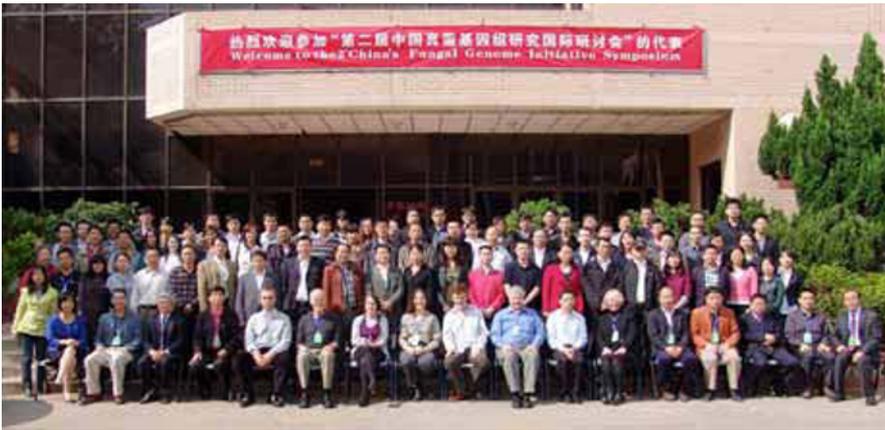
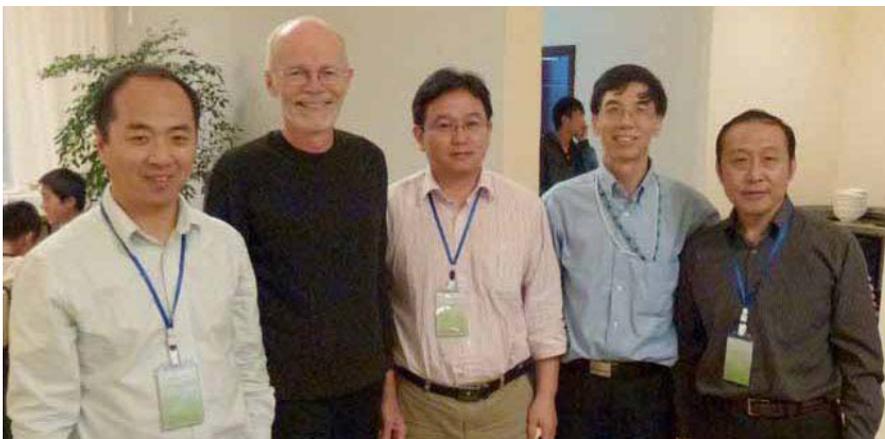


Genomics in China



Mycologists at the Second Symposium for China's Fungal Genome Initiative, Kunming. Photo by Juan Li.



Mycologists at the Second Symposium for China's Fungal Genome Initiative, Kunming. From left to right, Xingzhong Liu (Director of State Key Laboratory of Mycology at the Chinese Academy of Sciences' campus in Beijing and newly elected President of the Asian Mycological Association), John W. Taylor (IMA President), Chungshu Wang (Chinese Institutes for Biological Sciences of the Chinese Academy of Sciences in Shanghai), Jiujiang Yu (Research Geneticist, USDA, SRRC in New Orleans), and Ke-Qin Zhang (Vice-President of Yunnan University). Photo taken with J. Taylor's camera, photographer unknown.



Mycologists at the Second Symposium for China's Fungal Genome Initiative, Kunming. From left to right, Ke-Qin Zhang (Vice-President of Yunnan University), Joan Bennett (Rutgers University), Yunbo Qu (Shandong University), and Zhiqiang An (University of Texas Health Science Center, Houston, Texas). Photo by Kaifang Ji.

Two mycological symposia emphasizing fungal genomics were held in China in October 2011: a Mini-Symposium on Advances in Fungal Genomics and Evolution to celebrate the creation of the State Key Laboratory of Mycology at the Beijing campus of the Chinese Academy of Sciences; and the Second Symposium for China's Fungal Genome Initiative, held at Yunnan University in Kunming. The meetings were organized by a trio of eminent Chinese mycologists: Xingzhong Liu (Director of the State Key Laboratory of Mycology in Beijing and newly elected President of the Asian Mycological Association), Chengshu Wang (Chinese Institutes for Biological Sciences of the Chinese Academy of Sciences in Shanghai and the vice President of the Mycological Society of China), and Keqin Zhang (Vice-President of Yunnan University). Many impressive presentations were made by Chinese scientists, which focused on fungi that parasitize insects and nematodes, including species of *Cordyceps*, *Metarhizium*, *Beauveria*, and *Arthrotrichy*. A visit by international symposium participants to the third largest freshwater lake in China, Taihu, brought home the importance of research into alternative methods of controlling agricultural pests in China – during an hour's visit, only one, lone, immature gull was seen.

