



IMC9 Edinburgh: a selection of memorable moments featuring some of those who helped to make it such a success.

IMC9: The Biology of Fungi

A personal reflection

The idea of holding IMC9 in Edinburgh in 2010 started five years ago when I received a phone call from Ellen Collingsworth at the Edinburgh Convention Bureau. She said that the last (and the first) International Mycological Congress (IMC) to be held in the UK was in 1971 in Exeter, and wouldn't I like to organize the next one? My response was initially very negative (I will omit the expletives I used) because I was very conscious of the profound effect that organizing an IMC would have on both my academic and personal life over the next five years. However, after having many discussions with senior officers of the British Mycological Society (BMS), seeing the proposed Congress venue (the superb Edinburgh International Conference Centre, EICC), and giving the matter considerable thought, I strongly warmed to the idea of taking on this onerous job. I felt that it presented some exciting challenges which ultimately could have a big impact on global mycology.

Early in 2006, the ECB, BMS, and myself put together and submitted a bid to the IMA to hold IMC9 in Edinburgh, with the BMS agreeing to act as host. I received extremely strong support from the BMS Council, who generously agreed to commit £ 100,000 to pump-prime the Congress.

I took on the organization of IMC9 with a clear vision of how I wanted it to be: (1) the whole of mycology had to be represented in all of its guises in a very balanced way across the immense breadth of the subject -- to try and give a flavour of this and provide the Congress with an up-to-date image, I subtitled it *The Biology of Fungi* which I felt might appeal to a broader range of scientists working on fungi; (2) the Congress had to have a stellar scientific programme with a strong emphasis on where the excitement of the subject would be at in 2010, and where its big areas of impact will be in the future -- it was essential that the conference programme and speakers should inspire young and old mycologists alike; (3) the scientific programme should evolve by a very carefully regulated process of natural selection in which only the best symposia proposed by the community would be



Delegates being led from the Usher Hall to the EICC following the Opening Ceremony by Scottish pipers.

chosen; (4) it would be compulsory for every symposium to have young researchers (postgrads and/or postdocs) giving talks; (5) the poster sessions would be given a high profile and be very accessible to the delegates in areas where they congregated in the Congress venue (e.g. at lunchtime); (6) delegates should be able to experience the delights of the City of Edinburgh and all that it has to offer as one of the world's main cultural heritage sites -- here I felt that it was important that the timing of the Congress should be at the beginning of August just before the Edinburgh Festival when hotel prices reach their maximum; (7) the conference party should be at the end of the conference when people could properly relax and let their hair down. I openly declared that this should be the "conference party to end all conference parties"; and (8) I made it clear to everyone involved in the organization that we should try our hardest to make IMC9 the best IMC ever! From my perspective, even with my somewhat biased point of view, I felt that my vision for IMC9 was largely if not completely fulfilled. However, this only came about as a result of the team effort of hundreds of participating individuals.

Once having won the bid and the dust from IMC8 in Cairns having settled, I set about finding a suitable Professional Conference Organizer (PCO) with the help

of Geoff Robson and Nick Clipson on the Steering Group. To organize a Congress of the size of an IMC (our best guesstimate was we that we would attract between 1200 and 2500 delegates to Edinburgh), it was absolutely essential to have an extremely good PCO to work closely with. Amongst other things, the PCO is responsible for most of the conference administration, invitation of speakers and poster presenters, organization of delegate registration, communication with delegates, interfacing with the venues, organizing the exhibition, obtaining sponsorship, marketing the conference, etc., etc. Any naïve notion that I could organize a conference on this scale without a PCO was quickly kicked into touch once it became clear how massive the task of organizing a conference on this size is. We short-listed three PCOs and finally took on board Elsevier who, as well being publishers, have a big PCO Department. There were several key issues in Elsevier's favour over the other PCOs we interviewed. What was particularly significant for the BMS was that Elsevier were the only PCO to agree to take on the complete financial risk for the Congress if it went 'belly up' (e.g. due to volcanic dust, acts of terrorism, fears of epidemics). We were concerned that an 'act of God' could potentially result in bankrupting the BMS. The cost of organizing IMC9 approached a £ 1 million! Another aspect strongly in Else-

vier's favour was that they published four journals for the BMS, and IMC9 presented various exciting publishing opportunities. We also felt that Elsevier, with its experience in publishing, would be able to market the Congress well and give it the image we felt that it should have. We did not want IMC9 to have a boring clinical feel to it, which is so typical of many conferences. There is no question that we made the right choice, and the Elsevier team, led by the inimitable Nina Cosgrove, were outstanding and a joy for me to work with over the last four years.

