



CERIC-ERIC is an integrated multidisciplinary Research Infrastructure open for basic and applied users in the fields of Materials, Biomaterials and Nanotechnology. With a single entry point to excellent facilities, it allows structural investigation, analysis and synthesis of materials, using photon, electron, neutron, and ion based techniques.



Results



Opportunities



Events



Highlights



CERIC-ERIC newsletter n.7

October 2016

Results

Scientists applied a new method for drugs quality control, purer medicines and a better health*

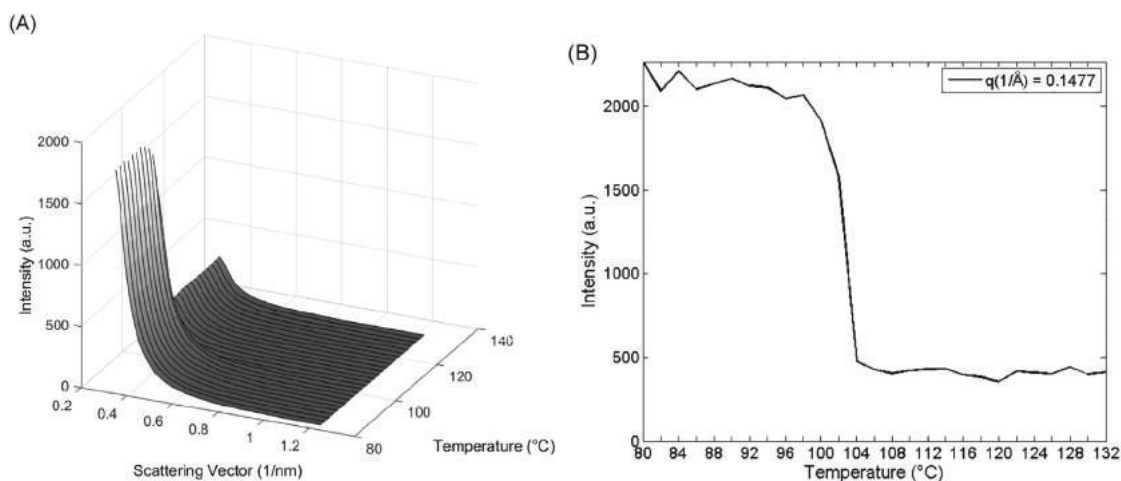
Stressful lifestyle results in many cardio-vascular diseases that are nowadays among main causes of death. A way to overcome this problem is to study, design and produce the purest medications as possible in order to reduce their side effects.

Nevertheless, manufacturing of pure drugs is very expensive and methodologies are limited to prove effective purity indicating impurities of pharmaceuticals below the detecting limit. The team of scientists led by **Aden Hodzic**, scientific and technology transfer officer at CERIC-ERIC, has applied a novel way to better test and control the purity of medicines and their structure by simultaneously analyzing the thermal behavior, purity, and structural properties of active pharmaceutical ingredients (APIs).

The international team of researchers combined both Small- and Wide-Angle X-ray Scattering (SWAXS) techniques with the Differential Scanning Calorimetry (DSC), with the goal to conduct API purity quality control of pentoxifylline, a synthetic drug used for the treatment of peripheral vascular diseases, the management of cerebrovascular insufficiency, sickle cell disease and diabetic neuropathy.

SWAXS gives information about the structure of the

analyzed material, i.e. API polymorphism, whereas DSC deals with thermodynamic and calorimetric properties indicating thermal drug transition, which gives again information about drug purity. The idea to combine these techniques in one single analytical tool for a simultaneous analysis of these aspects of the material has demonstrated to be very effective for ensuring a complete and reliable quality control of medicals before their commercialization. Indeed, a strict testing to ensure the absence of destructive impurities is highly relevant for any further pharmaceutical procedure. The effectiveness of the experimental method, highlighting both the thermodynamic and the structural changes of APIs related to purity when metabolized, will guarantee better medicines for us and for our health. The research has been the result of a scientific collaboration between CERIC-ERIC, the Graz University of Technology, the Research Centre for Pharmaceutical Engineering, the Institute of Pharmaceutical Sciences at the University of Graz and the company GL-Pharma. SWAXS and DCS are available also in CERIC laboratories at the Austrian beamline installed at Elettra in Trieste, Italy.