The contingent of international visitors also visited the mycological facilities at the State Key Laboratory of Mycology, Institute of Microbiology in Beijing, and the Research Center for Insect Sciences, Institute of Plant Physiology and Ecology in Shanghai. In Beijing, more than 15 principal investigators conduct research in four areas: Diversity and Evolution; Functions and Interactions; Secondary Metabolism; and the Molecular Basis of Growth and Development. The four-story building that houses most of the PI's labs also has a collection of more than 14 000 cultures, a herbarium with nearly 500 000 accessions, and a museum for fungi with interactive displays that hosts visits by groups of school children. In Shanghai, the collections and museum feature insects and the interaction of fungi and insects

and the research facilities feature a state-of-the-art phytotron used for research on plant genetics and plant diseases caused by fungi.

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International Association for Lichenology (IAL)

The IAL will hold its next quadrennial symposium in Bangkok on 9–13 January 2012 (<www.ial7.ru.ac.th/>) hosted by Ramkhamhaeng University. Most aspects of plant/microbial biology are represented amongst the session themes ranging from genomics and metabolites to forest ecology and global change. This is the first IAL conference to be hosted by a tropical nation, and reflects considerable interest and activity in lichen research by Thai scientists during the past 10 years. There are three post-symposium 5-day excursions and three workshops (*Graphidaceae*, *Parmeliaceae*, and Tropical lichens). Over 300 abstracts for lectures and posters had been submitted by the submission deadline, promising an interesting and science-packed week. The Symposium is co-hosted by the universities of Chiang Mai, Mahasarakham, Maejo and Srinakarinwirot, The Biodiversity

Research and Training Program, The Thai Botanical Society, The Thai Mycological Association, and The Queen Sirikit Botanical Garden.

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Tourist hotel on stilts in a mangrove forest at Banpu where the post-conference *Graphidaceae* and Tropical Lichen workshops are to be held at IAL7.

XVI Congress of European Mycologists (CEM XVI)

The XVI Congress of European Mycologists was held in Porto Carras, Halkidiki, Greece, on 19–23 September 2011. This series of meetings is arguably the longest continuously running series of international congresses for mycology. Since its inception in Brussels in September 1956, it has visited widely different places within Europe, in accordance with a tradition of being hosted by a new country on each occasion. By coming to Greece in 2011, this was its first visit to this whole huge area of southeastern Europe, the Balkan Peninsula. It was also the first time ever on the shores of the Mediterranean. These congresses have always been arranged to ensure a balance is maintained between field and laboratory mycology. Very appropriately, therefore, the present congress, organized under the auspices of the European Mycological Association (EMA), and the sixteenth in the series, was at a resort surrounded by classic

coastal Aleppo pine woodland near the attractive seaside village of Neas Marmaras, about halfway down the eastern side of Sithonia, the central of the three long thin peninsulas which make Halkidiki such a distinct part of northern Greece.

The Congress was presided over by the EMA President, and the Chair of the Organizing Committee was Stephanos Diamandis, the EMA Vice-President. The meeting was attended by 230 participants from 37 countries and every inhabited continent. After an ice-breaker party on the Sunday evening, formal sessions began on the Monday morning with a short opening ceremony and speeches of welcome from the local mayor, a representative of NAGREF, the main Congress sponsor in Greece, and the EMA President. The scientific programme comprised four days of lectures, presentations, workshops, symposia and posters, with one day, the Wednesday,

reserved for field excursions, with a choice of two destinations. There was a plenary session each day, with keynote addresses, and these plenary sessions were followed each day by parallel sessions, poster sessions and satellite events covering a wide range of thematic areas. In addition to the scientific programme, there was, on the Thursday, a memorable Congress Dinner and, on the last day of the Congress, a business meeting of the General Assembly of the EMA.

