Mathematics Colloquium

Professor Goong Chen

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Texas A&M University

❑**Topic:** *Mathematical and Computational Study of Wind Energy*

❑**Date & Time:** Thursday, Mar. 6 @ 3:30 PM

❑**Place:** Room 207 Sid Richardson Bld.

❑**Refreshments:** 3:00 PM in Room 318 Sid Richardson

❑**Abstract:** Wind energy is a principal form of renewable energy being actively developed by many nations in the world. The model of wind turbine flow is based on the Navier-Stokes equation with rotational dynamics, which is rather challenging to analyze mathematically. Thus, much of any useful study must be done via computational mechanics involving large-scale scientific computation.

In this talk, the speaker will first give some overviews of wind energy development, and then present his study of some issues of interest from a mathematical perspective. In particular, he will present recent numerical results and visulization obtained by his group at Texas A&M University and Texas A&M University-Qatar computed by using the OpenFOAM software, potentially leading to an improved understanding of wind-turbine flows and also of wind farm layout designs.

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