SAXS heating scans spectra of pentoxifylline in the temperature range of 80 to 140°C: a) SAXS heating scan, b) SAXS scattered intensity versus temperature. (SAXS exposure time one minute per frame, which corresponds to two°C per frame).

*A. Hodzic et al., *Monitoring of Pentoxifylline Thermal Behavior by Novel Simultaneous Laboratory Small and Wide X-Ray Scattering (SWAXS) and Differential Scanning Calorimetry (DSC)*, published on PLOS One, Volume 11, Issue 7, July 2016, Article number e0159840

How to preserve our cultural heritage? Scientists assess the firing conditions of old fired-clay bricks to find the most suitable restoration materials*

A research team around **Alberto Viani** from the Institute of Theoretical and Applied Mechanics in the Czech Republic performed a study to find the correlation between the structure of old fired-clay bricks and their firing temperature during the manufacturing process, in order to help in the replacement of damaged bricks for restoring some objects of our priceless cultural heritage.

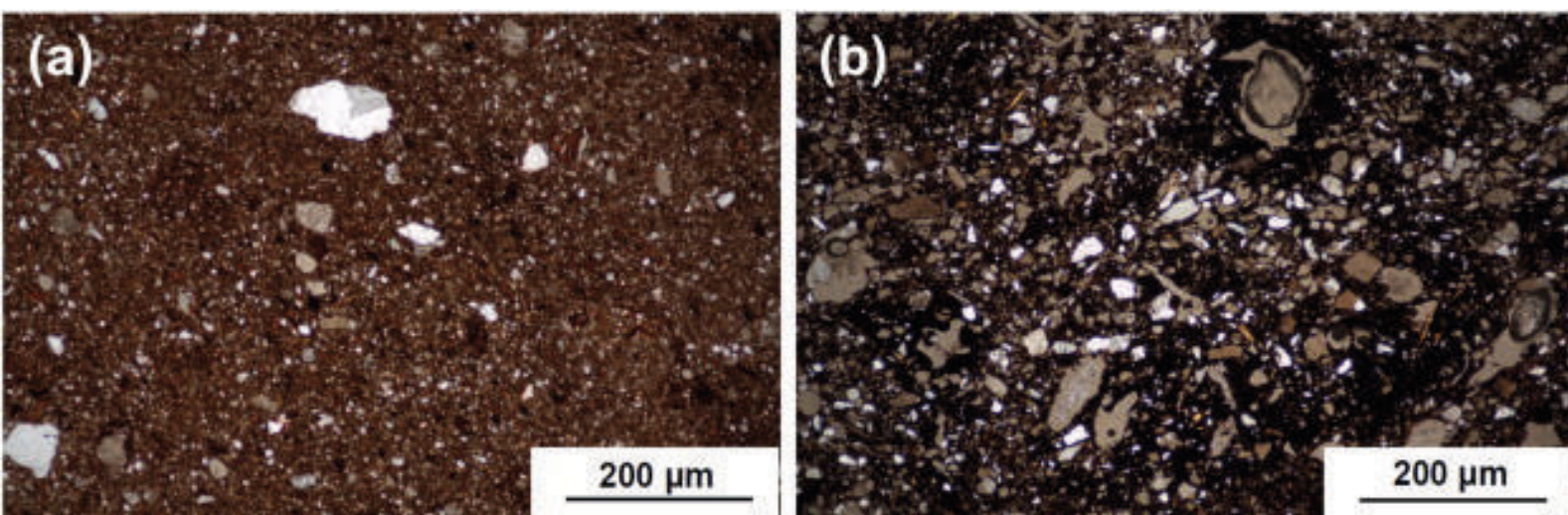
Fired-clay bricks have been one of the most widespread construction materials in Europe. Their use flourished in the 19th century for the construction of a huge number of buildings. Most of them still survive but have endured a number of different environmental conditions over the years. The preservation of these often culturally important buildings is therefore a challenge. A widely accepted approach in cultural heritage restoration is to use the best compatible materials. To this end, the structural characterization of the original bricks is important in order to choose the best replacement material and prevent further damage to buildings. The results of this study were recently published in the *Journal of Materials Characterization* and in *Brick and Block Masonry – Trends, Innovations and Challenges*.