One of my aims was that the scientific programme should present the whole breadth of mycology in a very balanced way without any single topic dominating. In consultation with the Steering Committee, I divided the subject into five themes which I felt represented the main areas of the subject, and I gave these themes equal weighting. These five themes were:

1. Cell Biology, biochemistry and physiology
2. Environment, ecology and interactions
3. Evolution, biodiversity and systematics
4. Pathogenesis and disease control
5. Genomics, genetics and molecular biology

Across all five themes ran applied aspects of the subject (e.g. fungal biotechnology).

I set up a number of Committees to bring the Congress organization, and particularly the scientific programme, to fruition. First, we had a Steering Group of six individuals chaired by me that had an advisory role and oversaw the Congress organization. Second, we had a Scientific Programme Committee comprising the chairs of the five scientific themes, and this committee was also chaired by me. And then finally we had the five scientific theme committees each containing five eminent scientists covering the breadth of each theme.

We next invited the mycological community to propose symposia for the scientific programme. We had decided that it would be possible to hold 45 symposia, each 2.5 h long with seven speakers during five days of the Congress (Monday–Friday). This equated to nine symposia per theme. However, we made sure that many of the symposia were inter-thematic. Amazingly, and a tribute to the enthusiasm of the mycological community, we received over



Delegates in session at the EICC.

220 symposium proposals. The five scientific theme committees then set to work to prioritize these and the final selection was made by the Scientific Programme Committee. As you can imagine, this was an extremely difficult task because we had so many outstanding proposals for the 45 symposium topics. Because we had so many excellent suggestions that didn't make the cut as symposia, we decided that these should be converted into Special Interest Group meetings to be held on the Sunday before the Opening Ceremony. Finally, we were also able to hold three Nomenclature Sessions during the Congress because this was going to be a very hot topic in 2010 with potentially major changes in fungal nomenclature afoot.

About two years before the Congress, I had the idea of organizing an exhibition of fungi in the superb new John Hope Gateway exhibition centre that had just been built at the Royal Botanic Garden Edinburgh (RBGE). I went to see the Regius Keeper of the RBGE and his Deputy and said how cool it would be if the RBGE could hold an exhibition for 2 or 3 weeks around the time of the Congress which would not only appeal to IMC9 delegates but also to the general public. They warmed to the idea, but said that an exhibition on chocolate was planned for that time. I wasn't defeated by their response and went ahead with extra determination and put forward a proposal for holding the fungal exhibition. The RBGE responded by saying that they didn't like my idea of a 2–3 week exhibition but

wanted this to be the main exhibition at RBGE in 2010, and for it to be four months long! At this point I got the BMS involved in its organization, and the exhibition became the main outreach experience of the congress, and one of the largest the BMS has ever been involved in. The exhibition was called '*From Another Kingdom: the Amazing World of Fungi*' and was accompanied by a coffee-table book aimed at the general public as well as academics, edited by Lynne Boddy and Max Coleman. The John Hope Gateway exhibition centre, together with the exhibition, also provided a superb venue for two of the receptions held during IMC9, and which were sponsored by the BMS, Mycological Society of America and the British Society for Plant Pathology.

We worked hard to keep the Registration costs of the Congress as low as possible, and certainly these costs were lower than most equivalent meetings covering six days held at the EICC. We also realized, however, that these fees would still be too high for the majority of potential delegates from low-middle income countries, so, for the first time in IMC history, we introduced a substantially reduced fee for them. We additionally realized that if we were going to attract the biggest stars in the field to speak at the Congress, then we would have to provide a significant financial incentive which was greater than has been provided for invited speakers at previous IMCs. As a result we were able to contribute over £100,000 towards 220 invited speakers and Symposium Organizers. We also set up a



Delegates enjoying the Conference Party at the completely transformed EICC.

bursary scheme in which we able to provide £ 91,000 in bursaries to 296 delegates from 80 countries as financial assistance to attend the Congress. The bursary scheme was primarily managed through the herculean efforts of Geoff Robson.

