Speaker: Dr. Vu Kim Tuan, Department of Mathematics, UWG

Title: Multidimensional Inverse Heat Equations

Abstract: Let $\Omega$ be a bounded domain in $\mathbb{R}^n$, and $b$ be an arbitrary point in $\overline{\Omega}$. Consider the heat equation in $\Omega$

$$u_t = \Delta u + q(x)u, \quad x \in \Omega, \quad t > 0,$$

$$u|_{\partial \Omega} = 0, \quad u(x, 0) = f(x) \in L^2(\Omega),$$

where the heat coefficient $q$ and the domain $\Omega$ are unknown.

We will show that the mapping $f(x) = u(x, 0) \in L^2(\Omega) \implies g(t) = u(b, t)$ determines $q$ and $\Omega$ uniquely.

This is a joint research with Dr. A. Boumenir.

All are welcome.