The research team investigated a number of bricks from two historical production sites in the Czech Republic, made at different firing temperatures for different purposes (masonry and chimney bricks). In addition to common mineralogical analysis methods such as

electron microscopy, X-ray diffraction and porosimetry, they used the small angle neutron scattering (SANS) technique.

Since neutrons can penetrate deeply into matter, they are an ideal tool for the investigation of a dense porous system, such as fired bricks, ceramics and metals. SANS performed at the CERIC Hungarian facility, the Budapest Neutron Centre, therefore enabled characterization of the micro and nanostructure of bricks and information to be obtained about both their surface and their inner structure.

As a result of the study, the scientists could show that the amount of hematite – a mineral that is formed during the burning process – may be an indicator of the firing temperature used during the production process. Moreover, at the 16th International Brick and Block Masonry Conference in Padova (Italy), they showed the existence of an empirical relationship between the surface area per unit volume of pores obtained by SANS and the firing temperature. SANS was used in combination with a number of other standard techniques for the study of historical fired-clay bricks, confirming that it is a very effective tool for their characterization. Thanks to its efficiency, it greatly reduces the number of methods necessary to analyze old bricks and it may help in finding and producing suitable replacement materials to preserve valuable objects of our cultural heritage.



Optical microscope image in cross-polarised light of sample T (a) and U5 (b) in thin section

*A. Viani, K. Sotiriadis, A. Len, P. Šašek, R. Ševčík, *Assessment of firing conditions in old fired-clay bricks: The contribution of X-ray powder diffraction with the Rietveld method and small angle neutron scattering*, published in *Materials Characterization*, 116 (2016) 22-43

*A. Viani, K. Sotiriadis, P. Šašek, R. Ševčík, A. Len. *Characterization of historical fired clay bricks with small angle neutron scattering*. In: Modena C., da Porto F., Valluzzi M.R. (eds.), *Proceedings of the 16th International Brick and Block Masonry Conference, Padova, Italy, June 26th-30th, 2016*, Taylor & Francis Publications, Milton Park, 2016.

October 2016

Closed the 6th CERIC call for proposals

29 September 2016

The sixth CERIC call for proposals attracted 59 multi-disciplinary projects. Almost half of these were submitted before the first deadline for pre-evaluation. More than two thirds of the proposals submitted in the first deadline received comments for improvement.

The two steps submission is proving to be an effective tool of interaction, through which unfeasible and incomplete proposals become high quality projects that are awarded time after the peer-review.

CERIC is a founding member of the RESAVER pension Fund

Brussels - Belgium, 14 July 2016

CERIC-ERIC, Elettra Sincrotrone Trieste and the Central European University from Budapest are the founding members of RESAVER PENSION FUND, the first pan-European multi-employer and multi-country pension scheme offering a defined contribution plan, tailor-made for public and private research organizations and their employees, allowing them to move across countries and institutions while keeping the same supplementary pension fund.

The idea of a European labour market for researchers is a cornerstone of the European Research Area (ERA). RESAVER PENSION FUND, makes this idea concrete by enabling researchers to remain affiliated to the same supplementary pension fund when moving between different countries and changing jobs, therefore

ensuring adequate, safe and sustainable pensions for mobile employees working in the European research sector.

The European Commission has financially supported its establishment by providing € 4 million under Horizon 2020. Moreover, the EC will provide financial support for the functioning of RESAVER pension in its core activities during the start-up phase through an operating grant of € 700,000. This will ensure the liquidity of RESAVER pension until critical mass of participating institutions and assets have been obtained.

The initiative will contribute to removing pensions as the barrier to researchers' mobility and is an important step in the development of the ERA.



