CURRICULUM VTÆ

First name & Last name: Abdessatar Khelifi

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MAIN RESEARCH INTERESTS:

Asymptotic analysis**,** Perturbation theory, Inverse problem, Spectral theory.

MAIN TEACHING INTERESTS:

Analysis, differential equations, numerical analysis, linear algebra, ...

EDUCATION:.

- ➢ **February, 15, 2002**: PhD in Applied Mathematics, Ecole polytechnique Palaiseaux, Paris, France.
  Advisor: Professor Habib Ammari.
- ➢ **May, 10, 1999**: Master in Numerical Analysis at the University Pierre-et-Marie-Curie, Paris, France.
  Advisor: Professor D. Cioranescu.

TEACHING EXPERIENCE:

Since July 2018, Full Professor, Department of mathematics, Faculty of Sciences Bizerte, Carthage University, Tunisia.

2013-2017: Associate professor, Department of mathematics, Faculty of Sciences Bizerte, Carthage University, Tunisia.

2002-2013: Assistant Professor, Department of mathematics, Faculty of Sciences Bizerte, Carthage University, Tunisia.

2001-2002 : Teaching assistant in the faculty of sciences of Creteil, university of   Paris 12. France   Courses taught : Analysis, Algebra, Functional analysis.

ADMINISTRATIVE POSITIONS:

Since 2020 until now: Member of the National Committee for Recruitment and Promotion for Teachers of Higher Education.

2014-2018: Coordinator of the Master's degree in Mathematics, Faculty of Science of Bizerte, Carthage University, Tunisia.

Since 2013 until now: Member of the competent committee in the evaluation of doctoral thesis, FSB, Carthage University, Tunisia.

COMPUTER SKILLS:

Matlab, Freefem++, Maple, Mathematica, Scientific Workplace, LaTeX.

LANGUAGES: Arabic, French and English (fluent written and spoken).

MAIN SCIENTIFIC PUBLICATIONS:

- A. Khelifi and S. Saidani. *Asymptotic behavior of eigenvalues of the Maxwell system in the presence of small changes in the interface of an inclusion*. Commun. Pure Appl. Anal., 21(9): (2022) 2891-2909.
- A. Khelifi, and S. Boujemaa. *Boundary layer method for solving full Maxwell equations in the presence of an electromagnetic inhomogeneity of small diameter*. J. Math. Anal. Appl. 505.2 (2022): 125584.
- H. Lihiou, and A. Khelifi , *An integral equation method for the Helmholtz problem in the presence of small anisotropic inclusions* Complex Var. Elliptic Equ. 67.2 (2022): 384-400.
- C. Daveau, S. Bornhofen, A. Khelifi**,** and B. Naisseline. *Identification of deformable droplets from boundary measurements: the case of non-stationary Stokes problem*. Inverse Problems in Science and Engineering 29, no. 13 (2021): 3451-3474.
- C. Daveau, A. Khelifi and S. Oueslati*, Small perturbations of an interface for Stokes problems. Z Angew Math Mech*. 2020; 100:e201800175. https://doi.org/10.1002/zamm.201800175.
- M. Gozzi and A. Khelifi, *On the behavior of resonant frequencies in the presence of small anisotropic imperfections*, Indagationes Mathematicae, Vol. 28, No. 6, (2017) 1240-1257.
- C. Daveau, A. Khelifi and I. Balloumi, *Asymptotic Behaviors for Eigenvalues and Eigenfunctions Associated to Stokes Operator in the Presence of Small Boundary Perturbations.* Math Phys Anal Geom (2017) 20: 13. doi:10.1007/s11040-017-9243-3.
- A. Khelifi, L. El Asmi and M. Bouraoui, *Reconstruction of polygonal inclusions in a heat conductive body from dynamical boundary data*. ESAIM: M2AN, 51 3 (2017) 949-964.
- A. Khelifi and S. Boujemaa, *Small perturbation of a surface: full Maxwell's equations.* J. Math. Anal. Appl. 444, No. 2, 1721-1738 (2016).

- A. Khelifi and H. Zribi, *Boundary voltage perturbations resulting from small surface changes of a conductivity inclusion*. Appl. Anal. 93, No. 1, 46-64 (2014).
- C. Daveau , Douady, Diane Manuel, A. Khelifi and Sushchenko, Anton, *Numerical solution of an inverse initial boundary-value problem for the full time-dependent Maxwell's equations in the presence of imperfections of small volume*. Appl. Anal. 92, No. 5, 975-996 (2013).
- C. Daveau and A. Khelifi, *Asymptotic behaviour of the energy for electromagnetic systems in the presence of small inhomogeneities*. Appl. Anal. 91, No. 5, 857-877 (2012).
- A. Khelifi and H. Zribi, *Asymptotic expansions for the voltage potentials with two- and three-dimensional thin interfaces*. Math. Methods Appl. Sci. 34, No. 18, (2011), 2274-2290.

- C. Daveau, A. Khelifi and A. Shushenko, *Reconstruction of closely spaced small inhomogeneities via boundary measurements for the full time-dependent Maxwell's equations,* Appl. Math. Modelling 33, No. 3,(2009) 1719-1728.
- C. Daveau and A. Khelifi, *On the perturbation of the electromagnetic energy dueto the presence of small inhomogeneities.* C. R. Acad. Sci. Paris, Ser. I 346 (2008) 287-292.
- A. Khelifi, *Determination of small amplitude perturbations for the electric per-mittivity from partial dynamic boundary measurements.* J. Math. Phys. 48 (2007), no. 12, 123501, 10 pp.
- C.Daveau, Douady, Diane Manuel and A. Khelifi, *On a hyperbolic coefficient inverse problem via partial dynamic boundary measurements.* J. Appl. Math. , 14 p. (2010).
- H. Ammari and A. Khelifi, *Electromagnetic scattering by small dielectric inhomogeneities.* J. Math. Pures Appl. (9) 82 (2003), no. 7, 749-842.

MAIN SUBMITTED PAPERS:

- C. Daveau and A. Khelifi, *Reconstruction of a complex electromagnetic coefficient from partial measurements for the Maxwell's equations.*
- *A. Jawabi and A. Khelifi, Asymptotic property and convergence estimation for the eigenelements of the Laplace operator in a domain with a very oscillating boundary*

MAIN INVITED TALKS:

- Khelifi, *Asymptotic expansion of the potential in presences of thin interfaces,* Hammamet, Tunisia, May 9th, 2014.
- C. Daveau, A. Khelifi and A. Sushchenko, *Reconstruction of closely spaced small inhomogeneities via boundary measurements for the full Time dependent Maxwell's equations,* Aplimat, 2009, Bratislava.
- C. Daveau, A. Khelifi and Anton Sushchenko, *An inverse problem of identifying locations of small volume perturbations of the refractive index for the acoustic equation at fixed frequency*, CIRM09, Marseilles, France, 2009.
- Khelifi : *On an inverse problem for a linear Schrödinger equation via*

Dirichlet-to-Neumann map method, "*SPS;* 4th annual meeting", Riyadh,Saudi Arabia (November, 2008).

➤ Khelifi : *Effet de la perturbation du domaine sur le comportement asymptotique et estimations de convergence des elements propres de l'operateur de Laplace*. CANUM'06, Rennes 1, (2006), France.