KINGDOOM OF SAUDI ARABIA
Imam Muhammad Ibn Saud
Islamic University
Faculty of Sciences
Department of Mathematics & Statistics

المملكة العربية السعودية
جامعة الإمام محمد بن سعود الإسلامية
كلية العلوم
قسم الرياضيات والإحصاء

# Weekly Seminar
## May 2024 Program

**On Mondays, 8.00 - 8.30 AM**
**(In person Talks)**
**Room 2-079B**

| DATE | SPEAKER | TALK'S TITLE |
|---|---|---|
| **06.05.2024** | **Samy Baraket** | **Construction of singular limits for some elliptic problems on some bounded domain of dimension 2** |

**ABSTRACT**

Let $\Omega$ be a regular bounded domain in $R^2$. We consider the following problem

$$\begin{cases} -\Delta u = \rho^2 e^u, & in\ \Omega \\ u = 0, & on\ \partial\Omega \end{cases}$$

where $\rho$ is some positive parameter. This problem arises from geometry and physics. Suzuki proves that three cases occur about the behavior $u$, as the parameter $\rho$ tends to $0$. In this work, we will prove that one of the three cases holds.