An active RILEM member and internationally known researcher and research manager, Professor Heikki Poijärvi has left us. He and his brother died tragically on 26 November 1997 in a traffic accident on an icy road.

Professor Poijärvi was born in Helsinki, Finland in 1930. He graduated in Civil Engineering in 1953 and worked as a structural designer for 5 years before joining the Technical Research Centre of Finland (VTT) in 1962, where he completed his doctoral dissertation in 1967. In addition to his long and successful career in research at VTT, he occasionally also taught at Helsinki University of Technology. Although his area of expertise was primarily concrete technology, he was well-versed in building technology as a whole. His work on fine aggregates back in the early 1960s was ground-laying in this field of research, which became very popular and fruitful later in the 1980s and 1990s. He is also known in Finland for his pioneering work on shotcrete in the 1970s. In 1979, he was elected Research Director of the Division for Building Technology and Community Development at VTT. Under his leadership, the Division expanded greatly in both size and outreach, forging international contacts and cooperation in research.

His special areas of interest were Nordic cooperation and the work of RILEM. His involvement in RILEM included participation in TC 39-BH, “Winter Concreting”, in the late 1970s and early 1980s, representing Finland as a National Delegate from 1987 to 1993, membership in the Management Advisory Committee (MAC) and later, chairmanship of the Concrete Coordinating Committee (CCC) from 1988 to 1992. He will be remembered, particularly by members of the RILEM Standing Committees, for his much appreciated musical entertainment skills both in his home and on conference premises. His contacts with RILEM continued well beyond his retirement in 1993. In September 1997, he participated in the 50th Anniversary celebrations in Zürich.

Retirement also enabled Professor Poijärvi to engage in his favourite hobby: the crafting of violins. At the time of his death he had completed four and was working on two more. He was fascinated with the vibration mechanics of the instrument and made numerous dimensional and elastic measurements of violin materials.

We deeply regret the premature death of a still active and innovative member of the building research community. His memory will remain with us for a long time.

---

**Third International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures (FRPRCS-3)**

14-16 October 1997 - Sapporo, Japan

Prepared by Toshiyuki Kanakubo, Ph.D., Member of Task Committee of the Japan Concrete Institute

1. **INTRODUCTION**

This was the third International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures (FRPRCS), which has been held every two years since 1993. The first symposium was held at the Spring Convention of ACI in Vancouver, Canada, and the second at the University of Ghent, Belgium. This was the first time that the symposium was organized only on FRPRCS by institutes. At the same time, it was the first international symposium organized by the Japan Concrete Institute (JCI). Development and research have been underway since the late 1980s on applying continuous fiber in concrete structures. Since 1988 especially, research became more active, stimulated by the integrated project of the Ministry of Construction, as well as other related associations in Japan, leading to Japanese initiatives on this theme. Moreover, after the Hanshin Awaji Earthquake in January 1995, continuous fiber attracted increased attention as a means to repair and strengthen concrete structures. This was the first continuous fiber related symposium held in Japan since the earthquake. Consequently, JCI started the preparation very early. The Organizing Committee, the Task Committee, and the International Scientific Committee (ISC) were organized in early 1995. The symposium was co-sponsored by ACI, CSCE, CEB, EASEC, RILEM and others. More than 220 abstracts were submitted from 23 counties (including Japan), which represents much more than the papers received for the first and second symposium combined (55 and 82, respectively). Approximately 70 papers presented repair and strengthening by continuous fiber sheet, demonstrating the increasing attention to continuous fiber.

2. **LOCATION AND PARTICIPANTS**

The symposium was held at the Garden Palace Hotel, Sapporo, Japan. Hokkaido, the northern island of Japan, is renowned for its beautiful scenery. The city and its suburbs offer many attractions such as Ohkurayama Jump Hill, Sapporo Beer Garden and Museum, and numerous hot springs. The autumn leaves are at their best in October. A total of 340 people from 20 countries participated in the symposium. There were 92 participants from outside Japan, which can be considered very good for this type of international symposium. Participants received the proceedings, program, brochure, report pad, and a knapsack to carry them. The knapsack must have been quite useful since the proceedings consisted of two heavy volumes of 800 pages each!
3. TECHNICAL SESSIONS AND KEYNOTE LECTURES

