## **Dave Wecker**

## Achieving Practical Quantum Computing

Microsoft's Station Q was founded in 2006. The focus of the team has always been topological quantum computing. By taking a full systems architecture approach, we have reached the point where we are now able to start engineering a scalable quantum computer. The goal is to be able to solve major problems in areas of interest (e.g., Chemistry, Materials and Machine Learning). This talk will focus on the basics of quantum computing and the types of applications that we will be trying to solve, as well as the benefits of our unique approach.



**Dave Wecker** is a Quantum Architect at Microsoft Research's Station Q. He came to Microsoft in 1995 and helped create the "Blender" (digital video post-production facility). He designed and worked on a Broadband MSN offering when he became architect for the Handheld PC v1 & v2 as well as AutoPC v1 and Pocket PC v1. He moved to Intelligent Interface Technology and resurrected SHRDLU for Natural Language research as well as building a state-of-the-art Neural Network based Speech Recognition system. For the Mobile Devices Division, he implemented secure DRM on ebooks and Pocket PCs.

He created and was director of ePeriodicals before taking on the role of Architect for Emerging Technologies. He then started the Machine Learning Incubation Team before becoming an architect for Parallel Computing Technology Strategy working on Big Data, which led to his current position in Quantum Computing. He has over 30 patents for Microsoft and 9 Ship-It awards. He started coding professionally in 1973, worked in the AI labs at CMU while obtaining a BSEE and MSIA and was at DEC for 13 years (ask him about DIDDLY sometime).

Twitter: @DaveWecker, @MSFTQuantum