

1116-VC-2428      **Melody Alsaker\*** ([alsaker@math.colostate.edu](mailto:alsaker@math.colostate.edu)). *An Introduction to the Mathematics of Electrical Impedance Tomography.*

Electrical impedance tomography (EIT) is an imaging technology with many promising medical applications. In EIT, we apply current to electrodes placed on the body and measure the resulting surface voltage. Using just this boundary information, we reconstruct the internal electrical conductivity distribution within the body, thus forming an image. The EIT problem is very mathematically interesting, and is steeped in the theory of partial differential equations. In this introductory talk, we present an overview of the EIT problem and a glimpse at the mathematics involved in solving this fascinating real-world problem. (Received September 22, 2015)