



PIMS Distinguished Speaker Series

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Friday – October 18, 2019
12:00 to 12:50 | UH C640
* Pizzas *



The mathematics of energy markets

Abstract: Energy is vital to our existence and to our modern way of life. The efficient production and responsible management of the energy resources available to us are critical for our future, and properly functioning markets can help - by sending signals about the costs and scarcity of various commodities and other resources to both end users and producers. This talk will be about the mathematical challenges these markets pose, and some tools that have been developed to help market participants operate with confidence.

The particular challenges commodity markets pose arise primarily from the physical nature of the underlying assets. This means that the mechanics of supply and demand, of storage and transportation, are always involved, and lead to prices that can behave in extreme ways, and to markets that are coupled together. We will talk about some distinctive mathematical models used to represent this behaviour. We will also talk about how mathematics can help determine how to find both the value of energy assets such as batteries, pipelines, or hydropower generators, and a strategy for operating these assets optimally.

And there will be movies!

Bio:

Before joining the University of Calgary in 2000, Dr. Ware was in the Numerical Analysis Group at Oxford University where he completed his PhD, and then in the Department of Mathematical Sciences in Durham. Since 2007, he has been a visiting lecturer for Oxford University's Mathematical and Computational Finance Programs. He consults for several energy companies and serves on the board for the local chapters of PRMIA and GARP. In 2015, Dr. Ware received the Peak Scholar Award in entrepreneurship, innovation, and knowledge engagement.

Webpage: <http://people.ucalgary.ca/~aware/>