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**Licensing  
Opportunities**

- Exclusive
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- Research  
Sponsorship
- Product  
Development  
Partnerships  
(PDP)

Lehigh Case # 061307-01

## *Hydrothermal-Synthesis of Inorganic Nanofibers*

### **Overview**

The present invention involves a hydrothermal technique for the synthesis of inorganic oxide nanofibers containing titanium with very high aspect ratio (>200). The fibers have a rectangular cross-section with dimensions of the order of a few tens of nanometers. The composition of the fibers can be varied to certain extent for specific applications.

### **Applications and Advantages**

Though there are similar existing methods for preparing this type of fiber, the current process has a distinct advantage:

- A shorter processing time (Approx. 2-8 hours compared to 50-120 hours with other methods) with minimal increase in production cost.

Potential applications for these compounds include:

- Filters
- Membranes
- Composites

With proper doping this material can potentially be used in **lithium ion batteries, fuel cells, solar cells** etc. with added benefits in performance and/or production cost.

### **Status and Intellectual Property**

Status and Intellectual Property A U.S. utility patent application has been filed.