



international society  
for seed science

# issS newsletter

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## ● *issS general assembly*

The first General Assembly of the ISSS was held on 16 May 2002 during the 7<sup>th</sup> International Workshop on Seed Biology in Salamanca, Spain. The President, Daniel Côme, reported on the actions leading to the official establishment of the ISSS and the setting up of its organizational structure. Brief reports of the sub-committees (Finance, Meetings, Membership, and Publications) were presented, including plans for future activities.

## **Officers and Committee members**

Following nominations and elections during April 2002, the current Officers and Committee Members of the ISSS were announced as follows:

President:	Ralph Obendorf (2002-2005)
President-elect:	Derek Bewley (2002-2005)
Treasurer:	Ken Thompson (2002-2006) (also Trustee)
Secretary:	Kent Bradford (continues until 2003) (also Trustee)
Trustees:	Michael Black, Daniel Côme, Hugh Pritchard
Committee:	Menahem Edelstein, Gregorio Nicolás
ISTA Representative:	Alison Powell
Corporate Representative:	Eric Gagnon
Regional Representatives:	Steve Adkins (Australia and New Zealand) Patricia Berjak (Africa) Renata Bogatek (Central and Eastern Europe) Roberto Benech-Arnold (southern South America) Mirian Eira (northern South America) Paul Cavers (North America) Swati Sen-Mandi (India) Song-Quan Song (China and Japan) Jorge Vázquez-Ramos (Mexico and Central America).

## **Seed Science Research**

The Editor, Marc Cohn, presented a brief report on the official journal of the ISSS, *Seed Science Research*. SSR has established a good reputation among plant biology journals and retains its place in the top 20% according to the Citation Index. Members are encouraged to publish in this journal. The Editor welcomes enquiries concerning the submission of manuscripts.

## **8<sup>th</sup> International Workshop on Seed Biology**

It was announced that the next Workshop will be held in Brisbane, Australia in 2005. Steve Adkins, the local organiser-to-be, gave a brief talk on the planning for the meeting and the attractions and suitability of Brisbane. Details will be distributed at a later date.

## **The ISSS thanks out-going President Daniel Côme**

The Assembly closed with an expression of thanks to the outgoing President, Daniel Côme, for all his work and contributions to the ISSS during his tenure in office.

## ● 7<sup>th</sup> international workshop on seed biology, salamanca, spain

The ISSS was launched at the 6<sup>th</sup> Workshop in 1999 in Merida, Mexico, and the 7<sup>th</sup> Workshop in Salamanca, Spain, in May 2002 was the first to be held entirely under the ISSS banner. The Workshops are the main assembly for our society, and judging from the success of the Salamanca meeting, they are set to become ISSS events to which we can all look forward.

The full programme of 9 invited lectures and 57 offered talks kept the delegates well occupied, but their taste for seed biology was further indulged in the 224 posters on view during coffee breaks and evening sessions. All aspects of seed biology were covered, from development, maturation and desiccation, through dormancy, germination and ecology to biotechnology. There was plenty in every session to stimulate, excite and provoke participants, as new findings, concepts and opinions were expounded. Considerable change has occurred in seed research since the last Workshop, as reflected in the enormous increase in the application of molecular, cell biological and genetic techniques: well over 50% of the talks and posters presented research that used these approaches. No doubt this trend will continue, and in our next Workshop, proteomics, genomics and metabolomics might be expected to be well to the fore.

This generous and tasty filling of the whole range of seed biology was sandwiched between special talks that started and ended the meeting. The new President-elect, Derek Bewley, opened with a stimulating overview of seeds in science and society, and the incoming President, Ralph Obendorf, closed the proceedings with a perceptive and amusing summary of the Workshop's business, after presenting the book awards for talks and posters (see below).

Spice and relish were added to the scientific programme in the form of several highly enjoyable social and festive events, one of which was enlivened by the simultaneous football victory of Real Madrid in the European Champions Cup.

