Moritz Egert

Current Position

Full professor for mathematics
Technical University Darmstadt
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Personal Information

Born 2 march 1988 in Göttingen (Germany), German citizen, married, 2 children.

Higher Education

2007	Abitur (*1,0 / very good*).
2011	Bachelor of Science at TU Darmstadt (*with distinction*).
2012	Master of Science at TU Darmstadt (*with distinction*).
10/12–04/15	PhD at TU Darmstadt under the supervision of Robert Haller-Dintelmann (*summa cum laude*/*with distinction*).
05/15–09/15	Postdoc at IRTG 1529 (Graduate school on mathematical fluid dynamics) at TU Darmstadt.
10/15–08/17	Sophie-Germain-Postdoc of the Fondation Mathématiques Jacques Hadamard, Université Paris-Sud.
09/17–08/21	Maître de Conférences (assistant professor), Université Paris-Sud.
Since 08/21	Full professor (W2) at TU Darmstadt

Research interests

I am interested in harmonic analysis and its applications to partial differential equations, in particular to parabolic and elliptic equations in divergence form. In my research, I try to re-interpret classical questions, such as unique solvability of boundary value problems or higher regularity of weak solutions

via methods from evolution equations, which often leads to further insight on the structure of these problems and provides answers in much broader generality.

Scholarships and Awards

04/21	*Ferran Sunyer i Balaguer Prize* together with P. Auscher
02/16	*Prize for excellent scientific achievements* of the Vereinigung von Freunden der Technischen Universität zu Darmstadt e.V.
10/15	*Sophie Germain International Postdoctoral Scholarship*, one of the two scholarships for research in pure mathematics awarded by the Fondation Jacques Hadamard.
10/12–04/15	Doctoral scholarship of the "Studienstiftung des deutschen Volkes", financial and academic sponsoring.
10/13	*Main prize for a distinguished master's thesis* at the Student's conference of the German and Austrian mathematical society in Innsbruck, Austria.
12/07–08/12	Scholarship of the "Studienstiftung des deutschen Volkes", financial and academic sponsoring.

Third-Party Funds

02/19	*Projet Exploratoire de Premier Soutien (PEPS) Jeune Chercheuse, Jeune Chercheur*, €3500 from the CNRS for research expenses in 2019.
01/19–01/24	Member of the ANR-Projekts RAGE (ANR-18-CE40-0012-01) coordinate by E. M. Ouhabaz.
03/20–03/24	Flexi-Grant (joint with Andrew Morris) from the Royal Society, £12000 for travel expenses.

Longer Research Stays

10/12	Louisiana State University, Baton Rouge.
01/14–03/14	Université Paris-Sud.
01/17–03/17	Mathematical Sciences Research Institute (MSRI) Berkeley, associate member of the *Harmonic Analysis Program*.
05/18	ICMAT Madrid, *Research Term on Real Harmonic Analysis and its Applications to Partial Differential Equations and Geometric Measure Theory*.
02/22-03/22	HIM Bonn, *Trimester Program: Interactions between Geometric measure theory, Singular integrals, and PDE*.
03/23	University of Alabama.
05/23	Université Paris-Saclay.
10/24	Université Paris-Saclay.

Supervised PhD Theses and Research Projects

03/14–06/14	17th Internet Seminar on Evolution Equations, research project for 3 students from abroad.
02/15–05/15	18th Internet Seminar on Evolution Equations, research project for 3 students from abroad.

02/18–05/18	21st Internet Seminar on Evolution Equations, research project for 4 students from abroad.
06/21	PhD thesis of Sebastian Bechtel, TU Darmstadt.
Since 10/22	PhD Thesis of Tim Böhnlein, TU Darmstadt
Since 10/23	Co-Supervision of the PhD Thesis of Miriam Buck, TU Darmstadt
Since 10/24	PhD Thesis of Benjamin Kosmala, TU Darmstadt

- Supervision of Bachelor's Theses (5)
- Supervision of Master's Theses (4)

Seminars and Workshops organized

06/24	Harmonic Analysis Techniques for Elliptic Operators at CIRM, jointly with R. Haller, S. Monniaux and P. Tolksdorf.
11/22	Oberwolfach Seminar 2247b, jointly with P. Auscher and D. Frey.
10/14	Workshop of the graduate school IRTG 1529 in Bad Boll, Germany.

Scientific Responsibilities

02/09–09/15	Zentrum für Mathematik e.V., head of the grading committee for the regional round of the German Math Olympiad.
09/19-05/21	Coordinator of the math program for high school students aiming at scientific studies at Université Paris-Sud (Préparation aux cursus scientifiques d'Orsay).

