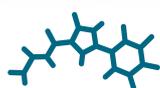




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**ICIQ**<sup>R</sup>

Institut  
Català  
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Química



www.iciq.es

## ICIQ: Excellence research

The 2011 **Scimago Institutions Ranking World Report** (*SIR World Report 2011*) shows ICIQ as one of the leading research institutions, according to the two parameters that measure scientific excellence: the Normalized Impact (*NI*) and the ratio of Excellence (*Excellence Rate, Exc*).

*NI* scores shows the ratio between the average scientific impact of an institution and the world average impact of publications of the same time frame, document type and subject area. **ICIQ has a NI of 2.52 which places the institute in the third position among Spanish institutions (behind the Institute of Space Studies of Catalonia and the Catalan Institute of Oncology), in the 17th place at European level and in the 57th place worldwide.**

*Excellence Rate* indicates which percentage of an institution's scientific output is included into the set formed by the 10% of the most cited papers in their respective scientific fields. **ICIQ has an Exc. rate of 45.1 that places the institute in second place among Spanish institutions (behind CNIO), in 7th place at European level and 21st worldwide.**



 [More info: www.scimagoir.com](http://www.scimagoir.com)

## IYQ celebration



*Professors Pericàs, Schrock and Muñiz.*

On November 15th, ICIQ held two academic events as a closing act for the 2011 International Year of Chemistry. First, during the morning, Professor Richard R. Schrock (MIT, 2005 Chemistry Nobel Laureate) delivered a seminar entitled "Solving the Final Problems in Olefin Metathesis, Z and E Selectivity." In the afternoon, Professor José Barluenga (Universidad de Oviedo) was honored

with the ICIQ's Fèlix Serratosa Medal for his scientific career. After this emotive moment, Prof. Barluenga shared with the audience his thoughts and souvenirs of a life dedicated to Chemistry through the talk "The Trip to Ithaca, Penelope and Science: Reflections on a Chemical Odyssey." The celebration ended with the inauguration of a painting exhibition by Fidel Solé.



*Prof. Pericàs gives ICIQ's Fèlix Serratosa Medal to Prof. Barluenga*

## Touching base with industry

**Crysforma's workshop:** Crysforma's 1st Pharmaceutical Solid State Development Workshop took place at ICIQ on the 9th of November. Sixteen people from 12 different companies belonging to the pharmaceutical and fine chemicals sectors from Catalonia, Aragón, Castilla León and Austria, attended the workshop.

**i** [More info: Web Crysforma](#)



Information booth of Crysforma and CSOL at the CPhI fair

**Fairs:** ICIQ's technology development units Crysforma and CSOL as well as ICIQ's technology portfolio have been promoted in several fairs during the Autumn: **CPhI** (Frankfurt 25th-27th October) and **Expoquímia** (Barcelona 14th-18th November) where ICIQ had its own stand and **BioEurope** (Dusseldorf 31st October – 2nd November) where ICIQ attended the partnering event for technology transfer.

**i** [More info: Web CSOL](#)

## Making Summer last

ICIQ's 2011 Summer Fellowship programme ended in September but for four of the students awarded with one of these fellowships it was just the start of a scientific career: Pilar Calleja, Álvaro Gutiérrez, Albano Galán and Carmen María Fernández decided to join ICIQ and carry out their doctoral studies in Profs. Echavarren, Martín, Ballester and Vidal research groups respectively.

The ICIQ Summer Fellowship programme offers 10 grants to undergraduate students to spend a three-month internship in one of ICIQ's research groups during the months of July-September. These grants are not only a great opportunity to spotlight ICIQ research activities but also a chance to be in an optimal situation to apply for a PhD position at ICIQ.



From left, Álvaro, Pilar, Carmen and Albano, PhD students at ICIQ

## News in brief

**PhD theses defence:** Drs. Helmut Degenbeck, C. Rogelio Solorio and Julián Valero, pre-doctoral students at ICIQ, have defended their PhD thesis recently. They were all awarded the highest honors for their work.