Funded the H2020-Infradev project ACCELERATE

26 August 2016

The H2020-Infradev project ACCELERATE was selected to receive funding for the next 4 years. The project aims at supporting CERIC sustainability through the collaborative development of policies with other research infrastructures (RIs), in particular new and forming ERIC entities. ACCELERATE will assist sustainability, relevance and effectiveness of the RI through the preparation of frameworks for services to private and public entities, outreach to new scientific and industrial networks and geographical areas and a methodology for RI social impact assessment. Together with the RI partners CERIC will also carry out several intense courses for developing future RI managerial, IL and TT staff. The project will be carried out while maintaining vigorous communication with research and industrial communities, policy makers, EC administration and other RI stakeholders.

Project partners are the European Spallation Source - ESS-ERIC (Sweden), ELI-DC (Belgium), KnaW (The Netherlands), the Technical University of Munich (Germany), the Helmholtz Zentrum Geesthacht (Germany), The Uzhorod National University (Ukraine), ESP Central (UK).

Events

Alpbach: common efforts to move Austria to the top

Alpbach - Austria, 24 August 2016



Dr. Jana Kolar, a member of ERA Council, an advising body to the Austrian Vice-Chancellor and Science Minister Reinhold Mitterlehner, met with the Minister on 24 August in Alpbach to discuss the next EU Framework Programme, the Austrian EU Council Presidency 2018, effects of the outcome of the UK-referendum on European research policy and the implementation of the Austrian RTI Strategy.

Science@FELS

Trieste - Italy, 5-7 September 2016

The Italian Representing Entity in CERIC, Elettra Sincrotrone Trieste, organized the three-day international Science@FELS conference that took place on 5-7 September in Trieste. The event was a follow up of the Science@FELS in 2014 and 2012, organized at the Paul Scherrer Institute and at DESY respectively, and is organized regularly as an activity of the Collaboration of European FEL and SPS Facilities (FELS of Europe). This year LaserLab Europe, the Integrated Initiative of European Laser Research Infrastructures, has taken part in the organization of the Science@FELS conference with the aim to

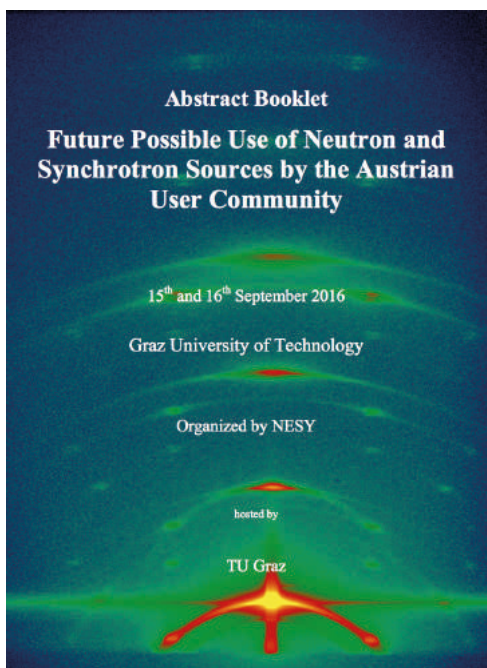


stimulate more extensive cross-fertilization and collaboration between the two communities, i.e. those working with lab-scale lasers and FELs, respectively. The invited speakers roster comprised many pioneers in the use of table top and free electron lasers for exploring structure and dynamic responses of matter to external stimuli. Over 150 attendees were given the opportunity to appreciate and discuss the scientific highlights achieved during last years and speakers' views in the fast evolving development and operation of lasers sources.

Free Electron Laser (FEL) are fourth generation light sources capable of producing high brightness light pulses, ten billion times more intense than those emitted by synchrotrons, and of very short duration, with a wavelength in the extreme ultraviolet to hard X-rays. Throughout the world, only four light sources of this type are today open to international users who get the unique opportunity to perform experiments shedding light on processes in matter at their natural length and time scales.

CERIC @ the NESY Symposium at the TU Graz

Graz - Austria, 15-16 September 2016



The Austrian Representing Entity in CERIC, the Technical University of Technology in Graz, organized the Nesy Symposium, that took place on 15-16 September. Both the Austrian and the Italian CERIC partners, as well as other institutions collaborating with CERIC, such as ILL, ESS and ESRF, presented the scientific and technical opportunities offered to the Austrian User Community in the field of materials science.

