AELSON SOBRAL

aelson.sobral@kaust.edu.sa

sobral-aelson.github.io

RESEARCH INTEREST

Primarily interested in analysis of elliptic, parabolic and nonlocal PDE's, focusing on free boundary problems and regularity theory.

EDUCATION

KAUST, Saudi Arabia — Post Doc in Mathematics, 2024 (Current)

Universidade Federal da Paraíba, João Pessoa — Ph.D in Mathematics, 2024
Advisor: Damião Araújo
Co-Advisor: Eduardo Teixeira

Universidade Federal de Sergipe, São Cristóvão — M. Sc. in Mathematics, 2020

Universidade Federal de Sergipe, São Cristóvão — B. Sc. in Applied Mathematics, 2018

PUBLICATIONS

1. D. Araújo, A. Sobral, J.M. Urbano, E. Teixeira, *A bridge between degenerate/singular problems*. In preparation.

2. B. Sirakov, A. Sobral, *Characterizing maximum principles for generalized equations in divergence form*. In preparation.

3. F. Charro, A. Sobral, *Parabolic stable ABP estimates and applications*. In preparation.

4. D. Araújo, A. Sobral, *On a nonlocal superconductivity problem*. In preparation

5. A. Sobral, E. Teixeira, J.M. Urbano, *Degenerate free boundary problems with oscillatory singularities,* Submitted, 2024.

6. T. Nascimento, G. Sá, A. Sobral, E. Teixeira, *Higher regularity of solutions to fully nonlinear elliptic equations*. Submitted, 2023

7. D. Araújo, A. Sobral, J.M. Urbano, E. Teixeira, *On free boundary problems shaped by oscillatory singularities*. Submitted, 2023

8. D. Araújo, A. Sobral, E. Teixeira, *Regularity in diffusion models with gradient activation*. Submitted, 2023

9. D. Dos Prazeres, A. Sobral, J. M. Urbano, *Cordes-Niremberg type results for nonlocal equations with deforming kernels*. Submitted, 2022

10. D. dos Prazeres, A. Sobral, *Regularity estimates for nonlocal equations with an asymptotic property*

CONFERENCES & SEMINARS

2024 - **INVITED SPEAKER AT MOSTLY MAXIMUM PRINCIPLE CONFERENCE**

- **INVITED SPEAKER AT ICMC SUMMER MEETING**

2023 - **ANALYSIS SEMINAR AT UFPB**

- **ANALYSIS SEMINAR AT WAYNE STATE UNIVERSITY**

- **POSTER PRESENTATION AT XII WORKSHOP ON NONLINEAR DIFFERENTIAL EQS**

- **INVITED SPEAKER AT SPECIAL SESSION OF 13TH AIMS CONFERENCE**

- **INVITED SPEAKER AT SPECIAL SESSION OF CBM**

2021 - **XIV ENAMA**

- **POSTER PRESENTATION AT MCA**

- **CONTRIBUTED TALK AT $[B_1^-]$: ANALYSIS AND PDE FROM THE SOUTH**

ORGANIZING COMMITTEES

2024 - **SPECIAL SESSION AT THE AIMS CONFERENCE**

- **FREE BOUNDARY PROBLEMS: THEORY & APPLICATIONS**

- **ANALYSIS OF PDES: THEORY & APPLICATIONS**

SKILLS

Python programming