1010-35-30　　　　　**Jiahong Wu*** (`jiahong@math.okstate.edu`), Department of Mathematics, 401 Mathematical Sciences, Oklahoma State University, Stillwater, OK 74078. *The complex-valued KdV equation.*

The complex-valued Korteweg-de Vries (KdV) equation arises in modeling physical phenomena such as diffusion-controlled crystal growth and certain irrotational water waves. In contrast to the real-valued KdV equation, the complex-valued KdV equation is not fully understood mathematically. In this talk, I will share with you some theoretical and computational results that have been established for the complex-valued KdV equation. In particular, I will talk about the local (in time) well-posedness, several families of finite-time singular solutions, the relationship between the regularity of the real part and that of the imaginary part, and the effects of dissipation on the regularity. This talk is based on joint works with Juan-Ming Yuan of Providence University, Taiwan. (Received July 25, 2005)