**Teaching teachers:** As a result of the agreement between ICIQ and Obra Social Catalunya Caixa to implement the programme "Professors i Ciència," Prof. Emilio Palomares and Laia Pallejà showed a group of High School teachers how to build up organic solar cells. This programme's purpose is to connect research institutes to the High School community.



Teachers being taught at ICIQ

## A Chemistry feast!

As every year, November has been a very busy month at ICIQ. We celebrated the Science Week that turned out to be a Science Month!

From November 16th to 18th, we were at Fira d'R+D at Campus Catalunya, Tarragona, together with other research institutions in the Tarragona's area. Our stand was dedicated to Marie Curie and her radioactivity studies. We also showed how to measure accurate volumes to all the people who visited our stand.



Students measuring volumes at Fira R+D

Throughout the 4th week of November, different high Schools came to ICIQ to participate in an interactive visit in which the students had to identify a "mysterious" sample of white powder. This served as the excuse to explore our laboratories and research support areas. This same week (on Nov. 22nd and 24th) more than 100 kids came to the institute to become little scientists. They had the chance to perform different and simple experiments that brought out their curiosity and interest in chemistry. The theme of this year's 'Familiar Chemistry' day was Food Chemistry. A very similar event was run at CaixaForum Tarragona, on Saturday 26th.

**i** [More info: Facebook ICIQ](#)



## News in brief

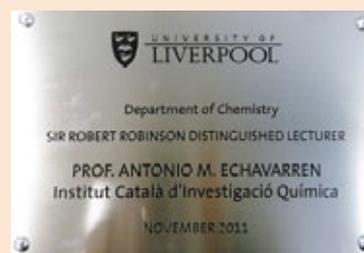
**ICIQ hosts the *Fèlix Serratosa lectures*:** Professor Josep Bonjoch (Universitat de Barcelona) and Professor Stephen L. Buchwald (MIT) will deliver a lecture at ICIQ on January 16<sup>th</sup> as part of the Fèlix Serratosa lecture programme. For more details, please go to the Agenda section in the last page.

**Science highlights a paper co-authored by Profs. Melchiorre and Urakawa:** The editors of *Science* select the most relevant papers across the different scientific disciplines that have been recently published in literature. On December 2nd issue, the editors have chosen the paper entitled 'Diastereodivergent Asymmetric Sulfa-Michael Additions of  $\alpha$ -Branched Enones using a Single Chiral Organic Catalyst' (*J.Am.Chem. Soc.*, 2011, 133(44), pp 17934-17941) as one of the highlights of recent literature.

**i** [More info: Science editor's choice](#)

**i** [More info: Access to the abstract](#)

**Award to Prof. Echavarren:** Prof. Antonio M. Echavarren has been awarded the 2011 Sir Robert Robinson Distinguished Lecturer by the Department of Chemistry of the University of Liverpool. Prof. Echavarren delivered the lecture "Molecular Complexity through Gold Catalysis."



**Joint action for Chemistry:** Within the frame of the 2011 CEICS International Forum (Nov.9-11) Prof. Miquel A. Pericàs signed the memorandum "Our Chemistry, Our Future" to reinforce the commitment of the members of the Tarragona chemistry cluster to place Chemistry as a key element of progress.

**i** [More info: CEICS Forum 2011](#)



## Luis Oro Interview



Full Professor in Inorganic Chemistry (Universidad de Zaragoza) Member of ICIQ's Scientific Board.

### ■ When did you decide to become a scientist, a chemist in your case, and why?

I belong to the generation that played with the 'Quimino-va' and 'Quimicefa' that made gunpowder and bought potassium chlorate. When I was a child I used to make my own experiments in the sink and with other friends. Later on, when I got to college I was not sure whether to study medicine or chemistry and, in the end, I decided to study chemistry. The summer before starting college I was present in an accident in which people were badly injured and that's when I decided that I was made to study science instead of medicine. Also, I had an excellent chemistry teacher whose influence was very important. When the time to make a decision came my vocation was clear: chemistry.