Originally, the conference was going to be held entirely in the EICC because they had planned to build an extension which was due to be completed in 2009. However, two years before the congress was due to start, the contractors withdrew from building the extension and as a result we ended up holding part of the conference in the somewhat dramatic Usher Hall, Fortunately this worked well since the two venues were only a 5 min walk apart, and delegates were guided between them by fly agaric mushrooms adorning the pavement. The only major obstacle was the very busy Lothian Road which separated them. However, with the assistance of the police this potentially nightmarish problem was overcome. One of my long lasting memories of the congress was seeing 1200+ mycologists on each day of the conference bringing the traffic of Edinburgh to a standstill!

A scary aspect of organizing any conference is not knowing how many people would actually register, and then on top of that, as indicated earlier, there is always the possibility that some 'act-of-God' might prevent delegates actually getting to the conference. Indeed, four months before the IMC9 started all flights in and out of the UK had come to a standstill because of volcanic dust drifting across from Iceland. At the end of the day this nightmare scenario did not happen.

Ultimately, the success of any conference lies with the delegates, many of whom have to travel considerable distances. I am very proud to say that 1593 delegates from 83 different countries finally registered for IMC9. The 'I' in IMC9 was thus fully deserved. About 330 delegates gave oral presentations in Symposia and Special Interest Group sessions, and some in the Nomenclature Sessions. In addition, there were ~ 1,200 posters presented at the meeting. I am extremely indebted to all of those who made such a big effort to attend and participate in the Congress.

After the official opening of the congress

and the handing over of the new IMC gavel, made of wood from every continent on the globe (including Antarctica), John Taylor (University of California at Berkeley) kicked off the scientific programme with an outstanding talk on the "The poetry of mycological accomplishment and challenge" whilst kitted out in full Scottish regalia. We couldn't have had a better start. Besides integrating mycology with poetry, John's major 'take home' message was for mycologists to 'think big'. Each successive day of the conference began with a Plenary Lecture by a mycological superstar, except on the last day when we were treated to two superstars. These mycological leading lights were:

- **Gero Steinberg** (Exeter University, UK): Organelle transport in fungi - stochastic or controlled?
- **David Hibbett** (Clark University, USA): Knowing and growing the fungal tree of life
- **Joe Heitman** (Duke University, USA): Microbial pathogens in the fungal kingdom
- **Nick Talbot** (Exeter University, UK):

Welcome to the pressure dome: investigating the molecular genetics of plant infection by the rice blast fungus

- **Alastair Fitter** (University of York, UK): A forgotten phylum?
- **Nancy Keller** (University of Wisconsin at Madison, USA): Unlocking the fungal treasure box

Every one of their talks was truly inspirational and exceptional in their scope and in the scientific excitement they each generated.

The Plenary Lectures in the morning were followed by five parallel sessions of symposia, with a long break in the middle of the day for lunch and viewing poster presentations. I was not able to attend as many of the symposia as I would have liked, but all the sessions I did attend were of outstanding quality. The feedback I received from those attending other symposia was excellent.

The conference was brought to an official end on the Friday with the Closing Ceremony. During this session, the IMA General Assembly, a business meeting, was presided over by the President of the IMA, Pedro Crous, who was highly praised for the exceptional job that he has done for the IMA over the last four years. John Taylor was announced as the incoming IMA President for the next four years. The IMA presented two medals, the De Bary medal for outstan-

ding scientific contributions to Franz Oberwinkler, and Ainsworth Medals for outstanding services to mycology to 'Dick' Korf and Emory Simmons. It was also announced that a new series of medals for younger mycologists in the countries covered by each of the five IMA Regional Committees was being established, and that the new IMA journal *IMA FUNGUS* was being launched. Twenty prizes for outstanding poster presentations, generously provided by Elsevier, were also made. The formal business closed with a short presentation by Lekha Manoch inviting mycologists to IMC10 which is to be held in Bangkok, Thailand, in 2014.

