Foreword

The 23rd International Workshop on ECR Ion Sources (ECRIS2018), was held from 10th to 14th September 2018 in Catania, Italy.
The Electron Cyclotron Resonance ion sources (ECRIS) have a wide number of applications both in the accelerator facilities, increasing the beam energy and intensity, and in the industrial applications, making more efficient the industrial processes.

The workshop, organized by the Istituto Nazionale di Fisica Nucleare-Laboratori Nazionali del Sud (INFN-LNS), was aimed to highlight the state of the art in ECR Ion Sources Science&Technology, and to reinforce the common ground and synergies among the different actors in the field.

The workshop was held in the halls of the Catania Diocesan Museum, located in the heart of the old city with several archaeological and cultural attractions situated nearby.

The venue is placed at the foot of the Etna - the highest and most active Volcano of Europe - in a city that is now experiencing its third millenium of history since its establishment in 730 BC.

The International Advisory Committee (13 members from 10 countries) set up a scientific program of 45 talks and 22 posters covering themes relevant to the production of beams.

Along with "traditional" applications of ECRIS such as Radioactive Ion Beams and charge breeders, Production of highly charged ion beams, Controls and diagnostics, Production of high intensity ion beams, Codes and simulations, Beam extraction and transport, several new developments in the field were presented at the workshop. Among those are the efforts in the commissioning of the first 4th generation ECRIS working at 45 GHz at IMP and the progress of the 3rd generation sources at LBNL, IMP, RIKEN and MSU. The results of the commissioning of new sources named HIISI (JYFL), AISHa (INFN-LNS) and PS-ESS (INFN-LNS) have been presented. The status and upgades of the ECR based ion sources in use on the major facilities worldwide (RIKEN, GANIL, CERN, Texas A&M, KVI, CERN, MedAustron, QST NIRS, KBSI, IMP, JYFL, LBNL, MSU, JINR, IAP-RAS) have been also reported. New ideas have been presented from different groups, in particular ATOMKI, JYFL and INFN-LNS teams presented innovative plasma diagnostic methods based on high resolution spectrometers and spectropolarimeters.

Three round tables have been also inserted in the program on subjects covering a key role in the future evolution of ECR ion sources: "Future magnetic system for ECRIS", "Future of ECRIS: beyond the scaling laws?", "Extraction and transport of intense beams" chaired respectively by D. Leitner (LBNL, USA), H. Koivisto (University of Jyvaskyla, Finland) and P. Spaedtke (GSI, Germany). A total of 97 participants from 15 countries have been recorded.

For the sixth successive time Pantechnik awarded the Geller prize. The prize has been established 10 years ago for the 18th ECRIS workshop in Chicago (2008), and it rewards an exceptional contribution of young talented researchers (under 41) to the development of ECR sources. This time the committee chaired by Mi Sook Won (KBSI, South Korea) and consisting of Santo Gammino (INFN-LNS, Italy), Takahide Nakagawa (RIKEN, Japan), Daniel Xie (LBNL, USA) and Hog-Wei Zhao (IMP, China) selected Vadim Skalyga (IAP-RAS, Russia) for his outstanding contribution to the field of ECRIS working in gasdynamic regime.

Luigi Celona
ECRIS 2018 Chairman