

# NSF CAREER Proposal & Grant Seminar

Friday, April 27<sup>th</sup>

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Electrical Engineering

# Overview of My Proposal

- **CAREER: Ultrasound Histotripsy System Development to Improve Cancer Treatment**
  - **Intellectual Merit:**
    - Advance minimally invasive surgery.
    - Lay ground work for extending therapy to clinic.
    - Unique collaborative relationships between the College of Engineering and the College of Medicine at the University of North Dakota.

# Overview of My Proposal

- **CAREER: Ultrasound Histotripsy System Development to Improve Cancer Treatment**
  - **Broader Impacts:**
    - Involve math and science teachers from small high schools, rural schools, and tribal high schools in Minnesota and North Dakota to actively participate in the research in the summer.
    - The teachers will then sponsor student bioengineering projects at their schools which will be presented to middle school and grade school children.
    - Biomedical engineering focus program and curriculum will be developed with the hope of attracting more young women to study electrical engineering.

# Intellectual Merit: Strengths

- The motivation of the application of ultrasound histotripsy is strong. The work is promising and has potential.
- The research tasks are identified with a good detailed experimental plan.

# Broader Impacts: Strengths

**Summary Statement: “The educational plan was received very well by the panel.”**

- Good use of K-12 into experimental plan.
- The pyramid structure was well received by the panel.
- The biomedical focus was strong and is needed by the department.
- The plan would strongly support the department.

# Recommendations

- Provide a detailed and reasonable research plan.
- Give careful consideration to your outreach/broader impacts.