



## The AIRAPT turned 50

On the 50<sup>th</sup> Anniversary of the AIRAPT foundation after the First AIRAPT Conference in Le Creusot, France, back in 1965, the Organizing Committee of the joint AIRAPT-25 & EHPRG-53 Conference is proud to have the opportunity to commemorate this event here in Madrid. The name of AIRAPT (International Association for the Advancement of High Pressure Science and Technology) corresponds to the French acronym of “*Association Internationale pour Avancement de la Recherche et de la Technologie aux Hautes Pressions*”, which was suggested by the Belgium scientist Prof. Deffet.

The AIRAPT was possible thanks to those enthusiastic and encouraging pioneers as were: B. Vodar (France), H. Ll. D. Pugh (United Kingdom), L. Deffet (Belgium), C. J. M. Roijmans (The Netherlands), J. Osugi (Japan), L. F. Vereschagin (USSR), and E. U. Franck (Germany), among who Boris Vodar was specially motivated to keep the sprit and activity that inspired the foundation of AIRAPT.

Since then High Pressure Science and Technology has experienced an astonishing growth in an open multidisciplinary environment that rather contributed to the creation of different interdisciplinary teams of excellence, being able to face the important challenges posed by high-pressure research. Great achievements have been possible towards higher pressures, nowadays making possible experiments in the TPa range in our laboratories, the improvement and adaptation of different characterization techniques of matter under extreme conditions of pressure and temperature -particularly those associated with specially dedicated beam stations at large facilities of synchrotron radiation- or the development of efficient *ab initio* methods with capabilities to explain and eventually predict new physical phenomena and materials design. All decisively contributed to the advance of science and understanding of nature, with high pressure as common *leitmotiv*.

The AIRAPT arose as a scientific forum for discussions aiming to promote contacts and cooperation between scientists and organizations of different countries, to collect and disseminate of information, having the advancement of science and technology in the field of high pressure as main objective. Each biannual AIRAPT Conference was a privileged witness of all these improvements and discoveries, as well as vital forums for the exchange of ideas and establishment of collaborations among different research groups in a multidisciplinary environment.

Through these lines, we intend to pay tribute to all scientists that have contributed in some way to the findings and development of high pressure through their work and participation in the AIRAPT Conferences. They conform the spirit of the AIRAPT. We hope that the AIRAPT motivates young scientists to join us and continue the challenge of exploring compressed matter as a way to unveil new phenomena and materials and a better understanding of our world.

To everyone, our most sincere and warmest thanks!

More information at the AIRAPT official webpage: <http://www.airapt.org/>

## AIRAPT Awards

The AIRAPT gives two special Awards to relevant scientists who made outstanding contributions to the development of high-pressure science and technology. Information about procedures and call for nominations can be obtained at <http://www.airapt.org> (Awards). On the right, the Bridgman Medal.



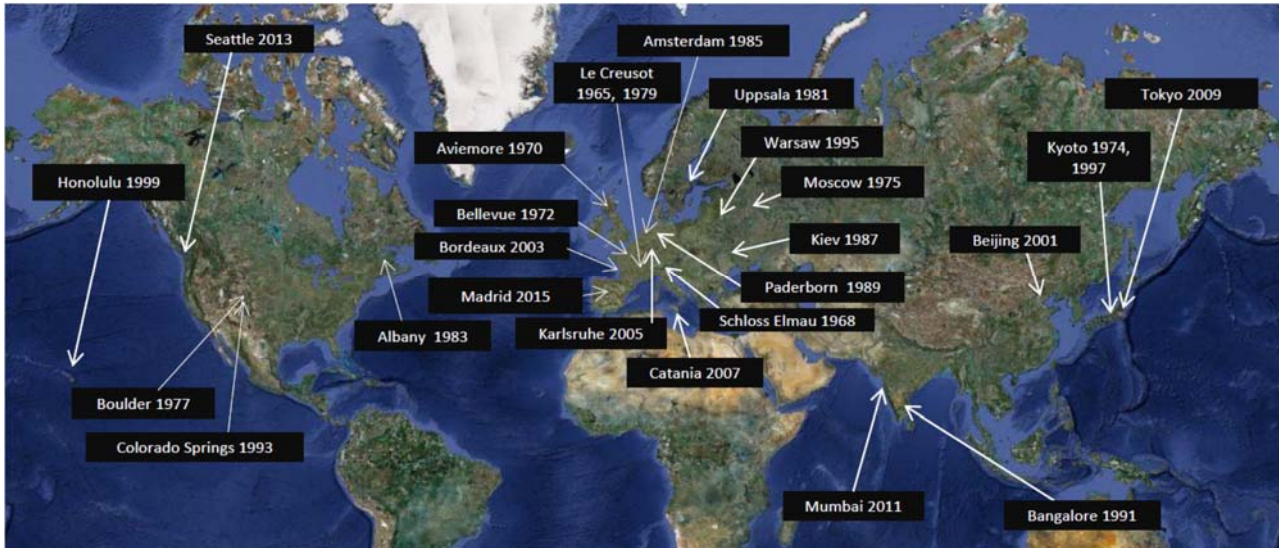
The Bridgman Award, named in honor of **Pierce W. Bridgman** (1882-1961), who was Professor of Physics at Harvard University. In 1946, Bridgman won the Nobel Prize in Physics *"for the invention of an apparatus to produce extremely high pressures and for discoveries he made therewith in the field of high pressure physics."* He invented the Bridgman anvil apparatus and, over a period of 40 years, he investigated an enormous variety of materials up to ~ 3 GPa (30 kbar) at room temperature. Bridgman was one of the founders of modern high-pressure research.