Plenary session keynote addresses

- A new imaging nanotechnology for mycology (L. Kock).
- Fungal conservation: insights from population biology and the impacts of past, present and future human land use (A. Dahlberg).
- Fungal evolution: divergence and adaptation (J. Taylor).
- Fungal families: morphology,



Stephanos Diamandis making a presentation to IMA President John W. Taylor.

phylogeny and conflict resolution (P.F. Cannon).

- MtDNA and rDNA: two different evolutionary lines combined for genetic differentiation, taxonomy and phylogeny in ascomycetes (M.A. Typas).
- Outdoor airspora: patterns, prevalence and impacts (C. Rogers).

Parallel sessions

- Aeromycology (moderator E. Kapsanaki-Gotsi).
- Alien and invasive fungi - biological control (moderator I. Kalucka).
- Conservation of fungi (moderator C. Perini).
- Developmental mycology (moderator R. Poeder).
- Edible and medicinal fungi (moderator J. Baptista-Ferreira).
- Fungal biotechnology (moderator J. Taylor).
- Fungal distribution and diversity (moderators A. Abdel-Azeem, S. Diamandis, Z. Gonou-Zagou, and P.M. Kirk).
- Fungal genetics and genomics (moderator M.A. Typas).
- Fungi in ecosystems: effects of climate change (moderator L. Boddy).
- Fungus-plant interactions: mycorrhizal systems (moderator R. Agerer).
- Insect-fungus associations (moderator D. Schigel).
- Plant pathogenic fungi (moderator J. Fatehi).
- Systematics and evolution of fungi

(moderators P.F. Cannon and C. Denchev).

Poster sessions

- Conservation of fungi, Developmental mycology, Systematics and evolution of fungi.
- Aeromycology, Fungal distribution and diversity, Insect-fungus associations, Medical and veterinary mycology, Teaching mycology.
- Biological control, Fungal biotechnology, Fungal genetics and genomics, Plant pathogenic fungi.

Satellite events

- Meeting of the European Council for Conservation of Fungi.
- Symposium on application of IUCN criteria to fungi (moderator A. Dahlberg).
- Workshop on conservation of ascomycetes (moderator D.W. Minter).

Field excursions

Wednesday 21 September, the middle day of the Congress, was devoted to two field excursions. The first was to Mount Holomon, in the main part of Halkidiki, some distance from the Congress, and at a higher altitude, which provided an opportunity to see fine broadleaved forests. The second, less than 10 km from the Congress site, was to the hill village of Parthenon from which an exploration of Mediterranean pine woodland, olive groves and scrub vegetation was planned. Both excursions were made but, very unfortunately, their start and finish coincided almost exactly with the passage of a front of torrential rain – the only rain in an otherwise warm and sunny week, making any serious field work practically impossible.

This Congress was, scientifically, superb. Congresses of European Mycologists have always been strong in respect of biogeography, conservation, ecology, field mycology, recording and systematics. The world's first group devoted to fungal conservation – the European Council for Fungal Conservation – arose from the 1985 Congress of European Mycologists in Oslo and, in 2010, the EMA played a major role in establishing the International Society for Fungal Conservation, the only society anywhere exclusively devoted to protecting fungi. Not surprisingly, therefore,

many of the sessions and satellite events at the Greek Congress demonstrated that the CEMs maintain a leading position in the now rapidly developing movement for fungal conservation. There has, however, been some concern within the EMA that other aspects of mycology have not always received sufficient attention at these events. At the preceding Congresses in Ukraine (2003) and Russia (2007) attempts were made, with increasing effectiveness, to address this imbalance. The Greek Congress not only continued that trend, but achieved a spectacular leap forward in terms of scientific coverage, with many aspects of laboratory-based mycology taking high-profile positions within the programme. The sessions on fungal biotechnology and on fungal genetics and genomics were highlights in that respect, but that did not mean that traditional themes were neglected. The session on insect-fungal interactions was memorable, and a particular achievement was to hold what appears to have been the first session devoted to aeromycology at a purely mycological congress.

