International Groups Foster Cryogenic Technology

The following information has been gathered from responses to a *Cold Facts* survey of some of the leading international cryogenics groups to learn more about their history, objectives, membership and activities.



The Cryogenics Society of America

The non-profit Cryogenic Society of America is an international organization representing more than 3,200 individual reader/ members and 134 Corporate Sustaining Members from more than 30 countries. CSA also includes student members and retirees, as well as Lifetime members. Membership details are available at http://2csa.us/join

Founded in 1964, CSA publishes the acclaimed *Cold Facts* magazine six times per year, with the sixth issue being a comprehensive Buyer's Guide, sponsors short courses and webinars and the Space Cryogenics Workshop. It keeps members up to date with a monthly enewsletter, CryoChronicle, and frequent Newsflashes.

The purpose and objectives of the Cryogenic Society of America are to: encourage the dissemination of information concerning low temperature processes and techniques; bring together those in all disciplines concerned with the applications of low temperature technology; promote research and development of low temperature processes by meetings, professional contacts, papers, reports and publications; and to increase public awareness of the usefulness of cryogenic technology.

CSA has cooperative relationships with the Cryogenic Engineering Conference/ International Cryogenic Materials Conference; the International Cryocoolers Conference; ICEC/ICMC, the Applied Superconductivity Conference, the Refrigeration and Cryogenics Association of Romania, the Cryogenics and Superconductivity Association of Japan and other international groups.

The main CSA website, **www.cryogen**icsociety.org, and the Buyer's Guide site, https://csabg.org/, are visited by more than

13,000 persons per quarter, from a formidable number of prestigious institutions in 159 countries over the course of the year. CSA also supports the Cryogenic Treatment Database, **www.cryogenictreatmentdatabase.org**, the leading resource for research and information in the field of cryogenic treatment—the use of extremely cold temperatures to improve the properties of materials.

Officers: Executive Director, Laurie Huget; Board Chairman, John Weisend II European Spallation Source (ERIC); President, Melora Larson, Jet Propulsion Laboratory; Past President, James Fesmire, NASA Kennedy Cryogenics Test Laboratory; President-Elect, Peter Shirron, NASA Goddard Space Flight Center; Registered Agent/Director, Werner K. Huget.



The Cryogenics Society of Europe

The Cryogenics Society of Europe was founded on April 22, 2015. It is not profit-oriented. Its objectives include: strengthening the European position of cryogenic technologies; representing European activities in cryogenic technologies in social, scientific, industrial and political forums; promoting communication and information exchange in the area of cryogenic technologies; fostering the training of young researchers in the area of cryogenic technologies; and bringing together those active in cryogenic technologies and potential user communities so as to stimulate applications of these technologies.

This relatively new group co-organizes the European Cryogenics Days and sponsors the European Course of Cryogenics. CSE publishes a free newsletter available to all, not just members. The website is **www.cryoeurope.org**

The CSE is supported by 30 Corporate Members from 12 different countries (Germany, Switzerland, Netherlands, Italy, France, UK, Spain, Austria, Belgium, Czech Republic, Poland and Latvia). There are 56 Individual Members from 14 countries (Germany, France, UK, Switzerland, Netherlands, Sweden, Poland, Italy, Latvia, Spain, Slovenia, Portugal, Romania

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and USA). Anyone who shares the aims and objectives of the society can apply for membership. Membership applications must be approved by the board.

The current board is composed of: Marcel ter Brake, Netherlands, Chairman; Andrea Raccanelli, Germany; Ronald Dekker, Netherlands; Lionel Duband, France; and Christoph Haberstroh, Germany.



The British Cryogenics Council

The British Cryogenics Council was founded on May 24, 1967, at The Royal Society, London. The website is **www.bcryo.org.uk**

The BCC's mission is the advancement of scientific education by promoting knowledge of and interest in cryogenics, thereby fostering the development and application of cryogenics for the public benefit. The Council sponsors the annual British Cryogenic Cluster Day http://www.stfc.ac.uk/news-events-andpublications/events/general-interest-events/ cryogenic-cluster-day-chain-of-events/ and other events such as ICEC27-ICMC2018, and the Oxford Superconductivity Summer School.

Publications include the quarterly Low Temperature News, and the monthly B Cryo newsletter. Membership includes more than 100 Corporate Members from UK, Europe and the USA, with a similar number of individual members. Individuals, institutions and companies with an interest in cryogenics may apply for membership in the British Cryogenics Council.

BCC leaders include: Dr. Beth Evans, Chair, and Dr. Oleg Kirichek, Vice Chair.



The Refrigeration and Cryogenics Association of Romania (AFCR)

AFCR is a professional organization of individuals and businesses, non-governmental, non-profit/autonomous and apolitical, established in 2012 in Galati, Romania. The address is 111 Domneasca Street, G corp. , email, afcr@ criofrig.ro, website, www.criofrig.ro.

