



UNIVERSITY OF
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Developing resources to address chytrid fungal pests of microalgae

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Challenges with development of zoosporic fungus model pest system

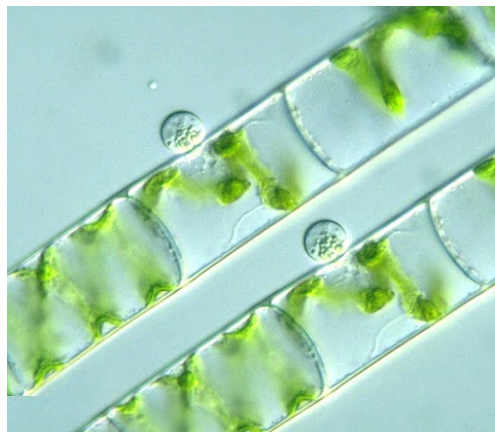
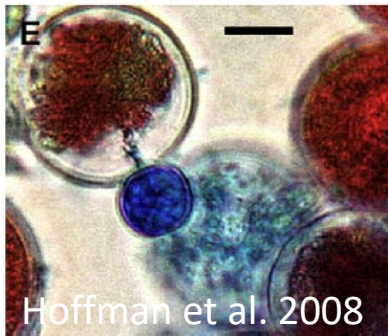
- Parasites can be either uncultured or grow weakly in culture
- Poor match between what is available in culture and what is important in algal biomass production facilities
- Intellectual property rights separate fungal biologists from industry
- Taxonomic expertise is waning

Opportunities for development of zoosporic fungus model pest system

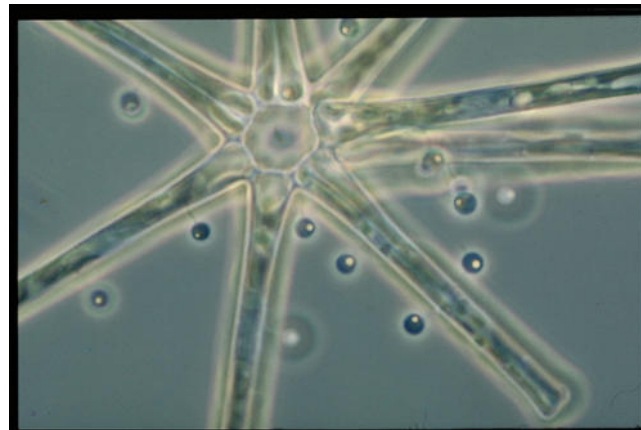
- Partnerships between industry, government agencies, and academia.
- Several parasites are emerging as consistent issues across multiple continents
- Natural ecology of pests has been underexplored

Increased knowledge of fungal diversity/biology is needed

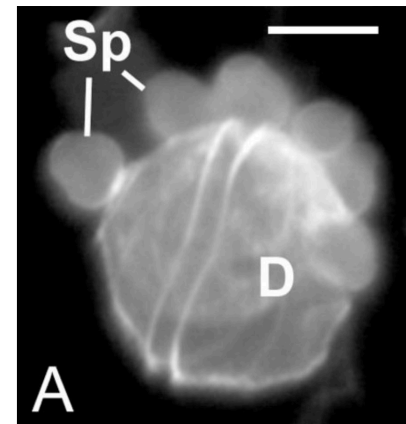
- Zoosporic true fungi are major pests of microalgae
- Reproduce by swimming spores
- A diverse group of over 1000 species, 7 phyla