The local arrangements in beautiful Salamanca were in the hands of Gregorio Nicolás, his plant physiological colleagues and students from the University, and the conference office, all of whom contributed so much to the great success of the meeting.

Invited talks and a selection of offered talks will be published in the proceedings (see [New Books](#), below).

## ● 7<sup>th</sup> workshop awards

Thanks to the generosity of CABI Publishers, five books were awarded at the Salamanca Workshop to young newcomers for the high quality of oral or poster presentations. The judges had a difficult task in choosing the winners, as there were more meritorious talks and posters than there were awards available, but their final decision was:

- Talks:**
- Ludmilla Borisjuk** (Gatersleben, Germany) Failure of embryonic epidermis affects seed maturation and embryo growth by pea seed mutant.
  - Karine Gallardo** (Lyon, France) Towards an understanding of germination by proteome analysis of *Arabidopsis* seeds.
  - Joseph Kioko** (Durban, South Africa) Is genetic stability maintained following the cryopreservation of the endangered African pepper bark (*Warburgia salutaris*)?
- Posters:**
- Maria Doussi** (Athens, Greece) Breaking of the seed coat-imposed dormancy in Cistaceae: the structural aspect.
  - Helen Tai** (Fredericton, Canada) The effect of a histone deacetylase inhibitor on seed germination and seedling development.

## ● *tree seeds 2002*

Ken Thompson, ISSS Treasurer, attended **Tree Seeds 2002**, the 2002 Annual Meeting of the International Union of Forest Research Organizations (IUFRO) 'Research Group for Seed Physiology and Technology'. The meeting, to which the ISSS gave some support, was held at the Mediterranean Agronomic Institute of Chania (MAICh), Crete, from 11-15 September 2002. Co-organizers were the University of Athens, IUFRO, MAICh and the Hellenic Ministry of Agriculture. Chair of the local organising committee was Costas A. Thanos, University of Athens, Greece. Ken gave a brief presentation on the Society to the participants and solicited eight new members.

There were 71 participants from 23 countries, about 30 posters and 17 lectures, plus 2 talks shared with the second conference on Mediterranean pines, MEDPINE2. There are 53 contributions in the Book of Proceedings (32 full text and 21 abstracts), which can be viewed on the conference web site (<http://www.cc.uoa.gr/biology/TreeSeeds2002.htm/>), where you can also see the official photo of the meeting and (soon) other photos, too.

Talks and posters were of a uniformly high standard. The meeting was extremely enjoyable, thanks to the stimulating contributions of the numerous participants, the social programme (those who braved the Samaria Gorge will not soon forget the experience), the excellent MAICh Campus and the first-rate organisation. The staff of the MAICh conference centre were both friendly and competent. Probably the most surprising event was a brief sighting of Cees Karssen, who did not attend the meeting but happened (for reasons undiscovered) to pass through MAICh during the meeting.

ISSS partially sponsored the participation of three junior members of the Society: Maria Doussi (Athens), Petros Panayiotopoulos (Athens) and Jose Faria, from Brazil but currently undertaking a PhD in Wageningen.

The 2003 annual IUFRO tree seed meeting will take place in Athens, Georgia (USA), August 11-14, 2003. Contact: Dr Gary Johnson, National Tree Seed Laboratory, USA; email [wjohnson03@fs.fed.us](mailto:wjohnson03@fs.fed.us).

## ● *future isss meetings*

### **The 4th International Workshop on Desiccation Tolerance and Sensitivity of Seeds and Vegetative Plant Tissues**

Desiccation tolerance in seeds is an extraordinary survival mechanism but few consider just how remarkable a property this is! Perhaps even less widely appreciated are the 'resurrection plants' that can dry down to a withered mass of dead-looking plant detritus and yet will, when water becomes available, remarkably 'spring back'. This property of the vegetative plant is not confined to angiosperms, as significant research on lower order plants - particularly on mosses - has shown. As far as seeds are concerned, it is suspected that many of the tropical and sub-tropical species may produce seeds that are not desiccation-tolerant in the strict sense. While not all may be truly recalcitrant - that is, highly desiccation-sensitive - many are likely not to be able to tolerate the extremes of dehydration typical of the orthodox category of crop seeds. In fact, reflecting on what is known about seed biology, most of the accepted dogma - until relatively recently - was derived from in-depth studies on about 20 crop species. But there are in excess of 250,000 species of angiosperms so there is a lot more to learn about seeds!

