

Chipscale Quantum Information Processing

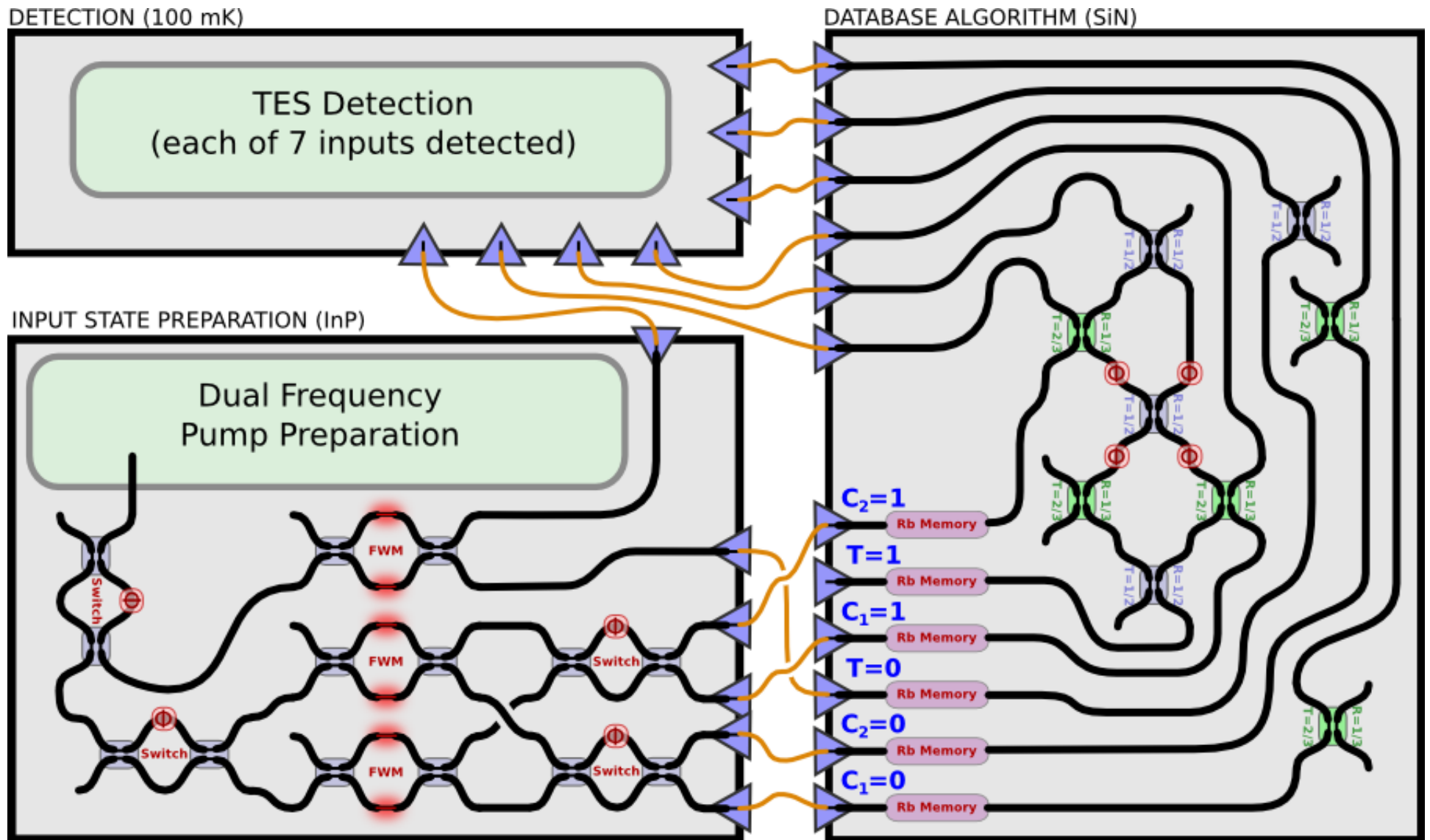
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Aaron Miller
Albion College

