

EDITORIAL



Introducing our 15th Anniversary article collection

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I was genuinely surprised by how much joy I found in flipping through these ISME Journal 15th anniversary articles. It's a bit like encountering an old photo album. There's a healthy mix of nostalgia for and laughter over science past (omg 454 pyrosequencing!) blended with more recent snapshots of global diversity and hints of what's to come (e.g., linking across scales). If you read nothing else in this introductory piece, I hope that you will consider at least skimming the titles in the collection just for fun. Maybe you'll get slowly sucked in by the abstracts, then the figures, and suddenly you'll find yourself reading a whole paper or three. At the very least, you can share in a collective chuckle over the microbial ecology equivalent of cute toddlers, awkward teenagers, and graduates with future potential (okay, the metaphor ran a bit amok).

It doesn't take a microbiologist to know that the world is wildly different today, relative to 15 (or, ahem, three) years ago. Sure, the science is different, but the world has changed, and there is a collective exhaustion that I want to acknowledge and avoid further contributing to. With that in mind, I'll pepper in a little bit of behind-the-scenes honesty: I was worried that I might not have it in me to do this collection justice. I assumed that I should read each paper, try to come up with some profound insights, and feign excitement about something that few would read ... but then I looked through the papers. I opened a separate browser tab for each one, in chronological order, and flipped back and forth through them. It turns out, the collection is really great and speaks for itself. I view it not so much as a showcase of specific ecological breakthroughs, though obviously the science is excellent; it's more about the trajectory of our field and the comings and goings of technological trends, interspersed with seminal discoveries. My friends, I promise, it's worth a look.

So as not to completely shirk responsibility, here's a quick sneak peek for those who have been around for a while, or a primer for

newer folks who may not have vivid memories of microarrays and DGGE. The bookends in the collection are a four-sample soil microbial diversity study at the forefront of the switch from Sanger to 454 pyrosequencing and an impressive cross-scale analysis linking ectomycorrhizal fungi to forest growth, published in 2007 and 2022, respectively. As early as 2009, there was a huge jump in the number of samples for amplicon sequencing datasets, and we start to see some nice Easter eggs in the form of black background, 3D PCoA plots with neon data points (super trendy at the time, check them out, and see the 2012 and 2014 papers for more!). There are tools and databases, like the PhyloChip, UniFrac, and Greengenes, the advent of amplicon sequencing on the Illumina MiSeq and HiSeq platforms, as well as a classic zinger in the debate over amplicon sequence variants (ASVs) vs. operational taxonomic units (OTUs). Most studies are at the community scale, and we start to see a focus on network analyses and co-occurrence in 2015, including impacts of stress on network stability in 2021. In terms of ecosystems, the vast majority here are soil and/or plant-associated, but there are also some human microbiomes, a few meta-analyses, and a sediment bioreactor with a very cool geomicrobiology demonstration of anaerobic methane oxidation coupled with manganese reduction. True to our international society, there is geographic diversity in authorship, as well as international collaborations, but we're ready for more from the Global South. Just as you might expect in a collection of the most highly cited papers, there is a lot, but it does not cover everything.

Overall, this collection makes me proud to be part of The ISME Society, glad that there is a trend towards appreciating and supporting society journals, and excited for what's to come. At any time, but especially right now, we could all use a little bit of fond reminiscing, pride in what we are doing right, and reflection over how to make it even better. Enjoy!

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