

## The 6th Symposium of the International Society of Root Research: a mycorrhizast's point of view

The 6th Symposium of the International Society of Root Research was held on 11–15 November 2001 at the Nagoya Congress Centre, Nagoya, Japan and included nearly 300 oral and poster presentations by participants from over 30 countries.

A website set up well in advance of the meeting contained all the information necessary for planning the trip and staying in Nagoya, including essential Japanese phrases for visitors. The organizing committee did an excellent job organizing the symposium and I congratulate personally the Chairman Shigenori Morita, his team of Akira Yamauchi, Hiroyuki Daimon, Jun Abe, Morio Iijima, Katsuya Yano, Akimasa Nakano, as well as the other members of the organizing committee, for making it such a success.

The scientific program was organized into two concurrent morning sessions, two concurrent afternoon sessions and finally poster sessions. The opening keynote speakers Akira Yamauchi and Margaret McCully gave a good overview of root research and presented new results from their respective fields of research. The talk by Margaret McCully included some very impressive electron micrographs of roots grown in field soils, giving a fascinating insight into the diversity of organisms inhabiting, traveling through, competing in and altering the rhizosphere. The techniques used should be of great interest to mycorrhizasts for studying the development and function of the external parts of mycorrhizas of all types.

The concurrent sessions were well matched and there was little overlap of specific areas of interest, thus avoiding mass flow of researchers from one lecture room to another. The oral and poster sessions covered a very wide range of topics, from root anatomy to functional ecology, through physiology, soil-root interactions and rhizosphere and soil microbiology. This provided a great opportunity not only to attend talks directly related to personal areas of interest, but also those covering a diverse range of fields. This allowed a broad appreciation of root biology and introduced several different techniques used in other fields with possible applications in mycorrhiza research.

The general level of the presentations was very good, but a number of talks stood out as particularly interesting. Ulrike Mathesius presented an excellent account of the conservation and divergence of signaling between roots and soil microbes, discussing convincing evidence on how the results of root-microbe interaction might be related in their development, and how the development of root structures (nodules, arbuscule-containing cells, root galls) elicited by various microbes could have evolved by the hijacking of existing plant developmental pathways involved in lateral root formation. The controversial role of AM hyphae in delivering water to plants was discussed by Agneta Plamboek, who presented data suggesting that water is transferred from trees to shrubs connected by common AMF. This is a technically difficult area of research and it was interesting to see the approaches used to overcome these difficulties. Alain Pierret discussed the use of microfocus X-ray imaging to quantify root growth and water uptake by visualizing roots growing in soil in glass boxes. This technique has potential in studies of the effects of different soil constraints on root development and varied environmental conditions and is less expensive than comparable imaging systems. Results presented by Roger Koide on interactions between ectomycorrhizal and saprotrophic fungi with respect to the N economy of red pine showed that the ectomycorrhizal fungi benefit from N mobilized from a tannic acid-BSA complex by saprotrophic microbes. This talk reinforced the importance of the many complex microbial interactions that exist in the soil environment.

There were many posters, some of which were difficult to find due to their room allocation. One poster of particular interest, by Reiko Shibata, presented interactive effects of root exudates and extraradical hyphae on P acquisition from a non-labile source, using cleverly designed compartmented pots. Where both hyphae and movement of exudates was allowed, supply of P to plants by AMF hyphae increased.

Unfortunately, no facilities were organized for Powerpoint presentations and thus slides were used by most speakers. Despite initial confusion over timing of the

“next slide, please”, most presentations were clear and easy to follow. The proceedings of the symposium, in a two-page format for all abstracts/mini-papers, were distributed to participants. The volume of 600 pages presented a challenge when the time came to pack suitcases!

In addition to the excellent scientific program, there was a welcome mixer on the Sunday and a reception dinner on the Monday; both were thoroughly enjoyed. The highlight of the social program was a very exciting performance by a troop of highly energetic Japanese drummers. A general business meeting of the International Society of Root Research was held at the end of the symposium. The collection of a membership fee by the Society was discussed as an attempt to fund the establish-

ment of a web page and a semi-regular newsletter, but no decision was made. This was also the case also for the venue of the 7th ISRR.

In conclusion, the aim of the symposium “to understand the structure and function of the whole root system as a dynamic interface between plants and the earth” was by no means a small task! However, the quality and pace of the presentations, their clear allocation to sessions, the careful selection of oral presentations and the high quality of posters all contributed to satisfying the organizing committee’s ambitious aim. On behalf of the participants, I congratulate the organizing committee on a job very well done and look forward to the 7th ISRR.

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