Prof. Carlo Rizzuto, Chair of the CERIC General Assembly, presented the Consortium and its philosophy, based on open access - based on a peer-review process - to a wide range of probing techniques and many different complementary instruments.

Another CERIC contribution was that of **Dr. Aden Hodzic**, industrial liaison and technology transfer officer at the Consortium, who presented the results of his research in a poster session, which allowed to apply a new successful method for drugs quality control and for producing purer medicines.

Prof. Frank Uhlig and **Dr. Heinz Amenitsch**, Austrian Delegate in the CERIC General Assembly and Director of the CERIC Austrian Partner Facility respectively, moderated the open roundtable in which the future possible use of neutron and synchrotron sources for the benefit of the Austrian scientific community was widely discussed.

Can Research Infrastructures close the gap between EU13 and the rest of Europe?

Jana Kolar spoke about the topic at the European Economic and Social Committee

Brussels - Belgium, 12 September 2016

Dr. Jana Kolar took part at the Public Hearing of the European Economic and Social Committee on 12 September in Brussels dedicated to the mid-term evaluation of Horizon 2020 Programme.

Her talk aimed at showing the main challenges and opportunities to close the success gap between the countries which have joined EU in 2004 or later (EU13 countries) and the rest of Europe in the future Research and Innovation EU Framework Programme. Some data indicate that whereas EU13 are reducing the gap with the EU15 for what concerns scientific excellence and their business expenditure in Research and Development, in regards to their participation in the EU Framework Programmes, this same gap is widening.

The question thus arises about what can be done for this gap to shrink.

First of all, the responsibility to obtain such a result has to be shared among Regions, Member States and Europe. The first two actors have the chance to modernize research systems,

build new networks by fostering mobility and organizing events, exploit synergies between Structural Funds and H2020 funds, support capacity building



and scientific excellence. Finally, they can promote and favour open access to Research Infrastructures such as CERIC, that supports excellent science and open access by integrating state-of-the-art European facilities (among which 6 out of 9 are in EU13 countries) in the field of materials science.

On the other hand, H2020 might consider the participation of EU13 countries as a selection criteria among the projects with equal score. Last but not least, Research Infrastructures should have dedicated funds also for initiatives favouring the participation of users from EU13. CERIC implements a two-step procedure to apply for open access, giving the chance to less experienced researchers to increase their success rate.

CERIC @ the European Materials Research Society - E-MRS Fall Meeting and Exhibit

Warsaw - Poland, 19-22 September 2016

The E-MRS Fall Meeting and Exhibit was held in Warsaw University of Technology from 19 to 22 September. The conference consisted of 27 parallel symposia with invited speakers, oral and poster presentations and a plenary session to provide an international forum for discussing recent advances in the field of materials science.

The event also hosted an exhibition of products and services of interest to the conference participants.

Matthias Girod, scientific officer at CERIC, presented the opportunities of the European Research Infrastructure Consortium (ERIC), its instruments and the available possibilities for researchers in the field of materials science.



Polish-Italian workshop on Science and Technology with synchrotron radiation

Warsaw - Poland, 21 September 2016

On 21 September, the Italian Embassy in Warsaw organized a seminar to offer Italian and Polish synchrotron radiation communities and high-tech companies the opportunity to share expertise and challenges and to envisage a broad range of chances for future common projects and activities.

Prof. Carlo Rizzuto and **Dr. Ornella De Giacomo**, Chair of the CERIC General Assembly and CERIC Deputy Executive Director respectively, presented CERIC, its open access service to complementary multi-technique facilities for researchers, as well as its potentials to contribute to strengthening the European Research Area.

Prof. Marek J. Stankiewicz, Director of the Polish Partner Facility in CERIC, the National Synchrotron Radiation Centre SOLARIS, presented the state of the art of the construction and operation of the infrastructure, as well as the plan for future developments, including the operation of the open access service starting 2017.