A graduate or postdoctoral researcher gives the Jamieson Award for outstanding achievements in the field of high-pressure research. **John Calhoun Jamieson** (1924-1983) was Professor of Geophysics at the University of Chicago. Most of his research used static high pressures. However, he also performed shock experiments at Los Alamos and SRI International. A number of Jamieson's former students and colleagues established the John C. Jamieson Memorial Fund, which supports the Award. Bob Schock, a former postdoc of Jamieson and currently Director of the World Energy Council, manages the fund.



First Bridgman Awardee, Dr. H. G. Drickamer (right), during the VI AIRAPT Conference in Boulder, CO, USA (1977). Presentation of the Bridgman Medal to Dr. Drickamer by Mrs. Jane Bridgman Koopman, daughter of the Nobel laureate P.W. Bridgman, and Dr. H. Ll. D. Pugh, President of the AIRAPT.

## World distribution of host cities of AIRAPT Conferences



Twenty-six AIRAPT Conferences have been celebrated in different countries in the last 50 years: USA (5), France (4), Germany (3), Japan (3), India (2), Russia (1), China (1), United Kingdom (1), Ukraine (1), Italy (1), Sweden (1), Netherland (1), Poland (1), and Spain (1).

## AIRAPT Conferences and Awarded Scientists

- 1 1965: Le Creusot, France, **I AIRAPT Conference**  
 Chairman & AIRAPT President: **B. Vodar**, C.N.R.S., France
- 2 1968: Schloss Elmau, Germany, **II AIRAPT Conference**  
 Chairman: **E. U. Franck**, Institute for Physical Chemistry, University of Karlsruhe  
 AIRAPT President: **B. Vodar**, C.N.R.S., France
- 3 1970: Aviemore, Scotland, U.K., **III AIRAPT Conference**  
 Chairman: **H. Li. D. Pugh**, National Engineering Laboratory, UK  
 AIRAPT President: **B. Vodar**, C.N.R.S., France
- 4 1972: Bellevue, France, (unnumbered Conference)  
 Chairman & AIRAPT President: **B. Vodar**, C.N.R.S., Bellevue, France
- 5 1974: Kyoto, Japan, **IV AIRAPT Conference**  
 Chairman: **J. Osugi**, Kyoto University, Japan  
 AIRAPT President: **B. Vodar**, C.N.R.S., France
- 6 1975: Moscow, URSS, **V AIRAPT Conference**  
 Chairman: **L. F. Vereschagin**, Institute of High Pressure Physics, USSR  
 AIRAPT President: **B. Vodar**, L.I.M.H.P., C.N.R.S., France
- 7 1977: Boulder, CO, USA, **VI AIRAPT Conference**  
 Chairman: **K. D. Timmerhaus**, University of Colorado, USA  
 AIRAPT President: **B. Vodar**, L.I.M.H.P., C.N.R.S., France  
 First **P. W. Bridgman Award**: **H. G. Drickamer**, University of Illinois, USA
- 8 1979: Le Creusot, France, **VII AIRAPT Conference**  
 Chairman: **B. Vodar**, L.I.M.H.P., C.N.R.S., France  
 AIRAPT President: **H. Li. D. Pugh**, National Engineering Laboratory, UK  
 Bridgman Award: **B. Vodar**, L.I.M.H.P., C.N.R.S., France
- 9 1981: Uppsala, Sweden, **VIII AIRAPT Conference**  
 Chairman: **C. M. Backman**, Institute of Physical Chemistry, University of Uppsala  
 AIRAPT President: **H. Li. D. Pugh**, National Engineering Laboratory, UK  
 Bridgman Award: **E. U. Franck**, University of Karlsruhe, Germany
- 10 1983: Albany, NY, USA, **IX AIRAPT Conference**  
 Chairmen: **C. Homan**, Department of Physics, State University of New York, USA; **R. K. MacCrone**, Rensselaer Polytechnic Inst., Troy, NY, USA; **E. Whalley**, Division of Chemistry, Nat. Res. Council, Ottawa, Canada  
 AIRAPT President: **E. U. Franck**, Institut für Physikalische Chemie, University of Karlsruhe, Germany  
 Bridgman Award: **F. Birch**, Harvard University, MA, USA
- 11 1985: Amsterdam, The Netherlands, **X AIRAPT Conference**  
 Chairman: **N. J. Trappeniers**, University of Amsterdam, The Netherlands  
 AIRAPT President: **N. J. Trappeniers**, University of Amsterdam, The Netherlands  
 Bridgman Award: **N. J. Trappeniers**, University of Amsterdam, The Netherlands
- 12 1987: Kiev, URSS, **XI AIRAPT Conference**  
 Chairman: **N. V. Novikov**, Institute for Superhard Materials, Kiev, USSR  
 AIRAPT President: **R. N. Keeler**, Lawrence Livermore Laboratory, USA  
 Bridgman Award: **F. P. Bundy**, General Electric Research Lab, Schenectady, New York, USA  
 Jamieson Award: **V. N. Moisienko**