These considerations are part of the philosophy underlying the 'Desiccation Workshops', as they have come to be known. All have been held in South Africa, in 1994 in the Kruger National Park, in 1997 at Franschoek in the Cape Province, in 2000 at the Itala Game Reserve in KwaZulu-Natal. The idea of holding these periodic workshops was born at the 4th International Workshop on Seeds in Angers, France, in 1993, when a small group with a focused research interest in desiccation tolerance and sensitivity decided that this topic tended to get lost in the bigger arena of seed biology. Since then, the 'Desiccation Workshops' have attracted a group of about 60-70 people and have recently become recognised meetings of the International Society for Seed Science (ISSS).

It was decided early on that seed biologists interested in desiccation sensitivity and tolerance, and those scientists focusing on these aspects in vegetative plant tissues, had a lot in common and would interact synergistically. This proved to be a good judgment, and in the opinion of all the delegates, has provided extra value, as each group has learned much from the other. It is hoped that microbiologists with coincident interests might become involved in the future.

The settings chosen for the 'Desiccation Workshops' have been unique in more than one way: the venues have always been out-of-city, a choice made early on to limit the type of attraction that might lessen the focus of the meeting. However, these venues have always offered special features of their own, particularly when set in magnificent scenery - and with the special flavour (in the case of the 1st and 3rd Workshops) of an African nature reserve, abounding with indigenous plant species as well as animals of all sorts. The venue for 4th Workshop, planned for late August, 2003, is Blouwaterbaai, adjacent to the West Coast National Park (Western Cape Province, South Africa), the venue and time having been chosen to coincide with the renowned Namaqualand spring flower season, when the desert presents a spectacle without parallel (see e.g. Namaqualand and Southern African Pictures on [www.araly.com](http://www.araly.com)).

The programmes have also been planned with the objective of enjoying good science, good company and ample opportunity to explore the unique surroundings. The business of the Workshops is divided into themes, with no parallel sessions, and ample time is given for real discussion. An early policy decision was not to publish proceedings as such, but to invite contributors to submit manuscripts which would, if accepted after the normal peer-review process, be published in a special edition of *Seed Science Research*, with papers on vegetative tissues/plants appearing elsewhere. A similar procedure will be followed for the 4th 'Desiccation Workshop'.

The Programme is broken down into the themes: General biology; Desiccation damage and limits to tolerance; Developmental aspects of desiccation tolerance; Current concepts of mechanisms conferring desiccation tolerance; Applications of biotechnology; and Applied aspects. Other themes, e.g., Evolutionary and ecological aspects, may be included when appropriate presentations are offered. Presenters are invited at the outset to choose times from 15 to 30 minutes, and posters too are welcomed. For the 2003 Workshop, in the context of the progress that has been made in seed science over the past decade or so, we plan also to have an open discussion session on the desirability of a revised system for seed categorisation.

IF YOU ARE INTERESTED IN PARTICIPATING IN THIS WORKSHOP, PLEASE NOTIFY US BY E-MAIL AT THE FOLLOWING ADDRESS: [deswork@biology.und.ac.za](mailto:deswork@biology.und.ac.za).

Patricia Berjak, Norman Pammenter & Deon Erdey, School of Life & Environmental Sciences, University of Natal, Durban, 4041 South Africa

### **Other ISSS meetings**

Meetings now being organised for 2003 and 2004 include **Seed Ecology**, **Seed Priming** and **Molecular Aspects of Dormancy and Germination**.

Details will be announced when they are available.