Dr. Kevin Prince, researcher and beamline scientist at the Italian Representing Entity in CERIC, Elettra Sincrotrone Trieste, presented his project Dyna Chiro, awarded with the CERIC Research Grant and involving, among others, both the Italian and the Polish synchrotrons.



October 2016



CERIC @ Nano-Innovation 2016

Rome - Italy, 20-23 September 2016



One of CERIC goals is to increase its collaboration with industry and to widen its network with companies working in fields spanning health, food, energy, high-tech materials, environment and more.

In order to achieve this goal, CERIC representatives take part in events offering the chance to meet potential partners and collaborators, as well as industrial users interested in using the infrastructure for research and development activities.

This is why **Dr. Aden Hodzic**, researcher and industrial liaison and technology transfer officer at CERIC, participated at the NanoInnovation Conference and Exhibition 2016, that took place on 20-23 September at the Faculty of Civil and Industrial Engineering - Sapienza University of Rome.

The event aimed at gathering the community involved

in the development of nanotechnologies and in their integration with other enabling technologies (KETs) in all application fields.

NanoInnovation has been a good opportunity for researchers, technologists, managers, entrepreneurs and investors to meet and share experiences, opinions and expectations about the growing role of nanotechnology in the KETs evolution towards a sustainable innovation from a social, environmental and economic point of view. Plenary sessions, tutorials, exhibitions, satellite events, symposia, poster sessions and B2B meetings gave the chance to all the actors present to build their networks and find opportunities for the development of their research and business in the future.

The TU Graz celebrates 20 years of the SAXS beamline

Trieste - Italy, 10-12 October 2016



SAXS on Nanosystems: Current trends and perspectives

20 years of the Austrian SAXS beamline

ICTP, Trieste, Italy / 10-12 October 2016



The Austrian Partner Facility in CERIC, in collaboration with the Italian Representing Entity in CERIC, Elettra Sincrotrone Trieste, has organized the symposium *SAXS Nanosystems: current trends and perspectives. 20 years of the Austrian SAXS beamline*, taking place in Trieste on 10-12 October 2016.

Since receiving its first light, the Austrian SAXS beamline from the Technical University in Graz has been always in the forefront of development in terms of sample perturbation for time-resolved measurements, as well as, technically, for classical transmission SAXS and GISAXS.

Besides the state-of-the-art instrumentation and method development in SAXS, the symposium has specifically covered the current trends in microfluidics, in operando, as well as fast pump probe experiments with applications in energy materials, nanomaterials, (bio-)polymers and biology.

The scope of the symposium has been to provide a ground for discussion, in order to address the perspectives of current trends, specially in the fields of micro- and nanofluidics and confined systems, in-operando and pump probe experiments, GISAXS and BioSAXS.

Venue: Main Lecture Hall of the Leonardo Da Vinci Building at the ICTP in Trieste (Italy)

October 2016

CERIC at ICRI 2016

Cape Town - South Africa, 3-5 October 2016

ICRI



The last ICRI 2016 conference took place in Cape Town (South Africa) from 3 to 5 October 2016. It was co-organized by the South African Department of Science and Technology (DST) and the European Commission.

Fabio Mazzolini, CERIC Deputy Executive Director for European and International Relations, on behalf of Dr. Jana Kolar, CERIC Executive Director, presented CERIC and its potentials to drive innovation.

CERIC recognizes as one of its advantages, the fact that it is composed of high quality partners, some of them RTOs, with established networks and collaborations with industry. To expand visibility, CERIC focuses on events, attended by industry, such as B2B events, as well as on a smart use of the web and social media channels.

CERIC is currently preparing its innovation management plan, which will enable that innovations stemming from CERIC funded research are recognized

and deployed. An important part in this endeavor is upskilling CERIC researchers, who should be able to recognize potential innovations and alert the responsible staff. Innovations should then be either protected, used or sold. CERIC is developing its structures in order to help in this process, while keeping in mind the will to contribute to the innovation ecosystem, rather than duplicate the available services in the vicinity.

Building on the conclusions of previous ICRI and the ongoing debates on Research Infrastructures in international fora such as the Group of Senior Officials (GSO) and the OECD-Global Science Forum (GSF), a more structured approach to collaboration on global Research Infrastructures was discussed with the international community, underlining the strategic importance of Research Infrastructures and exploring their role as a tool for Science Diplomacy.

