

## Advanced Silicon Group Awarded Competitive Grant from the National Science Foundation

*Small Business Innovation Research Program Provides Seed Funding for R&D*

**Lincoln, MA, December 5, 2016** – **Advanced Silicon Group (ASG)** in collaboration with the University of Iowa has been awarded a National Science Foundation (NSF) Small Business Technology Transfer (STTR) grant for \$225,000 to conduct research and development (R&D) work on using silicon nanowire arrays for the sensitive and simultaneous detection of multiple biomarkers for the identification of lung cancer by a blood sample.

Lung cancer caused over 1.6 million deaths worldwide in 2016 and is the leading cause of cancer deaths in the U.S. The NIH estimates the direct costs of lung cancer treatment in the U.S. at \$13.4 billion in 2015, with much higher indirect societal costs. Expensive, painful, and risky biopsies are presently needed to diagnose and type lung cancer for treatment. Thus, the effect of therapy on the cancer a patient is fighting is not monitored regularly. ASG's silicon nanowire technology promises to sensitively measure multiple biomarkers from a blood test allowing doctors to track the progress of targeted therapy. ASG has demonstrated the ability to detect biomarkers using their nanowire sensor and the work performed under this grant is intended to develop this capability for detection of lung cancer biomarkers. This has the potential for earlier, less invasive, and less expensive testing with a more precise diagnosis leading to better outcomes and lower costs for patients and society.

“The National Science Foundation supports small businesses with the most innovative, cutting-edge ideas that have the potential to become great commercial successes and make huge societal impacts,” said Barry Johnson, Director of the NSF's Division of Industrial Innovation and Partnerships. “We hope that this seed funding will spark solutions to some of the most important challenges of our time across all areas of science and technology.”

“ASG is very excited to be able to apply our silicon nanowire technology through this grant to the important application of the diagnosis of lung cancer and eventually other diseases,” said Dr. Marcie Black, CEO of ASG.

Once a small business is awarded a Phase I SBIR/STTR grant (up to \$225,000), it becomes eligible to apply for a Phase II grant (up to \$750,000). Small businesses with Phase II grants are eligible to receive up to \$500,000 in additional matching funds with qualifying third-party investment or sales.

To learn more about the NSF SBIR/STTR program, visit: [www.nsf.gov/SBIR](http://www.nsf.gov/SBIR).

**About Advanced Silicon Group:** *Advanced Silicon Group is partnering with companies to incorporate its silicon nanowires into their products for improved efficiency and lower cost, and licensing to those companies to manufacture the technology. ASG's first product is black silicon solar cells which enable low cost diamond wire sawn wafers, increase the efficiency of silicon solar cells, and lowers the processing cost. ASG is developing silicon nanowire lithium ion batteries and silicon nanowire biosensors. The company holds over 30 patents covering silicon nanowires, their fabrication, and their application.*

**About the National Science Foundation's Small Business Programs:** *The National Science Foundation (NSF) awards nearly \$190 million annually to startups and small businesses through the Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) program, transforming scientific discovery into products and services with commercial and societal impact. The non-dilutive grants support research and development (R&D) across almost all areas of science and technology helping companies de-risk technology for commercial success. The NSF is an independent federal agency with a budget of about \$7 billion that supports fundamental research and education across all fields of science and engineering.*