All in all, the Greek Congress has established a new high standard which will pose real challenges for subsequent Congresses to meet. To attract so many participants from so many different countries was a real achievement, not least because this was done at a time of severe recession and under the cloud of a huge global economic crisis. That achievement was a clear indication that the programme was as scientifically exciting as the location of the Congress was attractive. It was also reassuring to see many young mycologists present, and especially satisfying that, finally, a firm place has been established for Greek mycology not only on the European map, but also in the global arena. For this, mycology owes a great debt of gratitude to Stephanos Diamandis and his team on the Organizing Committee for their tireless work and huge generosity.

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30th ECCO Annual Meeting in Utrecht

The European Culture Collections' Organisation (ECCO) held its 30th Annual Meeting in Utrecht, The Netherlands, on 16–17 June 2011. The meeting was organized by the CBS curators and the ECCO board. With 71 participants from 22 countries, it was the best attended annual meeting since the foundation of ECCO in 1981. The ECCO Annual meetings bring together curators and other scientists from culture collections of all kinds throughout Europe to exchange the latest research, novel methods for strain identification and preservation, and to build networks and share ideas about the challenges faced by the collection community.

The venue for this year's meeting was Hotel Mitland, a choice much appreciated by the participants for the beautiful surroundings of the historical fortress 'De Bilt' close to Utrecht city centre. The detailed programme of the meeting can be viewed on the ECCO website (ecco-site.org), from where presentations can also be downloaded. On Thursday morning, the meeting was opened by CBS Director Pedro Crous and ECCO President Daina Eze, followed by four sessions, *viz.* phylogeny and taxonomy of microorganisms, developments in databases, and the Convention on Biological Diversity Nagoya protocol for Access and Benefit Sharing (ABS); the latter was followed by a round-table discussion on the consequences of ABS for microbial research. Possible strategies to influence the decisions national authorities will need to take that govern microbial exchange were also discussed. After the last session on collection network activities such as the EU-funded projects European Consortium



Participants at the ECCO meeting in Utrecht.

of Microbial Resources Centres (EMbaRC) and Microbial Resource Research Infrastructure (MIRRI), the party visited the CBS building on Thursday evening, where the conference dinner was also held. Joost Stalpers, who retired in May 2011 after three decades of CBS curatorship, was addressed by former ECCO president Dagmar Fritze, thanking him on behalf of the entire ECCO community for his many contributions to the mission of ECCO.

On Friday morning the meeting continued with a session presenting examples of successful collaborations between culture collections and industrial partners, followed by a series of talks on promising methods for strain identification and validation.

After the official business of the ECCO General Meeting, poster prizes

were awarded to the three best posters presented, *viz.* third prize to Celia Soares *et al.*, second to Sashka Mihailova *et al.*, and first to Marilia Maciel *et al.* Later that day, many participants joined in for a guided tour through Utrecht city centre, enjoying a selection of historic sites including the famous Dom tower. Many ECCO delegates also stayed on for a special meeting on Saturday 19 June organized by the Global Biological Research Centre Network demonstration project (GBRCN), where the preparations for MIRRI were discussed.

The next ECCO meeting is to be held in Braga, Portugal, at the Micoteca Universidade do Minho (MUM), in June 2012.

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Mycological Society of America

The Mycological Society of America held its 79th annual meeting in the 'Land of the Midnight Sun' – Fairbanks, AK – during the first week of August 2011. Over 300 mycologists were in attendance, many from foreign lands. Some attendees started the week with pre-meeting trips to Denali National Park or other local sites, enjoying the wilderness and big skies of Alaska. Others attended a two-day workshop,

sponsored by the Fungal Environmental Sampling and Informatics Network (FESIN) on 'Metamycology and beyond: using fungi in educational contexts'.

The meeting kicked off with the Presidential Address by Thomas Bruns on 'Revised thoughts on the processes that maintain local species diversity of ectomycorrhizal fungi.' The invitational Karling Lecturer was Joseph Heitman

from Duke University Medical Center. He gave a fascinating overview of the evolution of sex in fungi and spent the entire week interacting with MSA members. Symposia included: Mechanisms of fungal-plant interactions: perspectives from the interface of ecology, evolutionary biology, and genomics; Fungal population genetics; Diversification of fungi; Fungal contribution to organic matter storage



MSA Annual Foray, Fairbanks, participants. Photo by Andy Hart.

and sequestration in soils; and Molecular ecology and biodiversity of arctic and boreal fungi. After spending the day listening to exciting contributed and invited talks, there were evening discussions on environmental sequencing and information from JGI on their fungal sequencing and analysis capabilities for individual researchers. The schedule was full, but there was still time to meet with colleagues for stimulating discussions of recent research.

