BACK TO THE FUTURE: 40+ YEARS IN NORTH AMERICAN DIATOM RESEARCH

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Since the establishment of the North American Diatom Symposium over 40 years ago, research using diatoms has increased significantly, with distinct temporal changes in scientific focus and direction. Under the influence of Dr. Ruth Patrick, environmental pollution was the prominent directive in the early years of the symposium, with rivers as the study units. As the North American Symposium evolved, research interests in ecology, cell cytology, and taxonomy flourished. Acid rain dominated research interests in the eighty's and nineties. The enhancement of multivariate statistics during this time further supported the development of environmental assessment research, which ultimately extended into the field of paleolimnology. Today, climate change based research using diatoms from North America is front and center in the primary literature. From the 1980's up into the 2000's, morphology-based taxonomy flourished with the examination of type specimens and more complete taxonomic descriptions using LM and EM technologies. Polymerase chain reaction (PCR) methodology revolutionized genetic research; today the genomics of the chloroplast are playing a key role in understanding the evolution of diatoms; this symposium and others reflect this research. It is also clear that well-managed databases and collaborative research between disciplines will be key to future research efforts. The final question is, how well are we doing in our quest to incorporate other disciplines, physics and the health sciences for example, into our diatom research, and in turn, diatom research has a lot to contribute to other disciplines.

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