- 13 1989: Paderborn, Germany, **XII AIRAPT Conference**  
*Chairman: W. B. Holzapfel*, University of Paderborn, Germany  
*AIRAPT President: R. N. Keeler*, Lawrence Livermore National Laboratory, USA  
*Bridgman Award: H.-K. Mao*, Geophysical Lab, Carnegie Institution of Washington, USA  
*Jamieson Award: E. Yakovenko*, Institute of crystallography, USSR Academy of Sciences, Moscow, URSS
- 14 1991: Bangalore, India, **XIII AIRAPT Conference**  
*Chairman: A. K. Singh*, National Aeronautical Laboratory, Bangalore, India  
*AIRAPT President: B. Baranowski*, Institute of Physical Chemistry, Warsaw, Poland  
*Bridgman Award: S. Minomura*, Solid State Physics Inst., University of Tokyo, Japan
- 15 1993: Colorado Springs, CO, USA, **XIV AIRAPT Conference**  
*Chairmen: J. Shaner*, Los Alamos National Laboratory, NM; *M. Ross*, American Institute of Physics, New York; *G. Samara*, Sandia Laboratories, Sandia, NM, USA  
*AIRAPT President: J. W. Shaner*, Los Alamos National Laboratory, NM, USA  
*Bridgman Award: A. L. Ruoff*, Cornell University, Ithaca, NY, USA
- 16 1995: Warsaw, Poland, **XV AIRAPT Conference**  
*Chairman: S. Porowski*, High Pressure Research Center, Warclaw, Poland  
*AIRAPT President: J. W. Shaner*, Los Alamos National Laboratory, NM, USA  
*Bridgman Award: B. Baranowski*, Institute of Physical Chemistry, Warsaw, Poland  
*Jamieson Award: I. Grzegory*, High Pressure Research Center, Warclaw
- 17 1997: Kyoto, Japan, **XVI AIRAPT Conference**  
*Chairman: O. Fukunaga*, Tokyo Institute of Technology, Tokyo, Japan  
*AIRAPT President: A. L. Ruoff*, Cornell University, Ithaca, NY, USA  
*Bridgman Award: W. Bassett*, Cornell University, Ithaca, NY, USA  
*Jamieson Award: N. Miyajima*, Division of Earth and Planetary Sciences, Hokkaido University, Japan
- 18 1999: Honolulu, Hawaii, USA, **XVII AIRAPT Conference**  
*Chairman: M. Manghnani*, University of Hawaii, USA  
*AIRAPT President: A. L. Ruoff*, Cornell University, Ithaca, NY, USA  
*Bridgman Award: V. E. Fortov*, Russian Academy of Sciences, Moscow, Russia  
*Jamieson Award: J. C. Crowhurst*, University of the Witwatersrand, Johannesburg, South-Africa
- 19 2001: Beijing, China, **XVIII AIRAPT Conference**  
*Chairman: G. Zou*, National Lab of Superhard Materials, Jilin University, China  
*AIRAPT President: S. Porowsky*, High Pressure Research Center, Warclaw, Poland  
*Bridgman Award: W. J. Nellis*, Lawrence Livermore National Laboratory, University of California, CA, USA  
*Jamieson Award: Y. Ma*, Superhard Materials Nat. Lab, Jilin University, China
