Event**

- Share and publicize innovative concepts, technologies and research relating to chemical engineering
- Raise awareness and promote company/organization or product in the chemical engineering community
- Develop and enhance company's/organization's profile as a prominent leader in the research and development of chemical engineering
- Build business or scientific relationships and expand networks with world's foremost partners
- Recruit talented scientists and engineers with expertise in chemical engineering
- Nurture long-term relationships with cross-disciplinary and multinational communities.





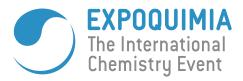


10th World Congress OF CHEMICAL ENGINEERING

OF CHEMICAL ENGINEERING 4\*European Congress OF APPLIED BIOTECHNOLOGY



### **Exhibition**



Expoquimia, as congress partner will be responsible for the exhibition. There will be fantastic opportunities to exhibit products or services during the congress days in Expoquimia 2017 at the venue, Fira de Barcelona's Gran Via exhibition centre. All delegates will have access to Expoquimia. Eurosurfas and Equiplast.

Expoquimia, Eurosurfas and Equiplast is a triple trade show event and the largest platform for promoting and disseminating the applied chemicals sector in Europe and internationally. Expoquimia focusses on Chemistry and its applications. Equiplast is the International Plastics and Rubber Exhibition, and Eurosurfas, the International Paint and Surface Treatment Exhibition.

Expoquimia fair is the most important platform of the Industrial chemical sector in the Mediterranean, the second in importance in the European sphere after ACHEMA, It is considered a gateway to both Latin America and Europe itself. It concentrates qualified and decision-making professionals that join forces spreading the contribution of the Chemical sector on economy and society. Moreover, Expoquimia constitutes a reference forum of science and innovation, thanks to the quality of the technical and scientific workshops that take place during its celebration.

Further details to contract space at Expoquimia website







### **Social Program**

A once in a lifetime opportunity to access historical and cultural venues of a city with one of the richest monumental and cultural heritage in the world, Barcelona.

The social program is fast progressing. A number of exclusive venues will host the main congress social events including:

#### Sunday, October 1st: Welcome Reception: at Fira.

After the opening ceremony a welcome reception will follow. It will include a traditional Human Tower Exhibition (Castellers). A castell is a human tower built traditionally in festivals at many locations within Catalonia. On November 16, 2010, castells were declared by UNESCO to be amongst the Masterpieces of the Oral and Intangible Heritage of Humanity.





#### Monday, October 2nd: Sagrada Familia Visit.

The Sagrada Família is Antoni Gaudí's best-known work and has become an undisputed symbol of Barcelona. This unique modern temple has been under construction since 1882

(Please note that some restrictions applied to this visit, World Heritage Site)

#### **Wednesday, 4th:** October Gala Dinner.

Congress Gala will be held at the Barcelona Maritime Museum (Atarazanas Reales). The building is of Gothic style, its construction was carried out in a first stage between 1283 / 1328 and the second between 1328 / 1390. Subsequent reforms and extensions have been made, basically keeping the original structure.

(Registration required)







OF CHEMICAL ENGINEERING OF APPLIED BIOTECHNOLOGY



### **Awards**

The WCCE10 congress in Barcelona is a unique opportunity to acknowledge both young and senior scientists who have carried out remarkable work recently or over a significant period of time. The

awardees will be presented in a special ceremony that will be held on Monday 2<sup>nd</sup> as well as during the development of some WCCE10 Joint Events.

### **Abstracts**

#### **Guidelines & Online abstracts submission**

Abstracts should be submitted using the "Online Submission" section in the congress website where you will find all instructions.

PRE-REGISTRATION OR SIGN IN ONLINE ABSTRACT SUBMISSION

#### **Deadline Submission**

To guarantee being considered by the program committee, all contributed abstracts must be submitted before the deadline (January 30<sup>th</sup> 2017). Submitted abstracts after the deadline maybe only accepted as posters.

#### **Acceptance**

Authors whose abstracts have been accepted will be notified by e-mail by May 30<sup>th</sup> 2017. Contact: abstractsubmission@wcce10.org

VERY
IMPORTANT NOTE:
Please take note that
it is absolutely
necessary to
Pre-register in order to
obtain the "password"
and "user" before to
submit your
abstract.

### Registration

Pre-registration and registration must be made online in the congress website where you will find all instructions.

#### **Registration fees**

	Early bird registration fee (deadline: 30 <sup>th</sup> June)	Standard registration fee (deadline: 1st September)	Late registration fee (deadline 20 <sup>th</sup> September)	Onsite registration fee
Delegate	760€	860€	960€	1.060€
PhD-Student	450€	550€	650€	750€
Undergraduate (only student program)	125€ )	225€	325€	425€

VAT incl.





#### **Important dates**

#### **ABSTRACT SUBMISSION**

- Deadline for abstract submission: **30**th **January, 2017**
- Evaluation period: March May, 2017
- Author notification (abstract acceptance): 30th May 2017

#### **PROGRAM**

- Preliminary Program (online): 30th June, 2017
- Final Programme (online): 1st September, 2017

#### **REGISTRATION**

- Early Bird Registration deadline: 30th June, 2017
- Regular Registration deadline: 1st September, 2017
- Late Registration deadline: 20th September, 2017

#### **ACCOMMODATION**

• Deadline accommodation: September 1st, 2017

#### WCCE10+ECCE11+ECAB4 Congress:

• 1st - 5th October, 2017

#### **ESCAPE27 Participants:**

• Please note that ESCAPE27 deadlines due to the double review process (abstract and full manuscript) has different deadlines.

#### **Contacts**

#### http://www.wcce10.org

#### **ABSTRACT SUBMISSION**

Scientific Secretariat: scientifcsecretariat@wcce10.org
Online abstract submission: abstractsubmission@wcce10.org

### 10th World Congress of Chemical Engineering

www.wcce10.org

(EFCE event number 741)

Organized by EFCE-Spain Group:









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