

# Editorial: four years of the International Mycorrhiza Society Newsletter

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Time sometimes happens too fast! Its been four years since we started this quarterly e-Newsletter of the International Mycorrhiza Society, and the energy and response from the mycorrhizal scientific community has been very encouraging. In the XXI century is impossible to only communicate our research results, opinions, and questions only through Web of Science-indexed scientific articles – often behind a paywall. It is also impossible to keep up with the huge amount of mycorrhizal literature produced everyday: the search we do for our Top 10 mycorrhizal articles, is based on between 400-600 mycorrhizal articles every year, but probably more is being produced. There is also a need to communicate research spread knowledge as much as possible – such as in this Newsletter, hopefully generating cordial, productive debate that advance our field (Marín 2022). Thankfully, and spreading outside the bubble of our scientific community, there are dedicated science outreach tools for mycorrhizas (Silva-Flores *et al.* 2021)!

## ICOM12 News – Registration is Open:

The 12<sup>th</sup> International Conference on Mycorrhiza (ICOM12) will take place in Manchester, United Kingdom, 4-9 August 2024. Please visit the ICOM12 website: <https://icom12.org/>



Marcel G.A. van der Heijden (left) and César Marín (right) in the Amazon River, August 2023.

ICOM12 is being organized by Prof. David Johnson and his team. Workshop proposal submission is open until 15 January 2024 at:

<https://icom12.org/workshop-submission/>

Workshop length is of 90 minutes and between 4 to 6 speakers should fill this time slot.

As ICOM returns to an in-person format, it is important to remind our [Diversity and Inclusivity Statement](#) (page 12).

Please also find the list of speakers by theme, including plenary talks, keynote speakers, and rising stars:

## ICOM12 (Manchester, UK, 2024) Speakers by theme

Type of talk/ Topic	Mycorrhizas as drivers of Interaction Networks	Managing mycorrhizas for Sustainability and food security
<b>Plenary Talks</b>	Bala Chaudhary	Giles Oldroyd
<b>Keynote Speakers</b>	Gu Feng Lena Mueller* Brian Steidinger	Elisa Pellegrino Carlos Urcelay Anders Dahlberg Nina Wurzbarger
<b>Rising Stars</b>	Camille Truong	Adam Frew

\*To be confirmed

	Regulation and transport in Mycorrhizal networks	Functional consequences of Mycorrhizal diversity
<b>Plenary Talks</b>	Uta Paszkowski	Lingli Liu
<b>Keynote Speakers</b>	Jonathan Plett Zhilin Yuan Lotus Lofgren Silvia Perotto	Serita Frey Adriana Corrales Minxia Liang Peter Kennedy
<b>Rising Stars</b>	Hiromu Kameoka	Mark Anthony

### Call for award nominations to be given during ICOM12

The International Mycorrhiza Society offers four prestigious awards at the next meeting in Manchester, United Kingdom. These are the: 1) **Student Award**, 2) the **Early Career Award for Excellence in Mycorrhiza Research**, 3) the **Mid-Career Mycorrhiza Research Excellence Award** and 4) the **Eminent Mycorrhiza Researcher Award**. If you know a person which you feel deserves an award or if you like to nominate yourself because you feel you made a ground breaking discover, please check out the terms of reference here:

<https://mycorrhizas.org/icom/icom-12/>

In addition, there is the UMAHARI (Ultimate Mycorrhiza Application for Harnessing Agriculture Resources Integration) award constituted and enacted by Dr. Alok Adholeya in fond memories of his Father and Mother for best oral and poster presentations, given by Umahari LLC St Louis USA. Participants below 30 years are encouraged to nominate/register themselves for this award via email ([Alok@umahari.com](mailto:Alok@umahari.com)) at the time of

acceptance of their abstract in ICOM12 and after confirming in-person participation. Through this award the best poster and the best oral presenter will be selected by an independent jury. Young researchers who have worked in applied research of mycorrhizas towards products or inoculants will be considered for these two awards. The award includes a cash prize of USD\$100 each, besides a certificate and citation.

### IMS News

→ **Two board positions to be filled:** After ICOM12, Justine Karst will become the new President of the International Mycorrhiza Society and Marcel van der Heijden will act as Past President. After four years, Ian Dickie will leave the Board of Directors – we are very thankful to Ian for his great contributions to our Society. As such, at ICOM12 two positions need to be filled:

- New Vice President of the IMS (it can be someone from the current Board or from outside).
- New member of the Board of Directors.

If you are interested in filling any of these positions, please send your application to Justine Karst ([karst@ualberta.ca](mailto:karst@ualberta.ca)), until 30 June of 2024.

→ **IMS Seminars:** Starting on 2024, we will organize online regular seminars from an eminent researcher and from a rising star in mycorrhizal research. More information soon!

→ **IMS Archive:** as part of our effort to archive the history of the IMS, we are currently rescuing different sources of information regarding past ICOMs, Boards of Directors, awardees, and so on. Among these, we are documenting past IMS activities and are looking for copies of the IMS Newsletter (with different name) prior to 2015. On file we have: Volume 4 October 2009, Volume 4 March 2010, Volume 6 February 2012, Volume 7 July 2012, Volume 8 April 2013. If you have any old newsletters not on this list, can you please email them to Justine Karst?: [karst@ualberta.ca](mailto:karst@ualberta.ca)

→ **Call for ICOM14 proposals in 2028:** If you are interested in organizing ICOM14 in 2028, please write to Katarina Zachariasova ([zachariasova@associationhouse.cz](mailto:zachariasova@associationhouse.cz)) and/or to Justine Karst ([karst@ualberta.ca](mailto:karst@ualberta.ca)), so your proposal can be presented during ICOM12 in Manchester, United Kingdom. Please do so until 30 June of 2024.

