

# Doing Mathematics in the Presence of Technology

Jonathan Michael Borwein, FRSC  
Gordon M. Shrum Professor of Science & Director  
Centre for Experimental and Constructive Mathematics  
Simon Fraser University, Burnaby, V5A 1S6, BC

## **ABSTRACT.**

Technology has repeatedly promised to transform mathematics pedagogically. More recently it has made similar promises to the research community. That said, mathematics in 1999 looked a lot more like mathematics in 1939 than is the case with any of its sister sciences.

That this is about to change is inarguable. The confluence of ubiquitous compute power with new networking and collaborative environments will push the teaching and discovering of mathematics in conflicting directions often beyond our control. The burgeoning role of corporate edu-packages is hardly likely to diminish. Nor are battles over curriculum and its delivery about to stop.

In my talk, I intend to survey and illustrate some of the ways in which twenty-first century mathematics will be changed by these new technologies. I will try to distinguish issues of ownership of technology from those of control over content. I also intend to discuss how as mathematical educators we might best prepare for the coming storms. Finally, as a partner in a small educational technology firm, I will offer some modest prescriptions for living on both sides of the fence.