

Welcome to KFUPM

Dr. Majdouline Borji

Assistant Professor

Mathematics Department

Affiliated with Interdisciplinary Research Center for Intelligent Secure Systems



Education:

PhD. from Institut Polytechnique de
Paris, Centre de Physique théorique,
France, 2023

Previous Institution:

Max-Planck Institute for
Mathematics in the Sciences,
Leipzig, Germany
2023 - 2025

Professional Interests:

Boundary QFT, Renormalization, Flow
equations, Singular stochastic PDEs,
Stochastic quantization, Non-perturbative
methods in QFT, Critical behavior

About Dr. Borji:

Dr. Borji is known for her work on renormalizability by the Polchinski flow equations of boundary QFTs, such as the scalar field model on the half-space and more recently on general compact manifolds with boundaries. The renormalization of these models allow to understand the critical behaviour of models with interfaces in condensed matter physics. Recently, she is also applying with collaborators the method of the flow equations to study the well-posedness of singular stochastic PDEs on general flat (compact) domains.