

Department of Computer Science
Roundtable Presentation:

Reasoning About Computation

Dr. Nelson Rushton

11 OCT 2019 | 1PM - 2:30PM | PKI 279

Light refreshments will be served on a
first-come, first-served basis.

ABSTRACT

“In a landmark 2006 article, Jeannette Wing suggested that *computational thinking* -- that is, thinking of the sort needed to solve problems in programming and computer science -- ought to be included in the core curriculum of K-12 and university education. The idea has gained some traction in theory, but not much in practice -- partly because “computational thinking” is thought to be hazily defined, and partly because the case for including it in the core has not been made in a compelling way. In this talk, I will attempt to give one clear view of what computational thinking is, and give reasons for including it in the core curriculum. I will also sketch the contents of a course in computational thinking that could serve as a core or elective computer science course, and also a candidate for satisfying the core math requirement at the university level.”

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BIO

Dr. Nelson Rushton received his PhD in Mathematics from the University of Georgia in 1997, and his MS in Artificial Intelligence from the University of Georgia in 2001. He has served as an Assistant Professor and Associate Professor of Computer Science at Texas Tech University from 2002 to 2018, and as Chief Scientist at Texas Multicore Technologies from 2011 to 2017.

Dr. Rushton is an author or co-author of 33 scholarly articles and book chapters in mathematics and computer science, and a co-inventor of the SequenceL functional programming language and the P-log knowledge representation language. Jointly with Dan Cooke and Brad Nemanich, Dr. Rushton holds a patent on the compilation algorithm for SequenceL.

Dr. Rushton has developed intelligent software systems for the Office of Naval Research, the U.S. Forest Service, NASA, and the Department of Defense, and has been principal investigator of research contracts totaling over one million dollars from NASA and the DoD. Dr. Rushton retired from Texas Tech in 2019 to homeschool his son Noah Rushton, and to write *The Language of Mathematics*, a textbook on mathematical reasoning and introductory discrete mathematics.