- 20 2003: Bordeaux, France, **XIX AIRAPT Conference**  
*Chairman: G. Demazeau*, ICMCB, CNRS, University of Bordeaux I, France  
*AIRAPT President: S. Porowsky*, High Pressure Research Center, Warclaw, Poland  
*Bridgman Award: N. W. Ashcroft*, Cornell University, Ithaca, NY, USA
- 21 2005: Karlsruhe, Germany, **XX AIRAPT Conference**  
*Chairman: E. Dinjus*, Research Center Karlsruhe, Germany  
*AIRAPT President: W. J. Nellis*, Harvard University Cambridge, USA  
*Bridgman Award: S. M. Stishov*, Institute for High Pressure Physics, Russian Academy of Sciences, Moscow, Russia  
*Jamieson Award: J. Rouquette*, University Montpellier II Sciences et Techniques Languedoc, Montpellier, France
- 22 2007: Catania, Italy, **XXI AIRAPT Conference**  
*Chairman: R. Pucci*, University of Catania, Italy  
*AIRAPT President: W. J. Nellis*, Harvard University Cambridge, USA  
*Bridgman Award: T. Yagi*, Institute for Solid State Physics, University of Tokyo, Japan  
*Jamieson Award: I. Hernández Campo*, University of Cantabria, Santander, Spain
- 23 2009: Tokyo, Japan, **XXII AIRAPT Conference**  
*Chairman: T. Yagi*, Institute for Solid State Physics, University of Tokyo, Japan  
*AIRAPT President: R. Boehler*, Max-Planck Institut für Chemie, Mainz, Germany  
*Bridgman Award: R. J. Hemley*, Geophysical Lab, Carnegie Institution of Washington, Washington, USA  
*Jamieson Award: Y. Kuwayama*, Tokyo Institute of Technology, Japan
- 24 2011: Mumbai, India, **XXIII AIRAPT Conference**  
*Chairman: S. Gupta*, Bhabha Atomic Research Centre, Mumbai, India  
*AIRAPT President: R. Boehler*, Max-Planck Institut für Chemie, Mainz, Germany  
*Bridgman Award: E. Itoh*, Institute for Study of the Earth's Interior, Okayama University, Japan  
*Jamieson Award: T. A. Strobel*, Geophysical Lab, Carnegie Institution of Washington, USA
- 25 2013: Seattle, WA, USA, **XXIV AIRAPT Conference**  
*Chairmen: C.-S. Yoo*, Washington State University; *G. Collins*, Lawrence Livermore National Lab; *D. Moore*, Los Alamos National Lab, USA  
*AIRAPT President: T. Irifune*, Geodynamics Research Center, Ehime University, Japan  
*Bridgman Award: K. Syassen*, Max-Planck Institute, Stuttgart, Germany  
*Jamieson Award: D. Y. Kim*, Carnegie Institution of Washington, DC, USA
- 26 2015: Madrid, Spain, **XXV AIRAPT Conference**  
*Chairman: V. G. Baonza*, Universidad Complutense de Madrid, Spain  
*AIRAPT President: T. Irifune*, Geodynamics Research Center, Ehime University, Japan  
*Bridgman Award: P. Loubeyre*, CEA, Bruyères-Le-Châtel, France  
*Jamieson Award: R. Howie*, University of Edinburgh, UK