### *other meetings and courses*

**Dynamics and conservation of diversity in forest ecosystems**

**2-5 December 2002 Strasbourg, France**

[reviron@pierreton.inra.fr](mailto:reviron@pierreton.inra.fr)

<http://www.pierreton.inra.fr/genetics/Dygen>

**Molecular biology and ecology of plant adaptation**

**10-13 December 2002 Vancouver, Canada**

[hailey.pappin@ubc.ca](mailto:hailey.pappin@ubc.ca)

<http://www.ubcbotanicalgarden.org/adaptation2002.php>

**Frontiers of plant cell biology: signals and pathways**

**15-19 January 2003 Riverside, California, USA**

[kathryn.barton@ucr.edu](mailto:kathryn.barton@ucr.edu)

<http://www.cepceb.ucr.edu/news/news.htm1>

**European Science Foundation. Assessing the impact of genetically modified plants.**

**Introgression from GMP into wild relatives and its consequences**

**21-24 January 2003 Amsterdam, The Netherlands**

[nijs@science.uva.nl](mailto:nijs@science.uva.nl)

<http://science.uva.nl/research/ibed/introgression>

**Extension course on Seed biology, production and quality.**

**3-4 February 2003 Seed Biotechnology Center, University of California, Davis, California, USA**

[sbc@ucdavis.edu](mailto:sbc@ucdavis.edu)

<http://www.extension.ucdavis.edu/Agriculture>

**British Ecological Society. Biological diversity and function in soils**

**25-27 March 2003 Lancaster, UK**

[meetings@britishecologicalsociety.org](mailto:meetings@britishecologicalsociety.org)

<http://britishecologicalsociety.org/>

**Tree biotechnology 2003**

**7-12 June Umeå, Sweden**

[ulrika.hjelm@genfys.slu.se](mailto:ulrika.hjelm@genfys.slu.se)

<http://www.treebiotech2003.nornod.se>

**7<sup>th</sup> International Congress of Plant Molecular Biology**

**16-21 June 2003 Barcelona, Spain**

<http://www.ispmb2003.com/>

**Plant Biology 2003 ASPP Annual Meeting**

**26-30 July 2003 Honolulu, HI, USA**

[http://www.aspp.org/annual\\_meeting/pb-2003/2003.htm](http://www.aspp.org/annual_meeting/pb-2003/2003.htm)

● *new books*

**Y. Gutterman. *Survival Strategies of Annual Desert Plants. Adaptations of Desert Organisms*** Springer, Berlin, Heidelberg, New York 2002

This book deals with environmental factors during seed maturation affecting seed germinability. Included are the influences of environmental factors following seed maturation affecting the duration of primary dormancy as well as the distribution of seeds in aerial and soil seedbanks. This is in addition to other stages of the life cycle of an ephemeral plant under desert conditions.

**M. Black and H. W. Pritchard (eds.). *Desiccation and Survival in Plants: Drying without Dying*** CABI Publishing, Wallingford, UK, New York 2002

This book covers the physiology, ecology, biochemistry, biophysics and cell and molecular biology of desiccation damage and tolerance in seeds, pollen, spores and vegetative tissues of plants.

**G. Nicolás, K.J. Bradford, D. Côme and H. W. Pritchard (eds.). *The Biology of Seeds: Recent Research Advances*** CABI Publishing, Wallingford, UK, New York 2003.

Articles arising from the 7<sup>th</sup> International Workshop on Seed Biology in Salamanca. (This book will be sent free to all registered participants at the Workshop.)

● *a reminder*

All ISSS members are entitled to generous discount rates on **books** published by CABI and on subscriptions to ***Seed Science Research***. For more information, see the ISSS website <http://www.css.cornell.edu/iss/iss.htm>.

● *and finally.....your society, your news*

Members are encouraged to contact the Officers and Committee with your comments and suggestions on meetings, organizational matters, publications etc. And please send in your news for inclusion in the Newsletter to the editor: Michael Black ([michael.black@kcl.ac.uk](mailto:michael.black@kcl.ac.uk))