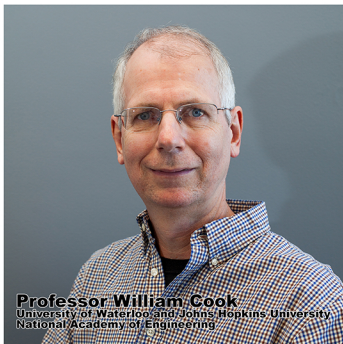


Baylor Undergraduate Lecture Series  
in  
**Mathematics**  
Eleventh Annual Lectures



**Professor William Cook**  
University of Waterloo and Johns Hopkins University  
National Academy of Engineering

**Public Lecture**  
**In Pursuit of the Traveling Salesman:  
Mathematics at the Limits of Computation**  
Thursday, November 15, 2018 4:00 pm  
Marrs McLean Science Building MMSCI 101

The traveling salesman problem is easy to state: given a number of cities along with the cost of travel between each pair of them, find the cheapest way to visit them all and return to your starting point. Easy to state, but difficult to solve. It is a real possibility that there may never exist an efficient method that is guaranteed to solve every instance of the problem. This is a deep mathematical question: Is there an efficient solution method or not? The topic goes to the core of complexity theory concerning what computers can and cannot solve. For the stout-hearted who would like to tackle the problem, the Clay Mathematics Institute will hand over a \$1,000,000 prize to anyone who can either produce an efficient method or prove it cannot be done. In this talk we discuss the history, applications, and computation of this fascinating problem.

**Colloquium Lecture:**  
**Attacking NP-hard Problems**  
Friday, November 16, 2018 4:00 pm  
Marrs McLean Science Building MMSCI 301

The past several decades have seen an intense study of computational tools for attacking NP-hard models in discrete optimization. We give an overview of this work, discussing current techniques, results, and research directions. The talk will highlight successful approaches adopted in the exact solution to large-scale mixed-integer programming models and the traveling salesman problem.



**BAYLOR**  
UNIVERSITY

COLLEGE OF ARTS & SCIENCES