AFCR aims to bring together specialists from Romania and abroad to promote science, advanced technology in the domain of refrigeration, air conditioning and research and engineering in cryogenics. Its 70 members reside in Romania. Members of the association are selected by the board, based on such criteria as individuals or corporations adhering to the association's purpose, who perform activities consistent with its objectives and grant financial support to fulfill its educational purpose, and renowned specialists from local and international institutions who contribute to the achievement of the association's goal.

Each year the AFCR's General Meeting decides and approves the forecasted agenda, which includes events dedicated to education and research, including the Students Summer School; hosted events within local universities such as the Politehnica in Bucharest; the Technical in Cluj Napoca; Dunarea de Jos in Galati; and the Transilvania in Brasov. The group also organizes international conferences under the auspices of the International Institute of Refrigeration. The goal of these meetings is to create an environment for innovative ideas gathered within a challenging field that is constantly developing, enabling attendees to discuss research ideas, exchange knowledge and technology based on experience in cryogenic and refrigeration technologies.

In collaboration with the IIR, all papers submitted within AFCR conferences are published in the IIR Fridoc database and selected papers are included in the IIR *International Journal of Refrigeration* published by Elsevier.

Officers: Prof. Eng Florea Chiriac PhD, Honorary President; Prof. Eng. Liviu Drughean PhD, President; Prof. Eng. Alexandru Serban PhD, Vice President; Prof. Eng. Viorel Popa PhD, Vice President; Prof. Eng. Mugur–Ciprian Balan PhD, Vice President; and Prof. Eng. Anica Ilie, Vice President.



The Society for Cryobiology

This society was founded in 1964 in Maryland, USA, to bring together those from the biological, medical and physical sciences who have a common interest in the effect of low temperatures on biological systems. The purpose of the society is to promote scientific research in low temperature biology, to improve scientific understanding in this field, and to disseminate and apply this knowledge to the benefit of mankind. The website is **www.societyforcryobiology.org**

The Society for Cryobiology organizes an annual scientific meeting under the name CRYO20XX corresponding to the current year, e.g. next year's meeting is CRYO2018.

In the past they have also sponsored meetings of the Organ Preservation Alliance and the American College of Cryosurgery and co-sponsored a conference with CSA.

The society's publication, *Cryobiology: International Journal of Low Temperature Biology and Medicine*, is published by Elsevier six times per year. A monthly enewsletter is also available on their website.

The Society for Cryobiology comprises approximately 300 members from around the world. The majority of members are located in North America and Europe; however, they are a truly global organization with members on all six populated continents. Membership is open to: individuals engaging in or concerned with scientific research in low temperature biology who concur with and support the objectives and policies of the Society ("individual members"); nonprofit organizations supportive of scientific research in low temperature biology that concur with and support the objectives and policies of the Society ("institutional members"); commercial organizations supportive of scientific research in low temperature biology that concur with and support the objectives and policies of the Society ("corporate members"); and trainees who are undergraduate students or graduate students or post-doctoral fellows working in the area of cryobiology ("student members").

Officers are Nicole Evans, Executive Director; and Dayong Gao, President 2018-2019.



The Indian Cryogenics Council

This council was established in 1975 under the leadership of Prof. Akshay Bose to promote cryogenics in India, with its headquarters at Jadavpur University, Kolkata. It is now centered at the Inter-University Accelerator Center in New Delhi. It has 600 members and 13 corporate members. It holds national symposia on cryogenics every two years and publishes the *Indian Journal of Cryogenics*. In 2016, the group organized the ICEC26- ICMC2016 conference.

Details are available at the website, www.indian-cryogenics.com. Address general inquiries to icc.iuac@gmail.com.

Officers: Dr. T.S. Datta, President, Inter University Accelerator Center; and Dr. R.G. Sharma, Chief Editor-IJC and Vice President. Other vice presidents are Dr. M.D. Atrey (West Zone), Indian Institute of Technology (IIT); Dr. S. Sarangi (East Zone), National Institute of Technology (NIT); and Dr. R. Karunanithi (South Zone), Indian Institute of Science (IISc).



The International Society of Cryosurgery

The International Society of Cryosurgery was founded in 1972 in Italy. It organizes a congress every two years internationally. The most recent were held in Trieste, Italy; Madrid, Spain; and Sharm el Sheik, Egypt. Their 19th congress will take place in Guangzhou, China, in April 2018.

The ISC's purpose is to foster the transmission of knowledge between different surgical specialties that work with cryogenics. There are no restrictions to membership. The current president of the society is Dr. Carlos Hernández, Madrid. The web page is: www.societyofcryosurgery.org.