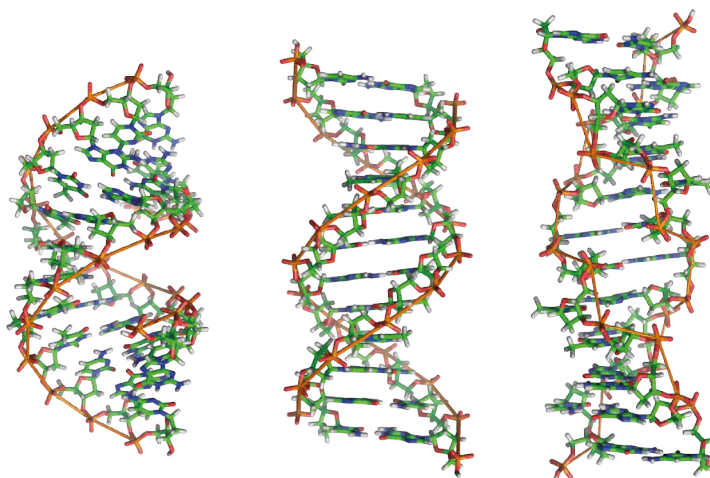
International symposium: Frontiers on wonderful world of nucleic acids

Zgornji Brnik - Slovenia, 16 December 2016

The Slovenian CERIC partner facility, the NMR in Ljubljana, organizes the international symposium "Frontiers on wonderful world of nucleic acids".

The symposium will enable the exchange of knowledge and expertise in the field of nucleic acid chemistry.

Nucleic acids are fundamental building blocks of life, which display remarkable chemical functions such as information storage, catalysis, and molecular recognition. The presence of world-class elite from China, Japan and Italy will help shape the scope and increase the impact of the Slovenian NMR centre across national borders. The symposium will lead to increased networking between participants and their institutions.



International speakers:

- Zhen Xi; Nankai University, Tianjin, China
- Daniela Montesarchio, University of Naples Federico II, Napoli, Italy
- Filomena Sica, University of Naples Federico II, Napoli
- Naoki Sugimoto, KONAN University; Frontier Institute for Biomolecular Engineering Research (FIBER)

October 2016



CERIC @ REinEU 2016

Bratislava - Slovakia, 26-28 October 2016



REinEU 2016

Re-Industrialisation of the European Union 2016

26-28 October 2016 / Bratislava / Slovakia

Excellent science, research and innovation are essential for a sustainable development of the European economy.

This is why hundreds of representatives from European and international research and innovation communities and the business sector will meet in Bratislava - Slovakia, from 26 to 28 October at the International Conference REinEU2016, to discuss topics spanning nanotechnologies, advanced materials, manufacturing and production technologies and biotechnology.

Together with ESS, ELI, ESRF and Helmholtz-Zentrum Geesthacht, CERIC will participate with a dedicated booth for delivering information about

the opportunities offered for both the research and the industrial community. Furthermore, the abovementioned infrastructures will organize a 90 minutes session aiming at highlighting the role of analytical research infrastructures in the support of research and innovation for European industries. REinEU2016, financed by the Horizon 2020 research and innovation programme (NMBP), will include matchmaking events, poster sessions, site visits around Bratislava, workshops and competitions. An important outcome of the conference lies in a final strategy document, which will be used as a basis for the next EU Presidency policy making. The event will be prepared in close cooperation with the EC.

**REinEU
2016**

HOW CAN INDUSTRIAL INNOVATION BENEFIT FROM ANALYTICAL RESEARCH INFRASTRUCTURES?

**Bratislava
27 October 2016**
E - Seminar Room 1

- Unique large-scale facilities.
- Offer characterisation of materials under processing and end-use conditions.
- Widely used for fundamental research.
- Open to proprietary and collaborative research by companies.
- Opportunity to enhance the competitiveness and innovation capacity of European industry.

www.rein.eu/reinEU2016

This session will demystify Analytical Research Infrastructures for industry, demonstrating how they already work with a wide range of businesses, and will discuss a future vision and expectation on how they should be better integrated into Regional and European-wide innovation processes.

