



Centre for Advanced Structural Ceramics (CASC)

A UK centre for structural ceramics research and teaching, which is world-leading in this key area and is developing links with leading industrial and academic groups.

December 2016

10th Newsletter

CASC continues its activities supported by the **Industrial Consortium** formed of Morgan Advanced Materials, DSTL, Asahi Glass, Kerneos, Reaction Engines and John Crane. More than 30 students and postdoctoral researchers are working on projects funded by a variety of sources including EPSRC, EU and industry.



REACTION ENGINES

7th Edition of the Summer School, September 2016

On the 14th-16th of September we held the 7th annual ceramics summer school at Imperial which brought together a range of attendees and speakers from Industry and academia. Highlights included talks on processing from **Dr Adam Stevenson** (St-Gobain), **Dr Victoria Garcia Rocha** (Cardiff University) and **Dr. Martin Schwentenwein** (Lithoz GmbH) while **Dr Florian Bouville** (ETH Zurich) gave an excellent talk on mechanical properties. We are already planning the next summer school and will be looking to continue to expand the number of attendees.



The 8th edition of the Ceramic Summer School will be held in London in September 2017 with dates yet to be confirmed.

For registration and further details please contact Finn Giuliani (f.guiliani@imperial.ac.uk).

Call for Nominations for the 2016 Sir Richard Brook Prize



Sir Richard Brook

The **Sir Richard Brook Prize** is awarded to the best ceramics PhD in the UK as voted for by the industrial consortium members for CASC and its director.

The prize is sponsored by Morgan Advanced Materials and consists of a certificate, plaque and a £1000 cheque.

Candidates should present an abstract of their thesis and a short motivation letter by the nominator. The nominations should be sent to the CASC director, Prof Eduardo Saiz (e.saiz@imperial.ac.uk) by the 10th of January 2017.

The prize is normally announced shortly after the CASC Industry Day.

Professor Bill Lee Appointed President of the American Ceramic Society

Professor Bill Lee, founder of CASC, will be the first internationally American Ceramics Society's appointed President in its 118 years of history. "It is appropriate that the President be from the international community now that 40% of ACerS members are from overseas", said Professor Lee. "This shows that the Society is truly global. I am the first but I expect others from many other countries to follow". ([Click here for full newsarticle](#)).



Professor W. E. Lee

CASC Part of a New, Large EPSRC Programme

Transpiration cooling systems for Jet Engine Turbines and Hypersonic Flight.

This programme takes a multi-disciplinary approach to make transpiration cooling recognised as the ultimate cooling technology, a reality in future UK design and manufactured jet engines and hypersonic vehicles. The research is primarily funded by an **EPSRC programme grant** (£6.14 million) with further funding from Rolls-Royce and other industrial partners (£1.2 million). This is a joint initiative between the University of Oxford, Imperial College, University of Southampton and the University of Birmingham, bringing together a world-leading team of researchers to deliver the underpinning research to make transpiration cooling a reality.

CASC will be producing porous ultra-high temperature ceramics optimised for fluid flow, needed for transpiration cooling and retention of other properties.

ACerS Establishes First International Chapter

The ACerS Board of Directors approved its first application for the establishment of an international chapter at its recent meeting in Salt Lake City, Utah. The United Kingdom Chapter of ACerS will be located in London and will be led by Dr. Eugenio Zapata-Solvas. "This is a great opportunity and I will try my best to make it successful. All my energy, willingness and dedication will be at the service of ACerS members in the United Kingdom," explained Zapata-Solvas.

The Executive committee of the UK Chapter of ACerS is based in Imperial College London and its members are;

Chair: Dr. Eugenio Zapata-Solvas.

Treasurer: Dr. Luc Vandeperre.

Secretary: Ms. Theresa Davey.

Planning is underway for chapter meetings and activities. To become involved in the UK Chapter, contact Eugenio at: eugenio.zapata-solvas@imperial.ac.uk.

