Generator-Based Module Design

- Module generators encapsulate physical/circuit/logic design knowledge.
- Microarchitectural generators are driven by module generation parameters.
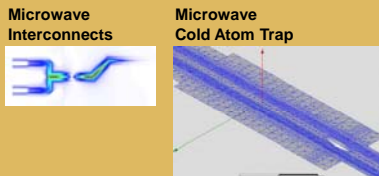
Team and Capabilities

Alexa Harter, Greg Mohler, Ryan Westafer: **GTRI**

- Superconducting device & circuit simulation

Microwave Interconnects

Microwave Cold Atom Trap

Sung-Kyu Lim, Marilyn Wolf: **ECE**

- VLSI CAD algorithms and systems

Tom Conte: **CS**

- Microarchitecture simulation and modeling

Teaming Opportunities

CAD systems
Foundry
Superconducting Experimentalist

Generators encapsulate design knowledge.

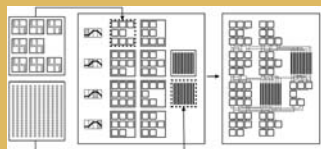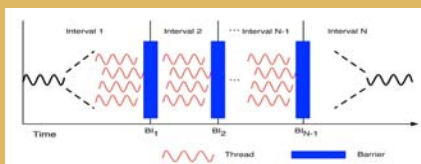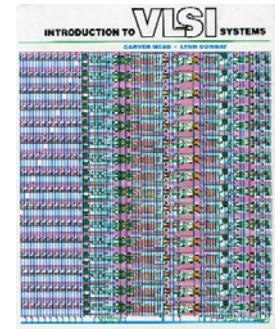Design of generators for modules builds experience for more general CAD algorithms.

Output of an early nMOS datapath generator.

Inputs: datapath width, ALU functions, etc.

Output: Datapath layout.

JJ logic families are more challenging than MOS---more coupling, parasitic effects.

SuperTools generators must be more algorithmically driven---physical layer modeling using FDTD and SPICE.

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