國立交通大學應用數學系
學術演講公告

主講人：Prof. Dr. Bastian von Harrach (Goethe-University Frankfurt)
講　題：Inverse problems and medical imaging
時　間：109 年 3 月 17 日(星期二) 下午 14:00 –15:00
地　點：(光復校區) 科學一館 223 室
茶　會：當天下午 13:30 (科學一館 205 室)

Abstract

　　Medical diagnosis has been revolutionized by noninvasive imaging methods such as computerized tomography (CT) and magnetic resonance imaging (MRI). These great technologies are based on mathematics. If the patient's interior was known then we could numerically simulate the outcome of physical measurements performed on the patient. Medical imaging requires solving the corresponding inverse problem of determining the patient's interior from the performed measurements.

　　In this talk, we will give an introduction to inverse problems in medical imaging, and discuss the mathematical challenges in newly emerging techniques such as electrical impedance tomography (EIT), where electrical currents are driven through a patient to image its interior. EIT leads to the inverse problem of determining the coefficient in a partial differential equation from (partial) knowledge of its solutions. We will describe recent mathematical advances on this problem that are based on monotonicity relations and the concept of localized potentials.

敬請公告　歡迎參加

應用數學系　啟