A total of 169 papers were accepted. Twenty-three sessions were held in four rooms simultaneously throughout the three-day symposium. The Task Committee prepared more than 120 seats for each of the four session rooms. Some sessions had more people than seats, while others had only about 20 attendees. In general, the sessions on repair and strengthening using continuous fiber sheet had larger audiences, and the sessions on the structural behavior of reinforced concrete using rebars had smaller audiences. This is most likely attributable to the fact that 75% of the participants at this symposium were from Japan, where sheet strengthening has recently received much attention. This tendency was shown in the relationship between the theme and the country of the presenters; 56% of the papers dealing with structural behavior of reinforced concrete using rebars were from abroad, and 70% of the papers dealing with repair and strengthening were from Japan. By contrast, the number of papers dealing with material properties were about the same from Japan and abroad, and there were many papers concerning durability. The JCI research committee, "Technical Committee on Continuous Fiber Reinforced Concrete", reported its activities in three presentations of sheet strengthening and one presentation on a total evaluation system for structures with continuous fiber. For these themes, well-known researchers around the world were asked to be the speakers, resulting in ten speakers from Japan, Singapore, Canada, Switzerland, USA, Belgium, and UK. Both keynote lectures were very successful and a very good opportunity for participants to exchange new information from each country, as is meant to be the case at international conferences. Many cases of application of continuous fiber in each country were introduced and its advantages described (i.e. easy construction and corrosion-proof).

4. OTHER PROGRAMS

Opening and Closure

The chairman of the Department of Engineering of Hokkaido University, the head of the Hokkaido Development Bureau, and the manager of the Construction Department of Hokkaido Prefecture Office were invited to the opening ceremony. Speeches were made by the representative of the sponsor and Dr. Fujii, the President of JCI. Dr. Morita, the chairman of the Organizing Committee, declared the opening of the symposium. Closure was a more informal, buffet-style party. The Task Committee had taken pictures of the participants in each program and showed the slides with comments, which everyone enjoyed very much.

Welcome Reception and Conference Party

The Welcome Reception was held buffet-style at the Garden Palace Hotel on the first day of the symposium. The vice-president of Hokkaido University and the chief manager of the Civil Engineering Research Institute gave greeting speeches. Then, there was a "Yosakoi" folk-dance demonstration. The dancers were all young people wearing "happi", the Japanese traditional jacket for festivals, and they danced so energetically that everyone in the party was quite overwhelmed - even Japanese people! We finished the party with "Ipponjime", clapping hands once with everyone, lead by Prof. Tomosawa, the vice-chairman of the Organizing Committee. More than 200 people got together for the Conference Party at the Sapporo Beer Garden on the second night, for BBQ. Seating was decided by lottery in order to mix together participants from all over the world.

Tour and Accompanying Persons Program

With the cooperation of one of our sponsors, the Hokkaido Development Bureau, the Task Committee planned a Laboratory Tour to visit the Civil Engineering Research Institute and the Post-Symposium Tour to visit FRP application sites. This was fol-
allowed by a stay at the Noboribetsu Hot Spring - there was some concern beforehand that people would hesitate to bathe together naked, but it was found that there was no need to worry. The accompanying persons activities included the “Sapporo City Tour”, “Introduction to Japanese Culture”, and “Visit to the Hokkaido Historical Village”. Slides of these programs enjoyed during the closure (especially the slide of all the ladies wearing kimonos).

5. CONCLUSION

“Well organized!” was the expression often heard from overseas participants during the symposium. Members of the Task Committee would like to thank all the participants, ISC members, ACI 440 Committee members, and the other organizations involved. The next symposium will be held in Baltimore in 1999. The web site for FRPRCS-3 is: http://www.kz.tsukuba.ac.jp/~kanakubo/frprcs3/

BOOK REVIEW

“Concrete progress: from antiquity to the third millennium”, by Dr Gunnar M. Idorn

RILEM Senior member Dr G. M. Idorn has recently published Concrete progress: from antiquity to the third millennium which presents a history of the development and use of concrete over the past two millennia and a new approach to research that will be necessary if concrete is to fulfill its role in future global development. The author describes the impact of concrete on world development - from the magnificent construction epoch of Roman antiquity, through the Industrial Revolution and the post World War II decades. Particular attention is focused on the great advances in scientific concepts and methodologies that followed 1945, when the concrete industry needed to develop the innovative technology necessary to re-house millions of people and reconstruct industry and infrastructure.

A more recently major challenge for concrete research has been the deterioration of concrete due to the alkali-silica reaction. The efforts of the international research communities to tackle this problem are meticulously detailed and, in the concluding state-of-the-art evaluation, Concrete progress suggests means of establishing solutions to the outstanding issues.

Looking into the next millennium, Concrete progress contends that concrete will be indispensable for global socio-economic development, but caution that growth in demand for cement and concrete will threaten exhaustion of raw materials. It proposes that the industrialized and technologically-developed areas of the world lead the way in creating an international, top-level leadership commitment for strategic concrete research planning: a new paradigm for research. Thomas Telford Publishing, 1 Heron Quay, London E14 4JD, Tel. +44 171 665 2470, Fax +44 171 537 3631, E-mail: ttpubs@ice.org.uk - Hardbound, 384 pp, ISBN 0-7277-2631-5.