Student Research Chemist – Organic/Inorganic Synthesis

<http://www.utcdayton.com/pages/careers.html>

**Job Summary**

UTC is seeking a Student Research Chemist in the fields of organic and inorganic synthesis. The candidate will conduct basic research to develop and synthesize novel inorganic small molecules for Air Force applications. This position is for summer 2019 but has the option to extend further.

The candidate will work as part of an interdisciplinary research team in the Composites Branch within the Materials and Manufacturing Directorate of the Air Force Research Laboratory at Wright-Patterson Air Force Base in Ohio. The candidate is expected to collaborate with the multidisciplinary team to publish peer-reviewed scientific articles and aid in the development of technologies for U.S. national security interests.

The candidate should have working knowledge and hands-on experience in traditional and state-of-the-art techniques for the synthesis, reaction optimization, and characterization of organic and inorganic small molecules. Valuable experience includes carborane synthesis and functionalization, general familiarity with boron chemistry, air/moisture-free work, and spectroscopic characterization. Valuable techniques include Schlenk line, sensitive purifications (air-free crystallization, sublimation, etc.), single crystal growth, and nuclear magnetic resonance (NMR) and Fourier transform infrared (FTIR) spectroscopies.

**Job Responsibilities**

* Synthesize and characterize novel hybrid organic-inorganic carboranes
* Identify and develop optimized synthetic routes for molecular targets
* Perform related analytical, computational, and/or experimental research tasks
* Summarize research findings in technical reports, manuscripts, and presentations

**Qualifications**

* U.S. citizenship
* Current student (B.S., M.S. or Ph.D.) in chemistry
* Research in chemical synthesis, reaction optimization, and characterization
* Good communication skills, both written and verbal
* Research publications in peer-reviewed journals and professional society conference presentations are a plus.
* Team-oriented approach, but capable of independent work
* Willingness to expand scientific knowledge base through interdisciplinary research