I ought to say I do not regret it. I have enjoyed working on chemistry very much. I think chemistry is a science with a special component, which is creativity. Chemists also create. We create molecules and we study their applications. I have really enjoyed chemistry and I hope to continue enjoying it.

### ■ What do you like the most in your job as a chemist?

The discovery of a new reaction is a great satisfaction. On the other hand, if there is something I love is seeing young researchers sharing their discoveries with passion and seeing how their creativity increases. Having young researchers doing the reactions

that we ask them to do is a mistake, as it does not encourage their creativity.

I am in favour of the opposite: This is the way, this is the goal: let's go for it. Your ideas are welcome.

### ■ What are the greatest achievements in your career to date?

This is a very difficult question. There are scientists who have had some findings that changed their scientific career. I, however, believe that we have contributed in many different areas but I would not be able to highlight a single discovery. For instance, I believe we have made interesting contributions towards bimetallic catalysis: if a metal supports a reaction, why not using two metals and see if they can cooperate? I think we have understood and made interesting contributions in this line.

We also enjoyed the very beginning of dihydrogen compounds. The first compounds of osmium and dihydrogen were prepared in our laboratory.

I've always been a very curious person and our group has been involved in many different areas of chemical research. We really enjoyed the preparation of clusters, and linear molecules, what we call molecular architecture.

I think one should try to enjoy everything one does and I try to do it myself. Not only on my side as a chemist, but also in all those other passions that life generates for you. My other great passion is mountain climbing and I'm still climbing mountains above 6000 meters!

Read the rest of the interview at: [www.iciq.es](http://www.iciq.es)

### ■ ICIQ questionnaire:

A chemical element: *Iridium*

Favourite Scientist: *Lavoisier*

An invention: *Penicillin*

If you had not been scientist... *I would have been a general practitioner (family doctor).*

Favourite destination: *The Nepalese Himalaya*

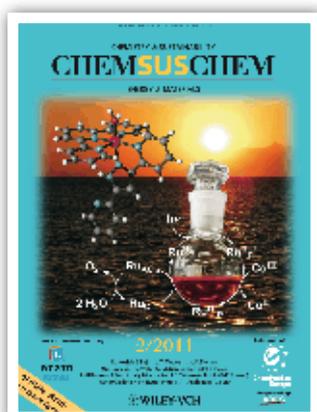
A book: *Give me more time for that one... "Pomelo y limón" by Begoña Oro*

A movie: *Casablanca*

A dream: *To climb a 7000 meters high peak.*

Science is... *fun*

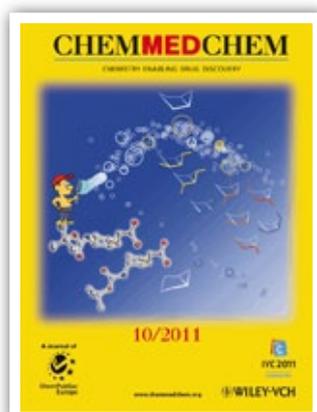
## Journal Covers



Chemical, Electrochemical, and Photochemical Catalytic Oxidation of Water to Dioxygen with Mononuclear Ruthenium Complexes

**i** [Access to the abstract](#)

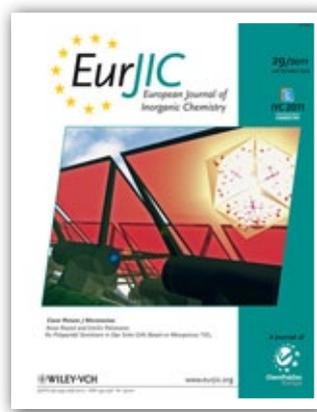
(*ChemSusChem* **2011**, 4, 197-207), co-authored by Stephan Roeser, Pau Farràs, Fernando Bozoglian, Marta Martínez-Belmonte, Jordi Benet-Buchholz and Antoni Llobet.



