Title: MPI is Dead... long live ???! or
How I Learned to Stop Worrying and Love New Models of Computation

Abstract: As the community continues to embrace an evolutionary approach to exascale computing, we are rapidly losing our window of opportunity to stop before hitting the rapidly approaching energy wall. It is well accepted that bottom-up work starting with devices will result in major architectural change; indeed this change will be forced upon the programmer regardless of their preference. However, there is major resistance to the innovation required of the programming model to represent application requirements. This talk will discuss some of the major impediments to change, challenge the conventional (stagnated!) thinking on programming an exascale platform, and address the research issues required to get to exascale. These issues include: managing billion-way parallelism, data and work movement, and requirements for global machine reach, none of which are addressed by existing computational models. Additionally, I will proffer a list of fallacies that pervade the community.