

PLENARY PRESENTATION

ECOLOGY: WHY DO IT?

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Genetic studies are revealing new insights into evolutionary links, palaeoecology is providing evidence of community development over longer and longer timescales, while SEM investigations continue to give us more detailed information on the structure of the cell wall. Are ecological studies keeping pace? Examples will be drawn from a range of habitats (shallow to deep, cold to warm) and genera (*Aulacoseira*, *Cyclotella*, *Stephanodiscus*) to explore the ways in which ecology can benefit research in these areas. In particular, the importance of long-term studies of population dynamics will be discussed, as well as the benefits of combined laboratory and field studies for understanding interactions between species and the factors that affect growth and survival throughout the life cycle.