David Meyer
UCSD

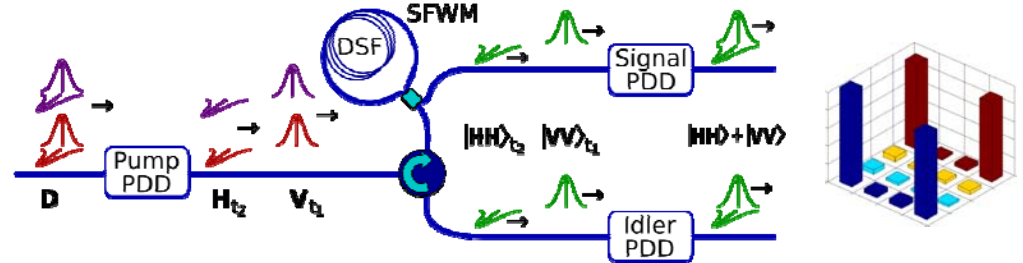
Scalable Example Circuit for Chipscale LOQC



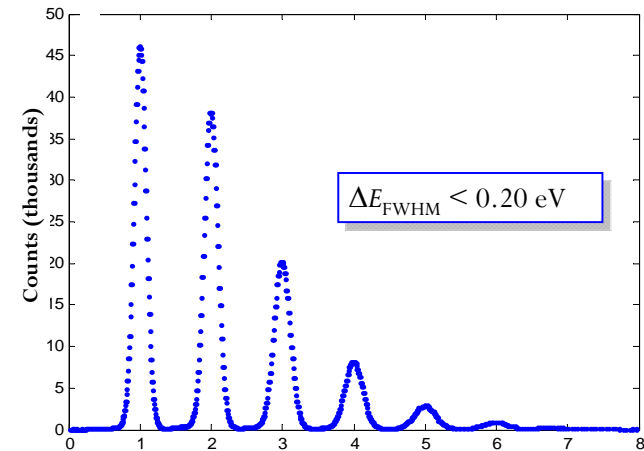
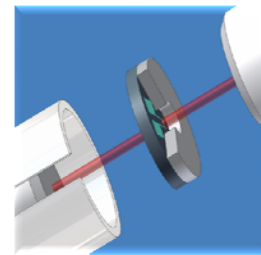
Fiber-based sources and gates

- Created in fiber i.e. naturally single-mode
- Low-loss
- Exploits existing telecom infrastructure
- 1550 nm or 1310 nm

