

On the Calderón problem  
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In this lecture, I will talk about an inverse boundary value problem consisting of recovering the conductivity of a medium from boundary measurements. This inverse problem was proposed by Calderón in 1980 and is the mathematical model for a medical imaging technique called Electrical Impedance Tomography which has promising applications in monitoring lung functions and as an alternative/complementary technique to mammography and Magnetic Resonance Imaging for breast cancer detection. During the presentation, we will discuss the main difficulties of this problem and describe some of the most recent results. In particular, I will show the importance of finding minimal a priori assumptions on the conductivity to ensure the unique determination and the issue of data corruption in the measurement process.