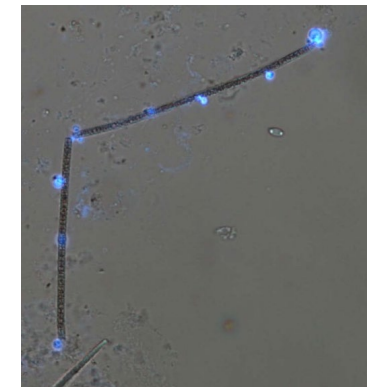
<http://protist.i.hosei.ac.jp/>



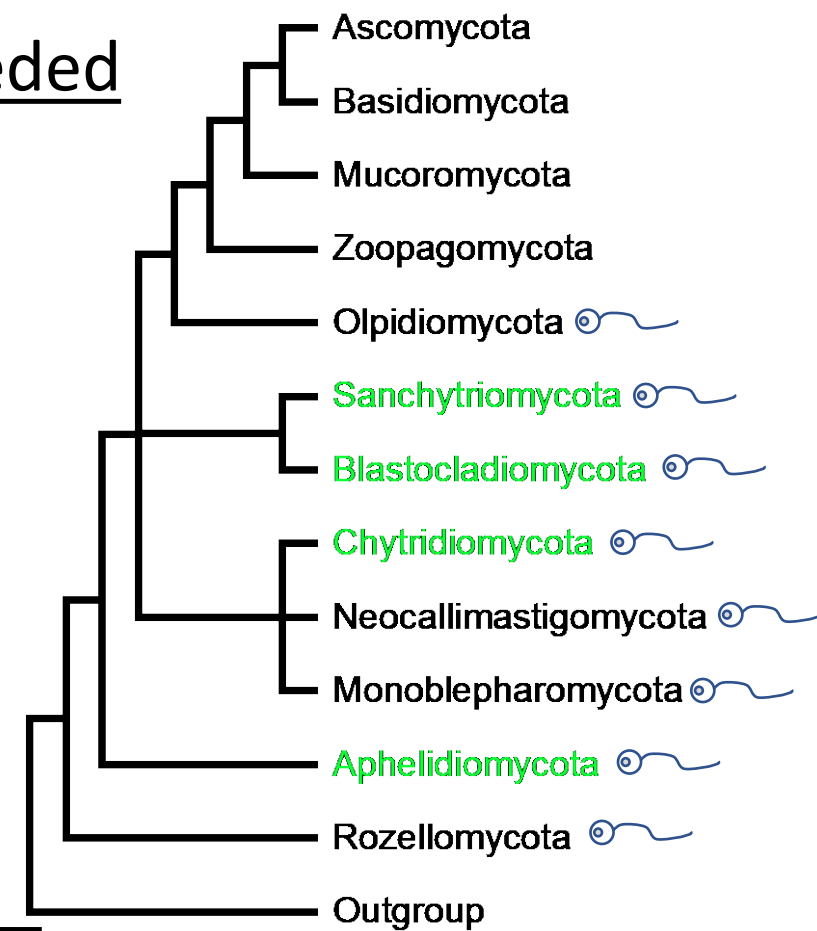
Hilda Canter-Lund



Leshem et al. 2017



Van den Wyngaert



Systematic collecting of parasites and support for culture collections needed



Collection of Zoosporic Eufungi at the University of Michigan (CZEUM)

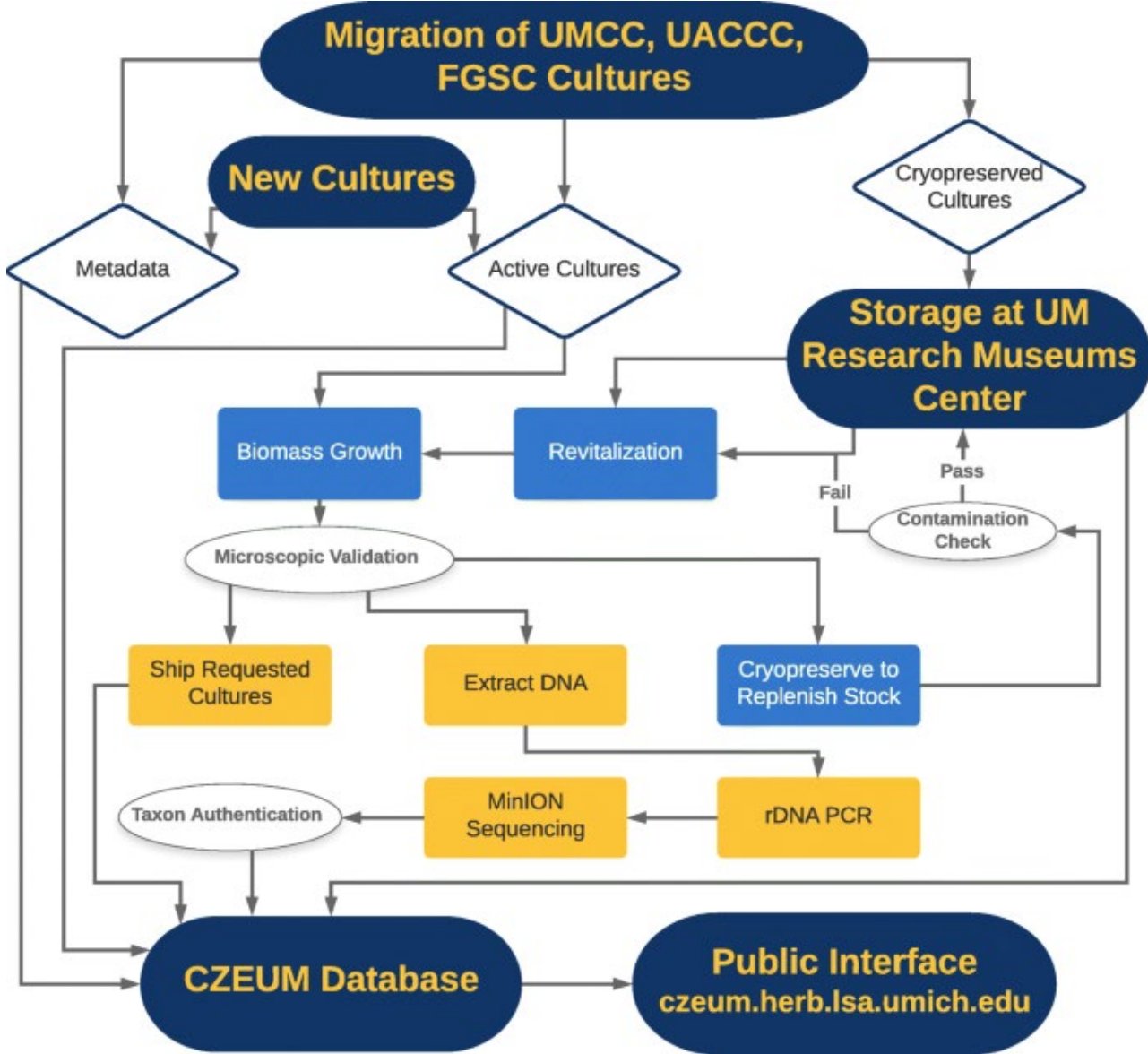
- 1149 strains
- cryopreserved in liquid nitrogen
- numerous *Batrachochytrium dendrobatidis* strains