However, IMC9 did not end there, as after the Closing Ceremony, we had few hours to kill and put on our glad rags and dancing shoes in preparation for the Conference Party. I had spent a lot of time organizing the party to be an experience that would be thoroughly enjoyed and remembered. About 700 delegates attended the party, which was also held in the EICC, which was completely transformed from a scientific venue into a party environment. The party-goers were entertained by four bands, ceilidh dancing, karaoke, salsa dancing, whisky tasting, and food from all over the world that was provided at different locations around the EICC. To my mind, the party provided the best way to finish what had been an amazing week of science and fun(gi).

There is no question that the organization of IMC9 took a lot of hard work and commitment, but I have to say that I really enjoyed all of it. However, it would never have happened without extraordinary teamwork. I started to add up the number of people who had been involved in different aspects of its organization, and in making it an unquestionable success, and after getting up to 150 individuals I gave up! I can't thank all of these people anything like enough. It was clear that all of those attending the Congress all shared one thing in common – a passion for fungal biology. I was very struck during the meeting by the fact that no one was standing around looking bored. Everyone was either intensely engaged in the science or in lively communication with each other. We all know the importance of communication, interactions, and networking, not only for mycelia but also for the progress of any scientific discipline, including mycology. IMC9 provided that. My long lasting feeling about the congress was that fungal biology in 2010 is in a very healthy state and there has never been a more exciting time to be studying the subject.

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International Commission on the Taxonomy of Fungi (ICTF)

The ICTF held a General Meeting on 2 August 2010 during IMC9. The ICTF is COMCOF of IUMS and a Commission of the IMA. A full record of the meeting appears on the ICTF website (fungal-taxonomy.org/meetings/meeting_details.php?page_id=13&meeting_id=12) and only a synopsis is presented here.

Subcommissions and working groups
Several taxon-specific Subcommissions (SC) and a Working group (WG) are associated with the ICTF:

***Fusarium* SC** – (chair: David Geiser). This group also works under the auspices of the International Society of Plant Pathology Commission on *Fusarium*, and holds meetings prior to the International Congress of Plant Pathology (ICPP). The

EF1-alpha DNA sequence database created by David Geiser with much data from Kerry O'Donnell (USDA) was augmented with an RPB2 database to enable identification of *Fusarium* strains from a curated, barcode-like database, and was moved to a new web platform at isolate.fusariumdb.org/index.php. The list of current names of *Fusarium* continues to be available at cbs.knaw.nl/databases/fusarium/database.aspx, but has been integrated in the MycoBank database (mycobank.org/) and is maintained at that site. The *Fusarium* SC group met at the 10th International *Fusarium* Workshop (Alghero, Italy, August 2008) after the Torino, Italy ICPP. Discussions were initiated to organize a specialist workshop on *Fusarium* taxonomy and molecular phylogenetics, to discuss a

community oriented approach to solving some of the more pressing issues in this genus. The next meeting is planned for the ICPP in China in 2013, and the organization of the workshop is already underway by Ulf Thrane (Technical University of Denmark), the chair of the ISPP *Fusarium* Subject Matter Committee.

***Trichoderma* SC (ISTH)** – (chair: Irina Druzhinina). The barcode identification system, TrichoKey2, continues to be maintained on the subcommission website, isth.info/. This website also has extensive literature and additional information on *Trichoderma* and its sexual states, *Hypocrea*. This group has been active in developing and publishing collaborative, polyphasic projects such as the special issue of *Studies in Mycology* (56, 2006). They are also active

in organizing and making presentations at international meetings, and held an international workshop on *Trichoderma* in agriculture in Haifa, Israel, in October 2010.

International Commission on Penicillium and Aspergillus (ICPA) – (chair: Robert Samson). This commission reports separately to the IUMS, but the chair also sits on the ICTF. It organized an international workshop on “*Aspergillus* systematics in the genomic era” in April 2007, and published the proceeding in *Studies in Mycology* (59, 2007). This Commission has been very active at IUMS meetings, and organized a session on “Advances in molecular phylogenetics/systematics of *Penicillium* and *Aspergillus* species” at the 2008 Istanbul Congress, and plans a session at the 2011 Sapporo Congress. Their website is maintained at <aspergilluspenicillium.org/>.