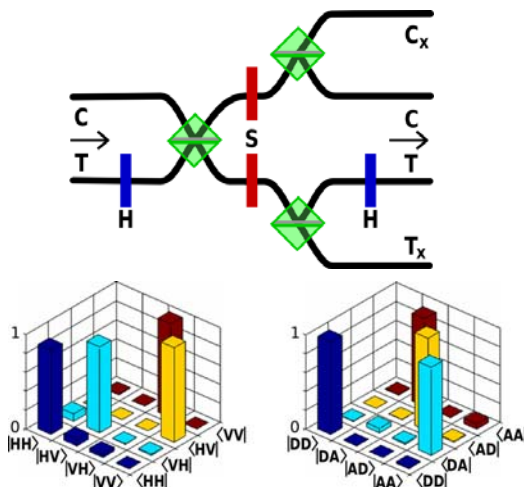
Degenerate Entanglement



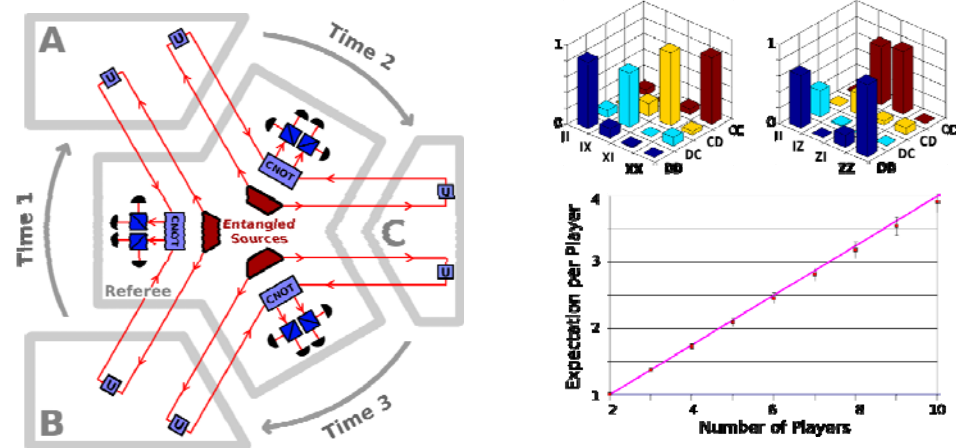
Easily Couples to TES Detectors



LOQC Gates

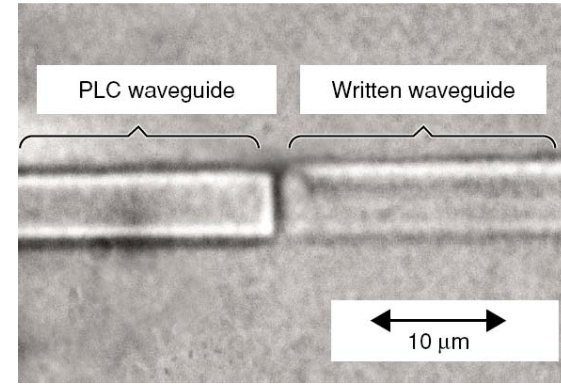
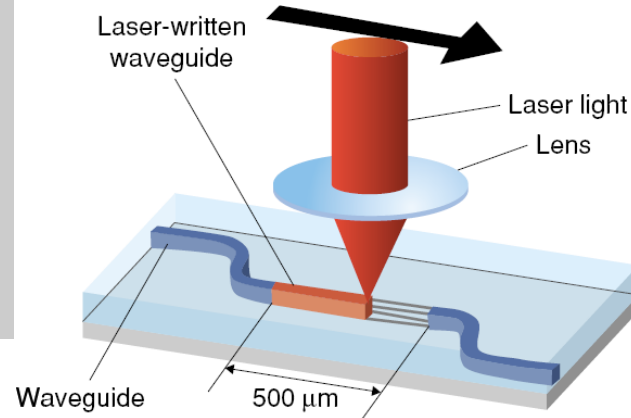


Applications: Multi-Player Quantum Games

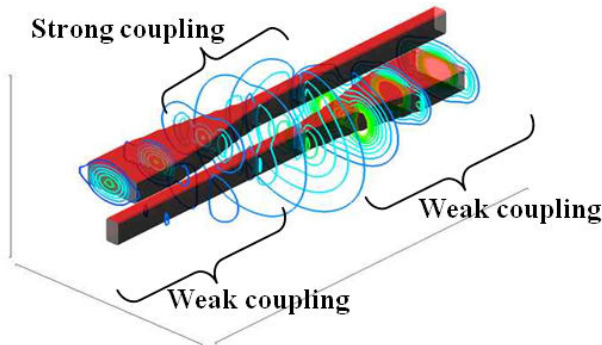
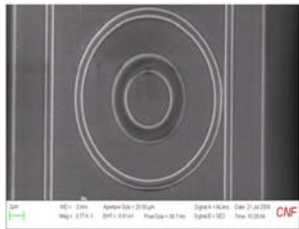
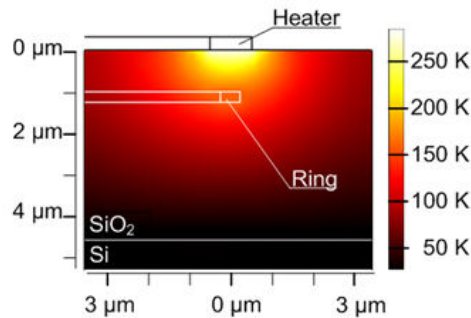
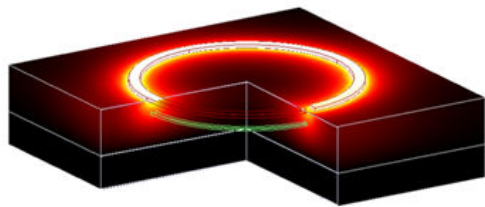


Searching for industry partners to facilitate transfer of technologies:

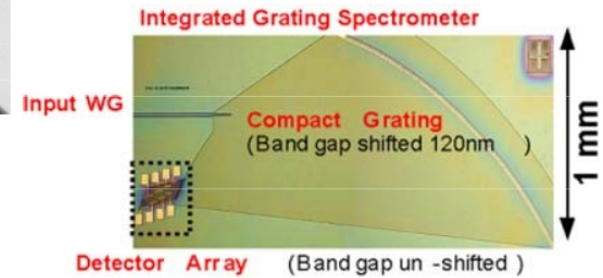
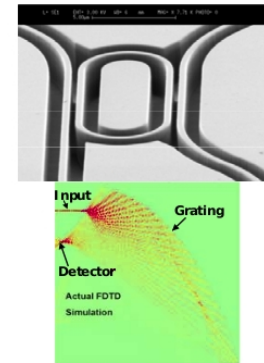
Glass



Silicon

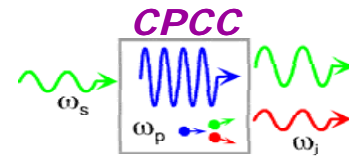


InP





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