Refereeing

- Various renowned journals : Analysis & PDE (1), Annales Henri Lebesgue (1), Annali della Scuola Normale Superiore di Pisa (2), Advances in Calculus of Variations (1), Annales de l'institut Fourier (1), Annales de l'institut Henri Poincaré (1), Calculus of Variations and Partial Differential Equations (2), Communications on Pure and Applied Analysis (1), Forum Mathematicum (1), JEMS (2), Journal des Mathématiques Pures et Appliquées (1), Journal of Differential Equations (7), Journal of Evolution Equations (4), Journal of Functional Analysis (6), Journal of Integral Equations and Applications (1), Journal of Mathematical Analysis and Applications (1), Mathematische Nachrichten (1), Mathematical Methods in the Applied Sciences (1), Nonlinear Analysis (1), Potential Analysis (3), Publicacions Mathemàtiques (3), Pure and Applied Mathematics Quarterly (1), Revista Matemática Iberoamericana (1), Semigroup Forum (2), Studia Mathematica (1), Transactions of the AMS (3).
- Referee for PhD theses (2).

Languages

- German (native)
- Englisch (fluent)
- French (fluent)

Talks

Invited conference talks

06/17 Rencontre ANR HAB Lyon 2017.

01/18 Harmonic Analysis in Winter, ICMAT Madrid.

04/18 Harmonic Analysis of Elliptic and Parabolic Partial Differential Equations, CIRM Luminy.

05/18 Research Term on Real Harmonic Analysis and Its Applications to Partial Differential Equations and Geometric Measure Theory, ICMAT Madrid.

05/19 Parabolic Evolution Equations, Harmonic Analysis and Spectral Theory, Bad Herrenalb.

05/21 Harmonic Analysis and PDE in Seoul.

07/21 8th European Congress of Mathematics, Minisymposium Harmonic Analysis and Partial Differential Equations, Portorož.

08/21 Operator Semigroups and Functional Calculus, IWOTA 2020, Lancaster.

09/22 Euro-Maghrebian Workshop on Evolution Equations, Agadir.

06/24 Harmonic analysis and partial differential equations, CIRM Luminy.

Further conference talks

06/10 13th Internet Seminar on Evolution Equations, Kácov.

06/11 14th Internet Seminar on Evolution Equations, Blaubeuren.

06/12 15th Internet Seminar on Evolution Equations, Blaubeuren.

06/13 Operator Semigroups meet Complex Analysis, Harmonic Analysis and Mathematical Physics, Herrnhut.

06/13 16th Internet Seminar on Evolution Equations, Blaubeuren.

10/14 Autumn School and Workshop on Mathematical Fluid Dynamics, Bad Boll.

12/15 PDE 2015 – Theory and Applications of Partial Differential Equations, Weierstraß-Institut, Berlin.

04/17 Operator semigroups in analysis, Bedlewo.

06/19 Harmonic Analysis and PDE, Helsinki.

Seminar talks

09/12 Research Seminar Harmonic Analysis, Louisiana State University, Baton Rouge.

10/13 Research Seminar of the IRTG Mathematical Fluid Dynamics, TU Darmstadt.

06/14 Research Seminar of the IRTG Mathematical Fluid Dynamics, TU Darmstadt.

11/14 Research Seminar Analysis, TU Delft.

02/15 Langenbach Seminar, Weierstraß-Institut, Berlin.

01/16 Séminaire d'Analyse Harmonique, Université Paris-Sud.

02/16 Research Seminar Analysis and Stochastics, Uppsala Universitet.

03/16 Analysis Seminar, Birmingham School of Mathematics.

06/16 Journée d'Analyse Non Linéaire, Université Paris-Sud.

03/17 MSRI Postdoc Seminar, Berkeley.

04/17 Séminaire EDP-Analyse Lyon.

05/17 Séminaire EDP-Physique Bordeaux.

02/18 Langenbach Seminar, Weierstraß-Institut, Berlin.

02/20	Research Seminar Analysis and Stochastics, Uppsala Universitet.
04/21	Harmonic Analysis, Geometric Measure Theory, and Partial Differential Equations Seminar, Minnesota (online).
07/21	Friday seminar RG Analysis and PDE, Bonn (online).
12/21	Oberseminar Analysis, Dresden.
03/22	Research Trimester Interactions between Geometric measure theory, Singular integrals, and PDE, Hausdorff Institute, Bonn.
06/22	Antrittsvorlesung at TU Darmstadt.
11/22	Langenbach Seminar, Weierstraß-Institut, Berlin.
02/23	Seminar Funktionenräume, Jena.
05/23	Séminaire d'Analyse Harmonique, Université Paris-Sud.
02/24	Seminar in Analysis and Applications, TU Delft.
10/24	Séminaire d'Analyse Harmonique, Université Paris-Sud.
11/24	Oberseminar Analysis und Theoretische Physik, Leibniz Universität Hannover.
04/25	Harmonic Analysis e-seminars, online.