NNCI Quantum Leap Research Community

Concept:

Enabling quantum information, science, and technology via network-wide nanofabrication infrastructure and expertise

Approach:

Rethink current methods to develop quantum-specific best practices.

- Materials processing & characterization that promote quantum performance
- Interface preparation, treatment and characterization
- Integration of quantum devices
- Packaging technologies

Membership to date (still reaching out):

3 lead organizations (UChicago@SHyNE; UMn@MiNiC; Harvard@CNS)

42 members from **all NNCI sites**

National Nanotechnology Coordinated Infrastructure

NSF

SHyNE (UChicago)
MINIC (UMinnesota)
CNS (Harvard)

NNCI Quantum Leap Research Community

Partners:

- **AccelNet**: Funded by NSF network-of-network program (PI: S. Koester – UMinn); includes European & Asian members:
  - ML^{4}Q - Matter and Light for Quantum Computing
  - OpenSuperQ - An Open Superconducting Quantum Computer
  - Nanotechnology Japan
  - **Chicago Quantum Exchange** @ UChicago
  - More are welcome, esp. industry & national laboratories

Planned activities (in development):

- Contact person at each site for quantum-related development/solutions
- Annual workshop (short, via teleconference) on quantum fabrication
- Website providing easy information & links
- Roadmap for quantum fabrication?

National Nanotechnology Coordinated Infrastructure

NSF

SHyNE (UChicago)
MINIC (UMinnesota)
CNS (Harvard)

NNCI Quantum Leap Research Community

Join us!

Email to one of us:

- Andrew Cleland @ UChicago
- Steve Koester @ UMinnesota
- Bob Westervelt @ Harvard

Help us define our goals and plans
Participate in our workshops
… website coming soon

National Nanotechnology Coordinated Infrastructure

NSF

SHyNE (UChicago)
MINIC (UMinnesota)
CNS (Harvard)