**14:00 - 14:20
INTRODUCTION**
Giorgio ROSSI, President of the European Strategy Forum for Research Infrastructures (ESFRI)

**14:20 - 14:40
RESEARCH INFRASTRUCTURES & INDUSTRY: WHERE FEW HAVE GONE BEFORE**
Sylvie NIESSEN, Chargee Affaires for Development of Industrial Relations with Large-Scale Research Infrastructures (MESR, Paris)

**14:40 - 15:00
COMENIUS UNIVERSITY SCIENCE PARK (CUSP): BRIDGING INDUSTRY AND ACADEMIA**
Michal Ries, adviser to the Rector for the Comenius University Bratislava Science Park

**15:00 - 15:10
CLIPS FROM EUROPEAN RESEARCH INFRASTRUCTURE FLAGSHIPS**
SINE2020 and ScienceLink
CERIC ERIC
ESRF, NFFA and IRT NanoElec

**15:10 - 15:30
ROUNDTABLE DISCUSSION**
Challenges of opening Large-Scale Research Infrastructure for industry?
Future perspectives?
Specific efforts for SMEs?

15:30 END

Come and meet us as well at the Research Infrastructure Village booth in the exhibition



Highlights

The Polish CERIC Partner Facility was positively evaluated by the ISTAC

The Polish synchrotron will offer open access starting 2017

Krakow - Poland, 19-20 September 2016

The International Scientific and Technical Advisory Committee - ISTAC of CERIC met on 19 and 20 September in Krakow, Poland, to discuss about the CERIC scientific activities and programme such as open access, research grants and internal research.

One of the main results of the meeting was the positive assessment of the quality of the Polish partner facility, the National Synchrotron Radiation Centre SOLARIS, in terms of potential for excellent science and quality of service to the users.

The ISTAC was impressed by the progress in the construction of



SOLARIS
NATIONAL SYNCHROTRON
RADIATION CENTRE

SOLARIS and highlighted that the facility has a great potential to become a valuable addition to the European research infrastructure landscape. SOLARIS, that was inaugurated in September 2015 and that is currently developing new beamlines also in collaboration with other CERIC partners, will be offered through CERIC calls in 2017.



The 2nd internal CERIC workshop on communication took place to finalize the Communication Guidelines for the years 2017-2020

Trieste - Italy, 8-9 September 2016

The 2nd CERIC Internal Workshop on Communication presented the draft of the CERIC Communication Guidelines to the PR & Communication team from CERIC and its partners, to collect further suggestions from all the team members taking into account the specific needs both of CERIC and of each partner facility (PF), share best practices and update about the events & communication programs of each CERIC PF for the current and for the upcoming years.

All key strategic, verbal and visual elements of the Communication Guidelines were presented in a draft form, including proposed messages, tools and channels for future communication activities. The first outline of the Action plan for the next 2 years was also presented.

The participants' feedback during the workshop has been extremely helpful for completing the draft document. All proposals and suggestions for its improvement were discussed and the outputs of the discussion will be part of the last version of the CERIC Communication Guidelines, to be submitted for approval in October 2016 to the General Assembly of CERIC.



CERIC-ERIC at Trieste in Diretta

Trieste, Italy - 3rd October 2016

Dr. Ornella De Giacomo, Deputy Executive Director of CERIC, was interviewed by the journalist Umberto Bosazzi at the tv programme Trieste in Diretta.

De Giacomo spoke about CERIC and its opportunities for Trieste and the region Friuli Venezia Giulia, as well as for young and experienced researchers.

In particular, the international dimension of the Consortium was highlighted, as well as the chances to conduct excellent research in collaboration with research groups from all over the world exchanging knowledge, results and best practices.

CERIC-ERIC at Trieste In Diretta - 3.10.2016



**CLICK HERE TO WATCH THE VIDEO
(Italian only)**



Send your comments, articles and contributions to:
press@ceric-eric.eu



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opportunities and events on our website

www.ceric-eric.eu