



## PREFACE

The second International Particle Accelerator Conference, IPAC'11, took place at the Kursaal, San Sebastian, Spain from Sunday to Friday, 4 to 9 September, 2011. It was attended by close to 1100 full time delegates from approximately 30 different countries on all continents. Held under the auspices of the European Physical Society Accelerator Group (EPS-AG), and the International Union of Pure and Applied Physics (IUPAP), it was organized by ALBA-CELLS, CDTI, CIEMAT, ESS Bilbao and IFIC.

The organizers of IPAC'11 are most grateful for support from the Ministerio de Ciencia e Innovación - Gobierno de España, Ayuntamiento de San Sebastián, Gobierno Vasco, Diputación Foral de Gipuzkoa, San Sebastián Turismo – Convention Bureau, CPAN, Kursaal.

Furthermore, the attendance of over 107 young scientists from all over the world was made possible through the sponsorship of societies, institutes and laboratories worldwide (in alphabetical order): ACFA (IPAC'10), ALBA/CELLS, APS-DPB, CEA, CERN, CNRS-IN2P3, DESY, DIAMOND Light Source, ESRF, FZD, FZJ, GSI, HZB, HIC for FAIR, INFN, JAI, Lund University, Max-lab, MSL, PSI, Synchrotron SOLEIL, STFC. The organizers of IPAC'11 are grateful to all sponsors for their valuable support.

The conference was opened by Oliver Brüning, the Chair of the EPS-AG and the IPAC'11 OC, by Francis Perez, Chairman of the LOC, with a special greeting from Cristina Garmendia, the Spanish Minister of Science and Innovation.

Dieter Einfeld (CELLS/ALBA) opened the scientific programme with a presentation on the *ALBA Synchrotron Light Source Commissioning*, followed by *J-PARC Beam Commissioning Progress* presented by Hideaki Hotchi (J-PARC). Koji Noda (NIRS), Steve Peggs (ESS Lund) and John Duncan (Geneva UK Mission for Multilateral Arms Control and Disarmament), gave inspiring closing presentations respectively on *Review of Hadron Therapy Accelerators Worldwide and Future Trends*, *The European Spallation Source* and *Towards a World Without Nuclear Weapons: How can Scientists Help?*

Close to 90 invited and contributed oral presentations of very high quality were made during the week, including a fascinating "Entertainment" presentation entitled *Is it Possible to Operate a Large Research Facility with Wind Power* by Colin Carlile, of the European Spallation Source.

The scientific programme was developed by the IPAC'11 SPC. It was a truly international body with members coming 50% from Europe and 50% from Asia and North America. The conference programme spanned four and a half days, with plenary sessions on Monday and Friday mornings, and Thursday afternoon. All other sessions were composed of two oral sessions in parallel, with the poster sessions scheduled alone at the end of each afternoon. There were 43 invited talks, 51 contributed oral presentations, and 1300 posters were scheduled during the lively poster sessions at the end of each afternoon. These proceedings contain the reports of 1236 contributions.

An industrial exhibition took place during the first three days of the conference. Industrial exhibitors occupied 82 booths and presented their high technology products and services to the delegates in an excellent atmosphere conducive to discussions.

Best Student Poster Prizes were awarded to Aleksandar Angelovski, TU Darmstadt for the contribution entitled *Realization of a High Bandwidth Bunch Arrival Time Monitor with Cone-shaped Pickup Electrodes for FLASH and XFEL* and to Sam Posen (Cornell University) for the contribution entitled *Cornell SRF New Materials Program*

A prize, awarded to a student registered for a PhD or diploma in accelerator physics or engineering or to a trainee accelerator physicist or engineer in the educational phase of their professional career, for the quality of work and promise for the future was awarded to Pei Zhang (University of Manchester), for his contribution entitled *Study of Beam Diagnostics with Trapped Modes in Third Harmonic Superconducting Cavities at FLASH*.

The Frank Sacherer prize for an individual in the early part of his or her career, having made a recent, significant, original contribution to the accelerator field, was awarded to Rogelio Tomás García (CERN) *"for his many important, original contributions to accelerator physics, especially the optics design and optics measurement and correction techniques applied to a large number of circular and linear collider projects. Dr. Tomás' achievements combine theoretical ability with practical skills, and range from studies of resonances and non-linearities in accelerators and beam lines to operations and upgrades for the LHC."*

The Gersh Budker prize for an individual having made a recent, significant contribution to the accelerator field with no age limit, was awarded to Yasushige Yano (RIKEN) *"for his innovation and leadership in the design, construction and successful operation of RIBF, the world's first radioactive ion beam facility based on SC sector-magnet cyclotrons. Dr. Yano's understanding and foresight have led to major advances in cyclotron technology and in realizing them he has created a major new facility for nuclear physics with unparalleled capabilities for years to come."*

The Rolf Wideröe prize for outstanding work in the accelerator field with no age limit, was awarded to Shin-ichi Kurokawa (KEK) *"for outstanding leadership in the design, construction and operation of several high-energy accelerators, including the KEK PS, TRISTAN and the KEK B-Factory. Through his intensive participation in international collaboration within ACFA and ICFA, he initiated and expanded worldwide scientific exchange, building sturdy bridges of understanding and collaboration between Japan, Asia and the rest of the world."*

The EPS-AG prizes were presented by the Chairman of the Prizes Selection Committee, Christopher Prior (University of Oxford and STFC/RAL/ASTeC). Oliver Brüning (CERN), Chair of the OC, presented the student poster prizes.

The proceedings of IPAC'11 are published on the JACoW site ([www.jacow.org](http://www.jacow.org)). There will be no hard copy volumes. The processing of the electronic files of contributions prior to, during and immediately after the conference was achieved by the JACoW "seasoned experts", who also trained less experienced volunteers from the JACoW Collaboration. The team was composed of 25 persons from laboratories worldwide, many accomplishing several different tasks ranging from IT (setting up the computers and network), to processing of contributions and transparencies, to author reception and cross-checking of titles and authors. Thanks to the work of this dynamic team and the careful preparations and guidance of Christine Petit-Jean-Genaz, CERN, a pre-press version with 1236 contributions was published five days after the conference. The final version, with the invaluable assistance of Volker Schaa, Chairman of JACoW, was published at the JACoW site just three weeks after the conference. This is yet another impressive record set by the JACoW Collaboration.

The success of IPAC'11 was due in great part to the truly excellent collaboration between the international teams of the OC and the SPC, and the LOC. Membership of the LOC, under the leadership of Francis Perez, CELLS/ALBA included the following staff: Angela Blanco, ESS Bilbao, Paloma Dorado Aguilar, CDTI, Iker Etxebarria, ESS Bilbao, Angeles Faus-Golfe, IFIC, Martin Fox, Viajes Iberia, Angel Ibarra, CIEMAT, Eduardo Molina, CIEMAT, Christine Petit-Jean-Genaz, CERN, Ivan Podadera, CIEMAT, Begoña Ruiz, Viajes Iberia, Mirtcho Savov, Viajes Iberia, Luis Garcia Tabares, CIEMAT.

The high levels of participation and enthusiasm shown at IPAC'11 clearly indicate the strong mandate for the International Particle Accelerator Conference series from the worldwide accelerator community. May future events all be as successful as this one. The third IPAC will take place in New Orleans, Louisiana, USA (20-26 May 2012). We are convinced that the collaboration between the three regions, steadily enhanced in recent years, will continue to grow to the benefit of IPAC and the accelerator community worldwide.

Oliver Brüning, Chair of the EPS-AG and IPAC'11 Organizing Committee