Rabern Simmons & Joyce Longcore



Peter Letcher & Martha Powell

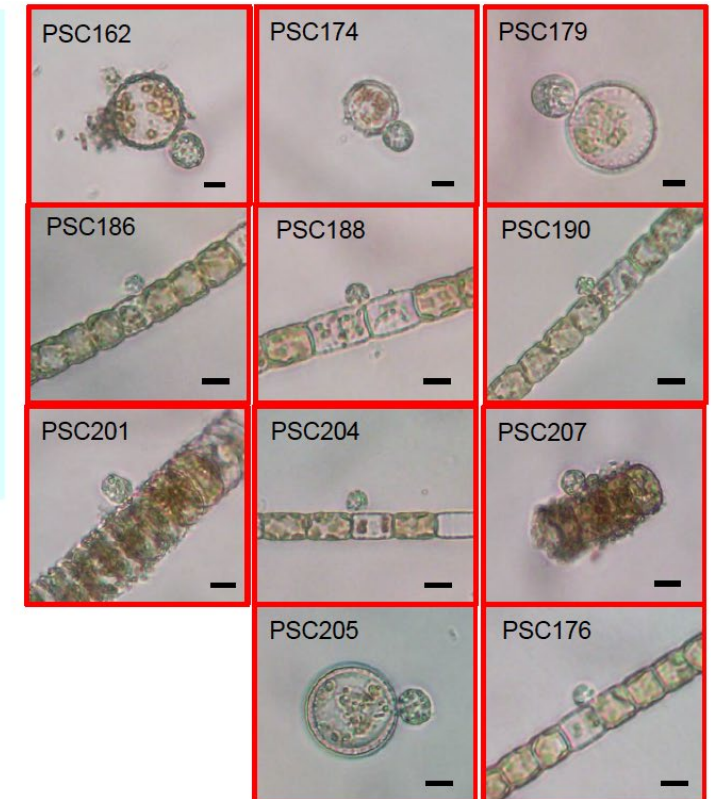
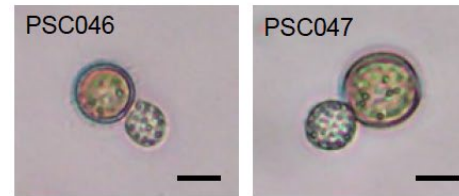
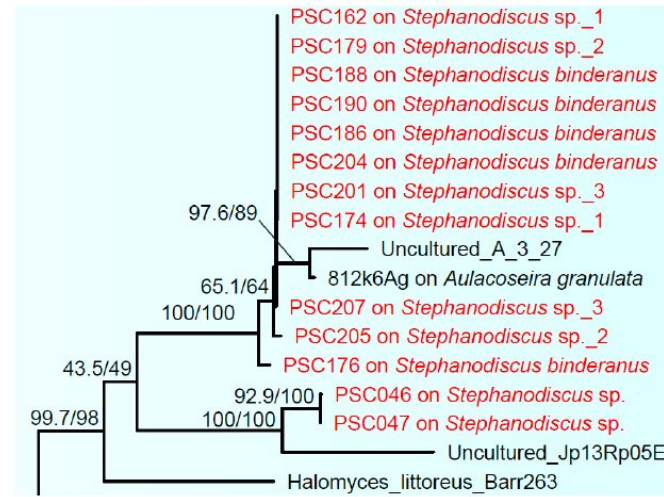


Simmons et al. 2020; *IMA Fungus*

A better understanding of the natural ecology of chytrid pests is required



Thawing Lake Erie ice with diatom bloom
Twiss et al. 2012; *J. Great Lakes Res.*



Mike McKay



Kensuke Seto