

PREFACE

The 11th International Conference on the Physics and Chemistry of Ice (PCI-2006) took place in Bremerhaven, Germany, 23-28 July 2006. It was jointly organized by the *University of Göttingen* and the *Alfred-Wegener-Institute (AWI)*, the main German institution for polar research. The attendance was higher than ever with 157 scientists from 20 nations highlighting the ever increasing interest in the various frozen forms of water. As the preceding conferences PCI-2006 was organized under the auspices of an International Scientific Committee. This committee was led for many years by John W. Glen and is chaired since 2002 by Stephen H. Kirby. Professor John W. Glen was honoured during PCI-2006 for his seminal contributions to the field of ice physics and his four decades of dedicated leadership of the International Conferences on the Physics and Chemistry of Ice. The members of the International Scientific Committee preparing PCI-2006 were J.Paul Devlin, John W. Glen, Takeo Hondoh, Stephen H. Kirby, Werner F. Kuhs, Norikazu Maeno, Victor F. Petrenko, Patricia L.M. Plummer, and John S. Tse; the final program was the responsibility of the editor of this volume. The oral presentations were given in the premises of the *Deutsches Schifffahrtsmuseum (DSM)* a few meters away from the *Alfred-Wegener-Institute*. It was probably the hottest week of summer 2006 in Germany with all ice breaking and melting between participants in the social part of the conference, yet with solid and profound exchange in the cooler, pleasantly air-conditioned lecture hall hosting excellent presentations followed by rich and lively discussions. In the spirit of promoting the exchange between scientists from various fields of ice research no parallel sessions were organized. Thus every participant got a chance to follow the entire program – seemingly a success as indicated by the excellent attendance and expressed also in various feedbacks of participants. Ample room was given to poster presentations resulting in a lively exchange and accompanied by very welcome German beer – it was hot as I mentioned above. The poster prize was shared by Sebastian Schöder und Sergei Skiba – both of them receiving a copy of the book *Physics of Ice* signed by the authors Viktor F. Petrenko and Robert W. Whitworth, members of the prize committee.

Papers were collected during the conference for inclusion in the proceedings, including a number of invited papers reviewing important fields of research. The refereeing procedure was rigorous and fast and I would like to thank all referees and authors for the excellent cooperation during the three months following the conference. It may be useful here to give a list of the preceding conferences and their proceedings:

1. **Erlenbach (Switzerland) 1962.** Proceedings were not published.
2. **Sapporo (Japan) 1966.** *Physics of Snow and Ice* (Ed. H.Oura). International Conference on Low Temperature Science, Sapporo, August 14-19, 1966, Hokkaido University, Institute of Low Temperature Science, 1967 (712 pages).
3. **München (Germany) 1968.** *Physics of ice* (Eds. N.Riehl, B.Bullemer, H.Engelhardt), Proceedings of the International Symposium on Physics of Ice, Munich, September 9-14, 1968, Plenum Press, New York, 1969 (642 pages).
4. **Ottawa (Canada) 1972.** *Physics and Chemistry of Ice* (Eds. E.Whalley, S.J.Jones, L.W.Gold), Papers presented at the Symposium on the Physics and Chemistry of Ice, Ottawa, August 14-18, 1972, Royal Society of Canada, Ottawa, 1973 (403 pages).

5. **Cambridge (England) 1977.** Symposium on the Physics and Chemistry of Ice, Cambridge, September 12-16, 1977. Published in *Journal of Glaciology*, 1977, Vol.21 (714 pages).
6. **Rolla (Missouri, USA) 1982.** Sixth International Symposium on the Physics and Chemistry of Ice, Rolla, August 2-6, 1982. Published in *Journal of Physical Chemistry*, 1983, Vol.87(21), pp. 4015-4340.
7. **Grenoble (France) 1986.** VIIth Symposium on the Physics and Chemistry of Ice, Grenoble, September 1-5, 1986. Published in *Journal de Physique*, 1987, Vol.48(3), Supplément Colloque N°1, (707 pages).
8. **Sapporo (Japan) 1991.** *Physics and Chemistry of Ice* (Eds. N.Maeno, T.Hondoh). Proceedings of the International Symposium on the Physics and Chemistry of Ice, Sapporo, September 1-6, 1991, Hokkaido University Press, Sapporo, Japan, 1992 (516 pages).
9. **Hanover (New Hampshire, USA) 1996.** Physics and Chemistry of Ice, Hanover, August 27-31, 1996. Published in *Journal of Physical Chemistry B*, 1997, Vol.101(32), pp. 6079-6312.
10. **St. John's (Canada) 2002.** 10th International Conference on the Physics and Chemistry of Ice, St. John's, July 14-19, 2002. Published in *Canadian Journal of Physics*, 2003, Vol.81(1/2), pp.1-544.

A good review of the scope of this series of conferences (prior to 1996) is found in an article by John W.Glen in *Journal of Physical Chemistry B* 101 (1997) 6079-6081. The richness of topics and disciplines in the wide field of physics and chemistry of ice is reflected therein. PCI-2006 certainly has confirmed this aspect and has reinforced the beneficial presence of biology and snow research. The ever larger and wider audience suggests that this series of ice conferences is as young as 40 years ago. During the meeting in Bremerhaven the International Scientific Committee has agreed on the location of the next conference – it will be organized in Sapporo in 2010 by our Japanese colleagues lead by Takeo Hondoh.

The success of this conference was largely due to the efficiency and determination of the local organization committee chaired by Frank Wilhelms from the *Alfred-Wegener-Institute* with the support of Hans-Walter Keweloh (*DSM*), Anja Benschmidt und Kerstin Dürschner (*Historisches Museum Bremerhaven*), Gerhard Bohrmann (*RCOM Bremen*), Renate Wanke, Sepp Kipfstuhl und Heinz Miller (*AWI*). Crucial financial support was obtained from the *Deutsche Forschungsgemeinschaft (DFG)* and the *City of Bremerhaven*, the *AWI* and the *GZG/ University of Göttingen* with further contributions from the *DSM*, the *Historical Museum of Bremerhaven*, *RCOM/ University of Bremen*, *bremenports GmbH & Co KG*, and the *Deutsche Gesellschaft für Polarforschung e.V.*

Finally, the organization of this conference and the editing of these proceedings would have been impossible without the professional skill and personal dedication of Ines Ringel (*GZG University of Göttingen*) – Ganz herzlichen Dank!

Göttingen, November 2006

Werner F. Kuhs