

## 1<sup>st</sup> International Workshop SUPERHYDRIDES - Towards Room Temperature Superconductivity: Hydrides and More; Rome, Italy, 09-10 May 2016



May 18, 2016 (HE107). On the 9-10<sup>th</sup> of May 2016 the 1<sup>st</sup> International Workshop SuperHydrides was held in Rome (IT), at the Headquarters of the National Research Council (CNR). The Organizing Committee was: E. Cappelluti (CNR), F. Mauri (University La Sapienza), L. Ortenzi (CNR), L. Pietronero (University La Sapienza), N. Saini (University La Sapienza). The workshop acknowledged the sponsorship and financial support by the CNR, the University La Sapienza, and by the European Network Psi-k.

The workshop counted 114 registered participants and 18 Invited Speakers. Statistics about the participants and speakers are provided in Fig. 1.

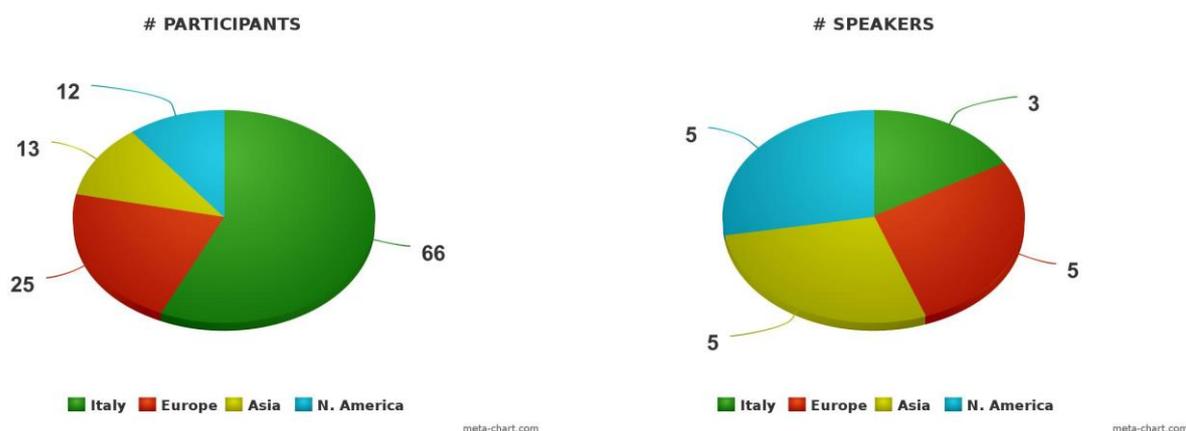


Fig. 1: Pie-charts of the Country distribution of the registered Participants and of the Invited Speakers

Detailed information can be found on the website: [www.superhydrides.net](http://www.superhydrides.net), where also presentations of selected contributions will be published.

The Workshop was triggered by the recent report of superconductivity in sulfur hydrides at high pressures ( $P \sim 100\text{-}200$  GPa) with critical temperatures as high as  $T_c \sim 203$  K. Such discovery, which seems to confirm the seminal idea by Neil Ashcroft, opens exciting perspectives in the search for superconductivity at room temperature and room pressure.

The workshop was opened by Mikhail Erements, leader of the group that first reported superconductivity. Next talks were held by Defang Duan, who predicted, using DFT calculations, high temperature superconductivity in these materials before the experimental observation; and by Katsuya Shimizu, who provided a first accurate characterization by X-ray diffraction.

Aim of the workshop was to provide a common fruitful space for discussion to different scientific communities, whose expertises will be fundamental to address the open challenges.

Main topics addressed in the workshop were:

- High-pressure physics;
- Search, synthesis and characterization of low-Z materials under pressure;
- Ab-initio search of new materials;
- Estimates of pressure and stoichiometric effects on pairing mechanisms and other many-body effects.



**Fig. 2: Participants of the 1<sup>st</sup> International Workshop SUPERHYDRIDES**

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