

The Superconductivity Centennial Conference 2011

January 31, 2012 (HE64 - Updated November 13, 2012). Belatedly, we present a Highlight on the Superconductivity Centennial Conference (SCC 2011) held in The Hague, the seat of Government of the Netherlands, from September 18th until 23rd, 2011. It was a one-time association of three conferences (EUCAS¹, ICMC² and ISEC³) usually held separately. They pulled their efforts together to celebrate the centennial anniversary of Superconductivity discovered in 1911 by H. Kamerlingh Onnes at the University of Leiden, the Netherlands. The conference was attended by 1115 registered participants from five continents and 45 countries. The highest numbers of participants came from Europe (595), Asia (347) and North America (127).

The venue of the SCC 2011 was the World Forum (WF) Conference Center in The Hague, because Leiden does not have a conference facility for meetings involving 1000 and more participants. The World Forum has a huge lecture hall suitable for plenary sessions, ample space for exhibits and poster sessions on two subterranean levels and a number of smaller meeting rooms located on the ground floor and two upper levels. Unfortunately, some of these were too small to accommodate the audiences on some “hot topics” sessions. In some cases the Organizers were trying to find a remedy by moving well-attended attractive sessions to different rooms.

To finish with facilities and also local transportation, we note that the Conference provided a link to local hotel reservation service. The room rates were rather high, unfortunately. Most of the suggested hotels were in the sea resort Scheveningen, some in downtown The Hague, only a few near the WF. From both Scheveningen and downtown it was quite a walk to the WF or a convenient trolley ride. At WF, the Conference participants could purchase reduced fare trolley tickets.

The SCC was chaired by Profs. Horst Rogalla, University of Twente and Peter Kes, Leiden University. The Conference Secretary was Dr. Dick Veldhuis of Twente. The SCC statistical data cited we obtained from him.

The full scheduled program of the Conference is accessible [here](#). It included 18 plenary presentations, with 8 of these on the free-access “History Day” (Wednesday, September 21st) intended also for the general public. As far we know, this plenary event wasn’t widely publicized and the attendance by general public minimal when not counting spouses and companions of regular attendees. Most of the history talks were well “above the head” of people without any background in physics and superconductivity, so this lack of publicity was perhaps judicious. The published Issue 19 of ESNF includes a preprint of one regular plenary paper by M. Izumi on “Materials Process and Applications of Single Grain (RE)-Ba-Cu-O Bulk High-temperature Superconductors” and one plenary slide presentation by T. Virdee on “The Large Hadron Collider Project and Superconductivity”. About 25 percent of the

¹ European Conference on Applied Superconductivity.

² International Cryogenic Materials Conference

³ International Superconducting Electronics Conference

plenary and invited talks will appear in *Physica C* as papers representing part of the conference proceedings. The SCC special Issue is tentatively scheduled for July 2012 or shortly thereafter ([see update on actual publication](#)). We invited the plenary speakers, who did not submit papers, to have their slide presentations published in ESNF. Those received appeared in ESNF issues No. 19 & 20 (Jan. & Apr. '12) with selected invited papers.

The technical oral program included 312 presentations in 7 parallel sessions. Overall submitted were 1044 abstracts, of these 323 in superconducting electronics (E), 314 in materials (M) and 259 in large scale applications of superconductivity (L), and 148 in Wires & Tapes. This distribution reverses the recent trend observed at biannual meetings such as the ASC⁴ and EUCAS, where L abstracts are submitted in highest numbers and E in lowest⁵. That usual trend was reflected in plenary and invited talks: 14 in L, 15 in M, 4 in “Wires and Tapes”, only 9 in E. The tight day program required a lot of running between parallel sessions.

In addition to the regular oral program there were three *ad hoc* organized topical evening discussion sessions (not included in the printed program). The topics were:

- Challenges in Superconductor Cooling (H. J. M. Ter Brake)
- Medical Applications of Superconductivity (D. Winkler)
- Commercialization of Superconductivity (A. Malozemoff).

In brackets are the names of organizers and moderators. The detailed program of these sessions is accessible [here](#).

The bulk of the contributed program constituted 728 posters presented⁶ at three immense poster sessions held on September 19, 20 and 22nd. Each such session consisted of a multitude of parallel sessions. Three best posters by young researchers, no older than 30, received ESAS prizes (one each in E, L, and M) shared by 6 authors; see “ESAS Prizes 2011” at <http://www.ewh.ieee.org/tc/csc/europe/newsforum/awards.html>. At the Wednesday, September 21st, plenary session presented were also IEEE CSC Awards⁷, see <http://www.ewh.ieee.org/tc/csc/awards2011.html>.

The immense variety of topics in parallel oral and poster sessions makes it impossible for us to highlight most interesting or novel results presented. In our general perception, the program was rather representative of the current world effort in applied superconductivity.

⁴ Applied Superconductivity Conference, USA.

⁵ That recent trend can be explained by the fact that L research programs are stronger supported than M by government agencies worldwide while E enjoys hardly any support. The reversal at SCC is perhaps partly due to the exceptionally hard work by the ISEC program committee.

⁶ As usual there were some „no shows”.

⁷ With the exception of Awards in Large Scale, presented at MT22 in Marseille.

The special SCC 2011 Issue of *Physica C* (see above) will contain only submitted plenary and selected invited papers⁸. The general Proceedings containing submitted and accepted oral and poster papers will be published only online by *Physics Procedia* (Elsevier).

The special memorial publication feature of SCC 2011 is a book “100 Years of Superconductivity” co-authored by numerous invited contributors, most whom contributed in major way to past discoveries and achievements in superconductivity. The aim of this book is to give an impression to the non-specialized reader on how major research results in superconductivity were achieved, what the current status of superconductivity research is and what one can expect in the future - a personal tint of the authors should take this book out of the sphere of dry scientific monographs.

The centennial book was edited by Profs Horst Rogalla and Peter Kes and is published by CRC Press (Taylor & Francis Group). It is accessible in general bookstores, see the CRC web site⁹. Registered participants of SCC 2011 were to receive a free copy at the meeting. This did not happen due to printing delays. The distribution occurs now by delivery to participants' addresses.

The highlight of the social program was the Conference Dinner in the restaurant of the Hague well-known Madurodam park featuring a miniature Dutch city offering some highlights of the Netherlands on a reduced scale (1:25). Photographs from this and many other Conference events are posted at the Conference webpage, see <http://www.eucas2011.org/Photos.php>, and can be downloaded. The conference website will remain accessible until September 2012 at least.

(A.I. Braginski and H. Freyhardt, ESNF co-Editors)

⁸ We published already a limited selection of invited preprints, see ESNF No. 19.

⁹ http://www.crcpress.com/product/isbn/9781439849460;jsessionid=Zv-FITt5PIyo8ABZYVY9w**