Several prominent mycologists received awards at the meeting. These included: Amy Rossman (USDA-ARS Systematic Mycology and Microbiology Laboratory, Beltsville, MD), Distinguished Mycologist; Lori Carris (Washington State University), Weston Teaching Award; Tim James (University of Michigan), Alexopoulos Prize for Outstanding Early-Career Mycologist; Greg Mueller (Chicago Botanical Garden),

and Don Pfister (Harvard University), MSA Fellows; and Susumu Takamatsu (Mie University, Tsu, Japan), Honorary Member. Twenty-five students and young professionals received awards for travel and research excellence. The annual banquet included a wine-tasting competition, local cuisine, and entertainment by a Native American dance group. The annual auction featured a wide array of literature and mycological curiosities so that everyone left with something new (or in some cases, very old)!

The foray was absolutely amazing with charismatic macrofungi everywhere! The morning was spent in the forests of the University of Alaska Large Animal Research Station among the musk ox and caribou. Later in the day, we left the campus to explore some of the local forests, which were also well stocked with mushrooms

of many species. It was an amazing day and wonderful to visit with friends and colleagues among the trees.

Preparations are already underway for next year's annual meeting at Yale University in New Haven, Connecticut. The theme of that meeting will be 'Integrative fungal biology: linking disciplines in basic and applied mycology.' More information on this meeting can be found throughout 2012 at msafungi.org/meetings. The east coast venue should provide easy access for our European colleagues, and we hope to see many of you there!

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MSA Annual Foray, Fairbanks, display table. Photo by Andy Hart.



D. Jean Lodge and friend (*Boletus cf. edulis*), MSA Annual Foray, Fairbanks. Photo by Jessie Glaeser.

20th Nordic Mycological Congress (NMC 20)

The 20th Nordic Mycological Congress (NMC) took place on the island Gotland in Eastern Sweden on 25 September to 1 October 2011. It was organized by Ellen Larsson (University of Gothenburg), Mikael Jeppson, and myself (Swedish Museum of Natural History), and held in one of the Biological Sciences teaching laboratories at the University of Gotland in Visby. The NMC is primarily a congress for collecting and identifying fungi: mornings are used for collecting, and late afternoons and evenings for microscopic studies and discussions on identifications.

Fifty-five professional and invited amateur mycologists attended, mainly from the Nordic countries (i.e. Denmark, Finland, Iceland, Norway, and Sweden) participated, but also including ones from China, Estonia, Scotland, and Spain joined. Gotland, situated in the Baltic Sea, is especially interesting because of its calcareous soil and warm

climate. Many fungi are found here that are otherwise absent or rare in the rest of the Nordic countries. The meeting was a great success with plenty of fungi fruiting and beautiful sunshine all week. More than 32 localities were visited, including a wide range of habitats, such as coniferous and deciduous forests, wooded meadows, alvars, and sand dunes. During the week 1525 collections were made, identified, and registered in a database (by Ibai Olariaga and PhD student Elisabeth Sjökvist, supported by the Swedish Taxonomy Initiative). The collections represented 596 species, including a large number Red Listed in Sweden. Additional collections identified within the three months after the meeting will be added and all information will be available in the Species Gateway database of the Swedish Species Information Centre (<artportalen.se/>). Fungi were put out on display in the evening (in a tent placed outdoors to keep the fungi

fairly fresh), and selected interesting groups of species were discussed. Several students from the universities of Gothenburg and Gotland attended the meeting and helped with the display. It was a very busy week, but more than anything the meeting provided an opportunity for mycologists to interact, enjoy and talk about fungi – and other topical issues.

The NMC is held every second year and rotates amongst the Nordic countries. Seppo Huhtinen (University of Turku) is the organizer of the next NMC, which is to be held in the Bear's Lodge (Pohtimonlampi Hotel), close to Rovaniemi, Lapland, in northern Finland in 2013. Mycologists from outside the Nordic countries will be welcome.

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Scenes from the 20th Nordic Mycological Congress on Gotland, Sweden, during field- and laboratory work, presentations, and one of the 47 *Cortinari* subgen. *Phlegmacium* species collected, *C. terpsichores*. Photos by Tapio Kekki and Tor Erik Brandrud.