Ceratocystis/Ophiostoma SC – (co-chairs: Keith Seifert, Michael Wingfield). A three day pre-congress symposium attended by 45 people was organized at IMC8. The editing of these proceedings is in progress, but establishment of a formal structure remains on hold pending potential members securing permanent positions.

Mycosphaerella SC – (chair: Pedro Crous). This informal subcommission is centred around CBS and its collaborators. A one day symposium on *Cercospora beticola* was held at the American Phytopathological Society/Canadian Plant Pathological Society/Mycological Society of America meeting in Quebec City in August 2006. There will also be a specialist workshop on *Mycosphaerella* in Australia in April 2011.

Fungal Barcoding WG (FunBOL) – This subcommission is a shared committee with the Consortium for the Barcode of Life (CBOL, Smithsonian Institution, Washington DC; <barcoding.si.edu/>). Originally organized by Keith Seifert, Pedro Crous and John Taylor (University of California Berkeley) at the invitation of CBOL, it is now chaired by Conrad Schoch (GenBank). Membership and terms of reference are currently being finalized, and the group is expected to be active in initiating the official recognition of DNA barcode markers

for fungi, lobbying for the inclusion of fungi in barcoding projects, and developing large scale fungal barcoding projects.

Additional SCs – Discussions amongst interested mycologists had been held with a view to initiating additional SCs concerned with *Colletotrichum* (Peter Johnston) and *Stachybotrys* (Keith Seifert) but no formal arrangements had been made. It was recognized that most of the active workers in these groups were graduate students or post-docs who could not become committed at this time.

Other activities

In addition to the activities of the subcommissions, the ICTF has also been involved in the following activities:

How to Describe a Fungal Species – A draft document presenting the procedures necessary to effectively describe a fungal species was written by Keith Seifert and circulated to the rest of the commission for comment, and after revision is published in this issue of *IMA Fungus*. The document is intended to provide guidance as to formal requirements and good practice for students or non-taxonomic mycologists who find that they need to describe new fungi.

IUMS Congress in Istanbul in 2008 – The ICTF organized a symposium on “Taxonomic developments in economically important fungal genera” at the IUMS Congress in Istanbul. Robert Samson was the principal organizer, with support from Irina Druzhinina.