Two distinct conformations of GABA locked by embedding in the bicyclo[3.1.0]hexane core structure

**i** [Access to the abstract](#)

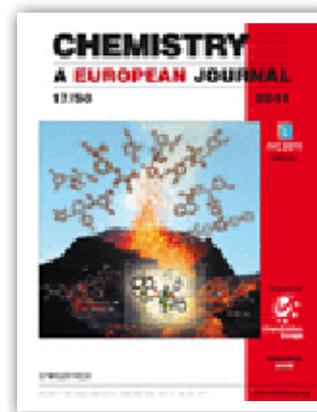
(*ChemMedChem* **2011**, 6, 1792-1795), co-authored by C. Jimeno, M. A. Pericàs, H. Peter Wessel, A. Alker, K. Müller.



Ruthenium Polypyridyl Sensitisers in Dye Solar Cells Based on Mesoporous TiO<sub>2</sub>

**i** [Access to the abstract](#)

(*Eur. J. Inorg. Chem.* **2011**, 4509-4526), authored by Anna Reynal and Emilio Palomares.



Enantioselective Access to Chiral Drugs by using Asymmetric Hydrogenation Catalyzed by Rh(P<sub>OP</sub>) Complexes

**i** [Access to the abstract](#)

(*Chem. Eur. J.* **2011**, 13929), authored by, Pablo Etayo, José Luis Núñez-Rico, Héctor Fernández-Pérez and Anton Vidal-Ferran.

## Good Morning & Goodbye

A working day at ICIQ starts and when you step in María says "Good morning!" Eight hours later, M<sup>a</sup> Carmen bids you farewell.

María Fernández and M<sup>a</sup> Carmen García are at ICIQ's reception desk managing calls, accrediting visitors, receiving mail and attending providers. "People here are very nice. They all say hello and good bye and there's always room for a little chat with ICIQ students, researchers and everybody else," says María, who joined ICIQ four years ago.

"What I like most here is multiculturalism. You have the chance of meeting people from all over the world and you can practice your English!", adds M<sup>a</sup> Carmen, who is fluent in English and Italian. In fact, María, is also fluent in German (her native language) and in English.

Asked what they like most about their work, they agree: "When you see former students or researchers that come back for a seminar or to visit and you realized that they keep good memories of the Institute." And of course, these good memories also refer to María and M<sup>a</sup> Carmen.



M<sup>a</sup> Carmen García and María Fernández at ICIQ's reception desk.

## The best posters!



Dr. Martha Escárcega and Giovanni Salassa

Dr. Martha Escárcega and Giovanni Salassa, PhD student (Kleij research group) have been awarded a prize for presenting two of the best 3 posters on exhibition at the Zing Conference on Coordination Chemistry (Dec 9-13, Mexico).

Martha's poster was titled:

*"Expanding the possibilities: Asymmetric (pro)chiral skeleton bridged Zn-salphen complexes"*

and Giovanni presented the poster:

*"Extremely strong self assembly of a bimetallic salphen complex visualized at the single-molecule level"*

[More info: Zing Conference on Coordination Chemistry](#)

## The Art of Chemistry

### Paintings by Fidel Solé



## Agenda

### 2012 Fèlix Serratosa Lectures January 16th, ICIQ Auditorium

**17.00 h** Welcome address Prof. Miquel A. Pericàs, ICIQ director.

**17.15 h** Prof. Josep Bonjoch (Universitat de Barcelona): "Total Synthesis of Natural Products Using Target-Oriented Organocatalysis."

**18.30 h** Prof. Stephen L. Buchwald (MIT): "Palladium-Catalyzed Carbon-Nitrogen Coupling Processes: Recent Advances, Applications and Mechanistic Studies."

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### ICIQ Seminar Program (September/November) All seminars at 12p.m. in the ICIQ Auditorium

**Jan. 13th:** Prof. Choon Eui Song (Sungkyunkwan University)

**Jan. 20th:** Prof. Xile Hu (École Polytechnique Fédérale de Lausanne)

**Mar. 21st:** Prof. Roberta Sessoli (Università degli Studi di Firenze)

**Apr. 13th:** Dr. Mike Whittlesey (University of Bath)

**May. 25th:** Prof. John Gladysz (Texas A&M University)