Further information: www.imperial.ac.uk/structural-ceramics or +44 20 7594 2053

Lectureship Position Available at the Materials Department

The department of materials is looking for at least **two new colleagues to join** its academic staff at the level of Lecturer.

Candidates with interest in any research area of materials science and engineering are invited, but more interested in candidates to strengthen our activities in ceramics, polymers, thin films or advance characterisation of materials.

Any queries regarding the application process, please contact Mrs. Darakshan Kahn (d.khan@imperial.ac.uk) and for more information: <http://www.jobs.ac.uk/job/AVF709/lectureships-in-materials/>

Prizes, Promotions and Media Mentions

- **Ezra Feilden-Irving** won the best Ceramic SEM micrograph at the MS&T meeting of ACerS. Ezra is a CASC-industry consortium sponsored PhD student working with Prof. Eduardo Saiz, Dr. Finn Giuliani and Dr. Luc Vandeperre.
- **Dr. Esther Garcia Tunon Blanca** has been appointed to a lectureship position at the University of Liverpool. We wish her all success in he future career and the best of luck.



CASC Diary

5 th December 2016	1 Day Research Meeting on Advanced Ceramics, Kingston University of London, UK.
10 th January 2017	Deadline for nominations for Richard Brook Prize .
20 th January 2017	CASC Industry Day .
22-27 January 2017	41 st international conference and expo on advanced ceramics and composites, Daytona Beach, USA.
31 st March 2017	Consortium member to submit research projects proposals for Meng & MSc students.
7 th April 2017	1 Day Research Meeting on Advanced Ceramics, Imperial College London, UK, including also the UK ceramic speaking competition.
21-26 May 2017	12 th Pacific Rim Conference on Ceramic and Glass Technology, Waikoloa, USA.
9-13 July 2017	15 th Conference & Exhibition of the European Ceramic Society, Budapest, Hungary.
14-16 September 2017	8 th Ceramic Summer School , London, UK.
4-7 November 2017	10 th international Conference on High-Performance Ceramics, Nanchang, China.

PhD Thesis

The following PhD's defended their thesis from May 2016:

- **Gil Machado**, August, "Calcium Phosphate Scaffolds with Controlled Properties for Biological Applications".
- **Claudio Ferraro**, July, "Bio-Inspired Ceramic Based Composites".

Out and about

CASC researchers have attended the following conferences and seminars this year:

- Beyond Nickel Super-alloys, **Cambridge**, UK, July 2016.
- 6th International Congress on Ceramics (ICC6), **Dresden**, Germany, August 2016.
- Immobilisation Science Laboratory, **University of Sheffield**, August 2016.
- Society of Glass Technology Centenary Conference and European Society of Glass 13th Conference, **Sheffield**, UK, September 2016.
- NSF Workshop on Emerging Opportunities in Ceramics and Glass Science, **Arlington**, VA, USA, September 2016.
- International Workshop on Theory and Modelling of Materials for Extreme Environments, **Abingdon**, UK, September 2016.
- American Ceramic Society New England Section meeting, Boxborough, **New Hampshire**, USA, November 2016.
- Distinctive Theme 3 meeting, **Penrith**, UK, November 2016.

Visitors

The following people visited CASC in the last few months:

- ✓ **D. Roberto Martin** (CIDETEC)
- ✓ **Dr. Alaitz Rekondo** (CIDETEC)
- ✓ **Dr. Cristina Botas** (CIC energyGune)
- ✓ **Dr. Erik Camposilvan** (INSA Lyon)
- ✓ **Ms. Silvia Stella Ramirez Caballero** (INSA, Lyon)
- ✓ **Mr. Miriam Regue Grino** (University of Bath)
- ✓ **Mr. Johannes Gabl** (ETH Zurich)
- ✓ **Mr Pedro Ivo Batistel Galiote Pelissari** (ETH Zurich)
- ✓ **Dr. Florian Bouville** (ETH Zurich)
- ✓ **Dr. Adam Stevenson** (St. Gobain)