### IMS Newsletter news

→ **Articles/interviews welcomed:** If you want to highlight your recent mycorrhizal research/publications formally or informally, to give your expert opinion on any mycorrhizal topic of interest, or to present the 'behind-the-scenes' stories often not shown in publications, please reach out to us.

There are two ways you can do this. First, you can write a short article (800-1200 words), which our Editorial Team will review (check all the articles over the last four years here: <https://southmycorrhizas.org/ims-newsletter/>).

Second, we can program a YouTube interview through the South American Mycorrhizal

Research Network channel (see our interviews here: <https://southmycorrhizas.org/reading/>). Please get in touch with IMS Newsletter Editor-in-Chief César Marín ([cmarind@santotomas.cl](mailto:cmarind@santotomas.cl)) if interested!

→ **Managing Editor position:** We are looking for a Managing Editor of the IMS Newsletter who helps the Editor-in-Chief and Topic Editors produce the Newsletter every four months. Your tasks would include helping with the format design and graphic layout of the Newsletter, updating a list of events and job opportunities, checking reference formats of the articles, and spreading the Newsletter through social media. PhD students, postdocs, early career, and established mycorrhizal researchers are welcome to apply. Previous similar expertise helps your application, as well as a demonstration of editing, graphic, web design, and social media skills. Please contact IMS Newsletter Editor-in-Chief César Marín ([cmarind@santotomas.cl](mailto:cmarind@santotomas.cl)) before 30 April 2024 if you are interested!

### In this issue...

The Top 10 mycorrhizal research papers of the last four months (papers published between May and August 2023) include a *Curr Biol* article by Heidi-Jayne Hawkins and co-authors (Rank 1). With an impressive analysis of almost 200 datasets, they found that 13.12 Gt of CO<sub>2</sub>e fixed by land plants is -at least temporarily- allocated to mycorrhizal mycelium each year, corresponding to approximately ~36% of current yearly CO<sub>2</sub> emissions from fossil fuels. The time to include mycorrhizal fungi in global carbon balance estimations and, more importantly, to protect them is now! The second-best paper was by Nils Henriksson and co-authors (*New Phytol*), who re-examined the evidence for the mother-tree hypothesis in ectomycorrhizal systems. They analyzed three sources: ectomycorrhizal carbon

metabolism, patterns of ectomycorrhizal forest regeneration, and isotopic methods studies. They found evidence for carbon movement between trees but no conclusive evidence that ectomycorrhizal common mycorrhizal networks have a role in this, nor on plant growth. Patterns of forest regeneration are not congruent with the patterns a common network would give (Henriksson *et al.* 2023). Also, we do not know of any physiological mechanism for carbon transfer between ectomycorrhizal fungi and the plant-fungal interface. The third rank was also a *New Phytol* paper by Johanna R. Jantzen and co-authors, where the leaf spectra evolution of 92 arbuscular and ectomycorrhizal plants is modeled through phylogenetic comparative methods. They found that the leaf spectra of both mycorrhizal types do not differ after accounting for phylogeny.

This 12<sup>th</sup> IMS Newsletter issue includes a short article, a written interview, and two meeting reports. A short article by Laura M. Bogar describes source-sink dynamics in ectomycorrhizal associations – please also find a YouTube interview with Laura on related issues by Camille Truong from the Royal Botanic Gardens Victoria, Australia. The interview with Francis Martin (past president of the IMS and awardee as an eminent mycorrhizal researcher) by Jonathan Plett explores his career, his definition of success in science, advice to young researchers, and how he sees the future of fungal research – which he helped build quite significantly. Clara Peña-Venegas and co-authors report on the III International Symposium of the Mycorrhizal Symbiosis in South America (<https://southmycorrhizas.org/events/>), celebrated in the Colombian Amazon in August 2023, while James N. Prout and co-authors report on the 6th international Molecular Mycorrhiza Meeting, which took place in Cambridge, United Kingdom, in September 2023. Ariadne N.M. Furtado was

interviewed on YouTube about her and co-authors' discovery of Guapiroid ectomycorrhiza, a novel fungus-plant subtype in the Brazilian restinga. Also on YouTube, please find an interview with Yiming Meng (by César Marín), PhD student at the University of Tartu, about her global-scale analyses to assess the effects of plant phylogeny and environment (soil, climate) on two crucial plant mycorrhizal traits: type and status. As always, please find our Tools and Events sections at the end of our Newsletter.

## References

- Henriksson N, Marshall J, Högborg MN, *et al.* 2023. Re-examining the evidence for the mother tree hypothesis—resource sharing among trees via ectomycorrhizal networks. *New Phytol* 239:19-28.  
<https://doi.org/10.1111/nph.18935>
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- Silva-Flores P, Argüelles-Moyao A, Aguilar A, *et al.* 2021. Mycorrhizal science outreach: scope of action and available resources in the face of global change. *Plants People Planet* 3:506-522.  
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