

# NATIONAL INSTITUTE OF AEROSPACE TECHNOLOGY TRANSFER & COMMERCIALIZATION HUB



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Featured Technology: 16920-1

Status: Open for Licensing

## FABRICATION OF ADVANCED THERMO-ELECTRIC MATERIALS BY HIERARCHICAL NANO-VOID GENERATION

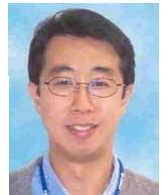
The advanced thermoelectric materials (TE) are fabricated utilizing a hierarchical structure embedded with nanometer-sized voids that is a key to enhancing TE performance.

A solution-based thin film deposition technique creates hierarchical nano-void structures inside the TE materials.

Potential application areas of this advanced TE material with nano-void structures are commercial applications such as:

- Electronics cooling
- Medical and scientific applications (such as biological analysis devices and medical imaging systems)
- Telecommunications
- Defense applications to include night vision equipment.

## Meet the Inventor



*Dr. Sang-Hyon Chu*  
NIA Senior  
Research Scientist

A valued member of NIA since 2003, Dr. Chu received his Ph.D. in Chemical Engineering from Seoul National University in 1998.

After completing his Ph.D., he continued his research as a research associate at Seoul National University and ICASE, located in Hampton, VA. He received his M.S. and a B.S. degrees in Chemical Engineering from Seoul national University, Korea.

Dr. Chu was the 1995 Outstanding Graduate Student and graduated *summa cum laude*.

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