Future directions and activities

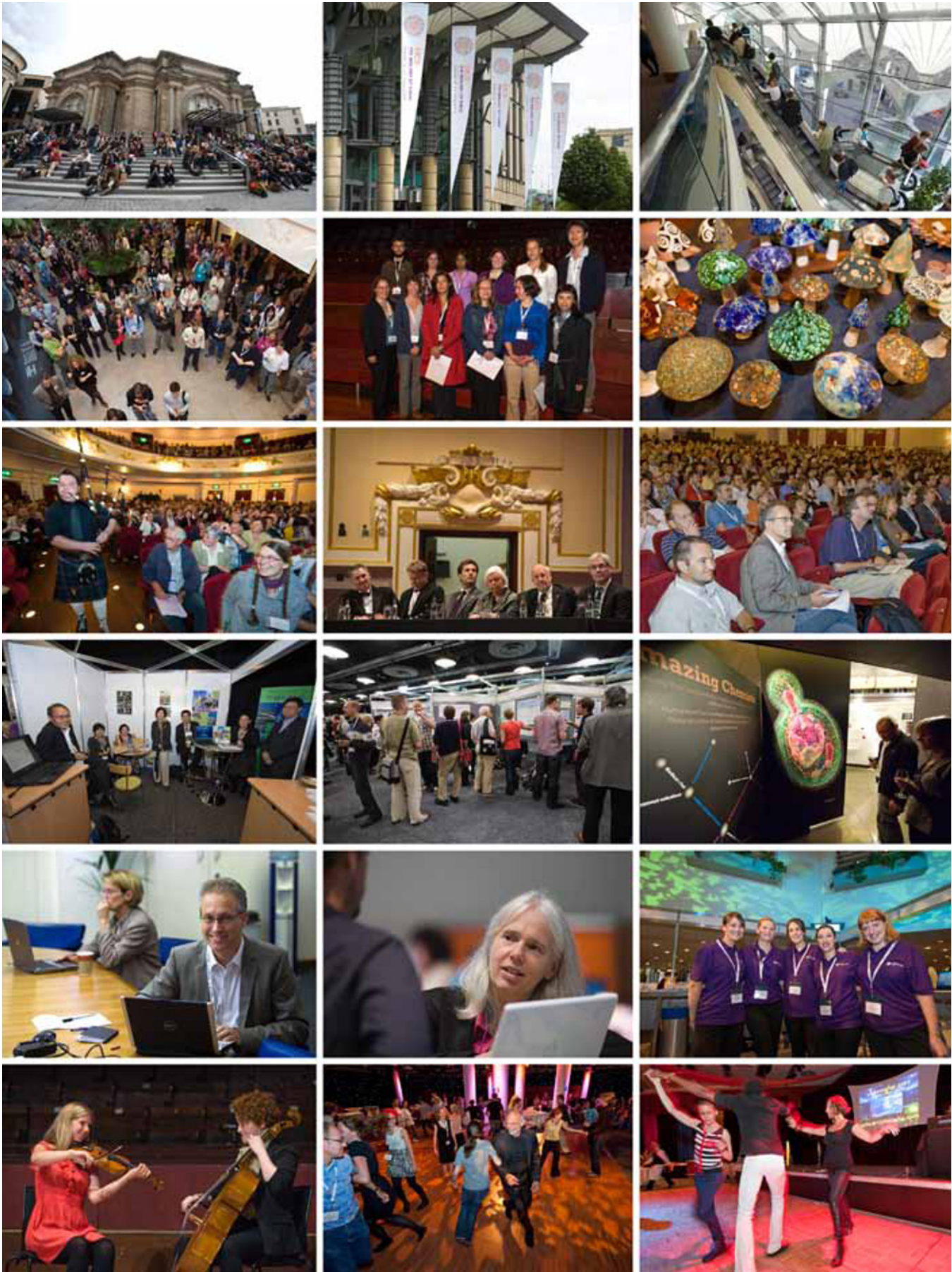
New executive officers of the ICTF need to be elected, but it was felt that, *a priori*, the remit and future direction of the commission should be clarified, beyond the need to provide a structural framework for subcommissions and working groups. Scott Redhead (Agriculture and Agri-Food Canada) suggested that the ICTF could be active in developing subcommissions that could develop consensive nomenclature for specific taxonomic groups; noting that the “Names in Current Use in the Trichocomaceae” project initiated by ICPA had been granted special protected status at the Inter-

national Botanical Congress in Tokyo in 1993 (see the Preamble in the Tokyo Code). Michael Wingfield felt that problems with the Botanical Code were pressing issues for mycologists, as evidenced by the Nomenclature Session discussions during IMC9, and that the ICTF could have a role in the resolution of these problems, perhaps even taking responsibility for drafting an independent code of mycological nomenclature should that become necessary in the future. Rob Samson, stated that the ICTF could have a positive influence on microbiologists, by presenting information on changes of names and refinement of species concepts, which would help to make fungal taxonomy visible to applied scientists – something it had done through a series of publications in the early days of the ICTF. David Hibbett saw a need for a broader involvement of the taxonomic community in the ICTF. In order to progress matters, David Hawksworth, who had been the founding Chair of the ICTF, agreed to prepare a “vision paper” for discussion by a working group comprising Rob Samson, Pedro Crous, José Carmine Dianese, David Hibbett, Peter Johnston, Michael Wingfield, Keith Seifert, Gen Okada, and Scott Redhead. This “vision paper” is included under *Correspondence* in this issue of *IMA FUNGUS*.

A suggestion by Robert Samson and Pedro Crous that CBS host a symposium with ICTF in April 2011 around the theme “One fungus: One name” (1F: 1N) where the working group’s proposals could also be considered was warmly accepted. The Edinburgh meeting also agreed to delegate to the April symposium the power to elect the new Commission, which would then elect its new officers.

Against this background, Keith Seifert and Gen Okada agreed to continue to act as Chair and Secretary, respectively to facilitate any transition to a new executive.

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IMC9: Moments to reminisce on captured by the camera.



IMC9: Interludes of ambience, relaxation, and committee-work, amongst the hard-science.