

E0020

Growth and Dissolution of Cholesterol Crystals. Jennifer A. Swift, M. Crina Frincu, Richard S. Abandan, Georgetown Univ., Dept. of Chemistry, Washington, DC.

The unregulated deposition of cholesterol *in vivo* is associated with undesirable medical conditions including gallstone formation and cardiovascular disease. Using *in situ* atomic force microscopy and model bile solutions, the molecular-level surface structure and growth kinetics on cholesterol monohydrate single crystal surfaces has been investigated. Additionally, the influence of potential nucleating agents (e.g. mineral seeds) and/or solubilizing agents (e.g. cholic acids) on the growth and dissolution processes will be discussed. These studies provide fundamental insight into the nanoscopic processes by which cholesterol deposits may form *in vivo*.