

Gael Diebou Yomgne

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PERSONAL INFORMATION

Born: December 16, 1992 in Bandjoun, Cameroon
Citizenship: Cameroon
Languages: Hom pâ (mother-tongue), French and English (fluent), German (intermediate)

RESEARCH INTERESTS

Partial Differential equations, Harmonic Analysis, Fluids Dynamics, Function Spaces.

More precisely, my research is in the area of partial differential equations. I am particularly interested in the analysis of low regularity problems (elliptic and parabolic equations as well as equations arising from mathematical fluid dynamics). The tools I use in my research come from harmonic analysis, potential theory, classical PDE methods and the theory of function spaces.

EDUCATION

Ph.D in Mathematics October 2017 – Present
Universität Bonn Degree expected (2022)
Advisor: Prof. Dr. Herbert Koch
Thesis title: On elliptic and parabolic equations in function spaces based on Carleson measures

M.Sc in mathematical sciences with distinction 2016 – 2017
African Institute for Mathematical Sciences (AIMS) Rwanda
Advisor: Prof. Sébastien Martin, University of Paris Descartes
Thesis title: Analysis of the numerical schemes for the simulation of viscoelastic flows

M.Sc in Mathematics 2014 – 2016
University of Dschang, Cameroon
Advisor: Prof. Jean Louis Woukeng
Thesis title: On Sobolev type inequalities and application to elliptic partial differential equations

DIPES II 05/2016
École Normale Supérieure, Bamenda Cameroon (Jointly completed with M.Sc)

HONORS AND SCHOLARSHIPS

DAAD October 2018 - September 2022
HCM position February 2019 - February 2022
BIGS Qualifying Scholarship October 2017- September 2018

**AIMS (Rwanda) Scholarship
Presidential Scholarship**

October 2016- September 2017
2011-2016

PUBLICATIONS
AND PREPRINTS

G. Diebou Yomgne, *On a nonlinear Laplace equation related to the boundary Yamabe problem in the upper-half-space*. Accepted in Comm. Pure Appl. Anal., (2021). <https://www.aims sciences.org/article/doi/10.3934/cpaa.2021186>

G. Diebou Yomgne, *Nonlinear biharmonic equation in half-space with rough Neumann boundary data and potentials*. Nonlinear Anal. (215) (2021) 112623

G. Diebou Yomgne, *On the generalized parabolic Hardy-Hénon equation: Existence, blow-up, self-similarity and large-time asymptotic behavior*. Accepted in Diff. Int. Equ. (2021)

G. Diebou Yomgne and Herbert Koch, *Dirichlet problem for weakly harmonic maps with rough data*, Submitted. Available at <https://arxiv.org/abs/2110.04023>

G. Diebou Yomgne, *Well-posedness for chemotaxis-fluid models in arbitrary dimensions*, Submitted. Available at <https://arxiv.org/abs/2111.04792>

WORKS
PREPARATION

IN (With H. Koch) *Stationary Navier-Stokes equations with data in Triebel-Lizorkin spaces of negative smoothness*

(With L. Sláviková and A. Cianchi) *Strongly nonlinear Robin problems for the polyharmonic equation*

TALKS

Conference on Nonlinear Elliptic and Parabolic Partial Differential Equations (Levico Terme, Italy) 10/2021

Conference LUBOŠ 60, in Železná Ruda, Czech Republic 09/2021

International Prague seminar on function spaces, Charles University, Czech Republic 04/2021

Mathematical problems in fluid dynamics Program, Graduate seminar MSRI Berkeley, USA 04/2020

Graduate Seminar on Advanced Topics in PDE, University of Bonn, Germany 11/2021

The Analysis & PDE summer seminar, University of Minnesota, USA 07/2020

Graduate Seminar on Advanced Topics in PDE, University of Bonn, Germany 2019

POSTERS	<p>Well-posedness for the Navier-Stokes equations, University of Bonn's annual-poster exhibition, July 2018</p> <p>Dirichlet problem for weakly harmonic maps with rough data, University of Bonn's annualposter exhibition, July 2019</p>
TEACHING	<p>(Mentoring) Bachelor Thesis, University of Bonn Summer Term 2020 Student: Fabian Höfer, Thesis: Hamilton-Jacobi Equations Advisor: Prof. Herbert Koch</p> <p>(Tutoring) MATH 123 - Analysis 2, Summer Term 2015 Department of Mathematics (University of Dschang, Cameroon) Instructor: Dr. Maturin Patenou</p>
CONFERENCES & SUMMER SCHOOLS	<p>Nonlinear Analysis, Function Spaces and Applications 12 (NAFSA 12), Prague, Czech Republic 05-06/2022</p> <p>Nonlinear Elliptic and Parabolic Partial Differential Equations (Levico Terme, Italy) 10/2021</p> <p>Nonlinear Potential Theoretic Methods in Partial Differential Equations, Banff International Research Station, Canada 09/2021</p> <p>MSRI Mathematical problems in fluid dynamics Program, USA (01-04)/2021</p> <p>MSRI Summer Program Introduction to water waves, USA (07-08)/2020</p> <p>Real Analysis, Harmonic Analysis and Applications, Mathematisches Forschungsinstitut Oberwolfach, Germany 07/2020</p> <p>11-th Itinerant Workshop in PDEs, Analyse des équations aux dérivées partielles, Bonn, Germany 01/2020</p> <p>Local and Nonlocal Elliptic and Geometric Problems, AIMS Mbour, Senegal 02/2019</p> <p>Unique Continuation and Inverse Problems Summer School, Kopp (Bonn), Germany 09/2018</p> <p>Mathematics of Wave Phenomena, Karlsruhe Institute of Technology, Germany 07/2018</p> <p>Master Class on Analysis, IRMA Strasbourg, France 01/2018</p>

SERVICE Co-organiser of the Graduate seminar on Advanced topics in PDE, University of Bonn, Winter Term 2021

REFERENCES

Prof. Dr. Herbert Koch

Ph.D Advisor

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Prof. Dr. Christoph Thiele

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Prof. Andrea Cianchi

Academic reference

University of Florence, Dipartimento di Matematica e Applicazioni per l'Architettura, Università di Firenze, Piazza Ghiberti 27, 50122 Firenze, Italy

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