Associate Prof. Deniz KARLI
(Doçent Dr.)

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Education

Post-Doc in Mathematics, University of British Columbia (Vancouver / Canada)	*2012*
Ph.D. in Mathematics, University of Connecticut (CT / United States),	*2010*
Master of Science in Mathematics, Boğaziçi University (Istanbul / Turkey),	*2005*
Bachelor of Science in Mathematics, Boğaziçi University (Istanbul / Turkey),	*2002*

Work Experience

Associate Professor, Department of Mathematics, Işık University,

Istanbul, Turkey, *2019-Present*

Instructor, Tebip (Temel Bilimler Üstün Başarı Programı/ Honors Programs in Natural Sciences), YÖK - CoHE - Council of Higher Education,

Istanbul, Turkey, *2019-Present*

Assistant Professor, Department of Mathematics, Işık University,

Istanbul, Turkey, *2012-2019*

Post-Doc Fellow/Researcher, Department of Mathematics, The University of British Columbia,

Vancouver, BC, Canada, *2010-2012*

Instructor, Department of Mathematics, The University of British Columbia,

Vancouver, BC, Canada, *2010-2012*

Instructor, Department of Mathematics, University of Connecticut,

Storrs, CT, United States, *2005-2010*

Instructor, Center for Academic Programs (CAP), University of Connecticut,

Storrs, CT, United States, *2005-2010*

Instructor, Summer Programs, Bogazici University,

Istanbul, Turkey, *Summer 2010*

Teaching Assistant, Department of Mathematics, Bogazici University,

Istanbul, Turkey, *2002-2005*

Research Interests

Probability Theory, Harmonic Analysis, Potential Analysis, Stochastic Processes, the interface between Probability Theory and Analysis, Applications of Stochastic Processes in Engineering.

Research Experience

Publications

[6.] *[MATH]* Some remarks on uniform boundary Harnack principles, Potential analysis, (joint with Martin T. Barlow, University of British Columbia),
Journal Edition: https://link.springer.com/epdf/10.1007/s11118-021-09922-3, (2021).
(DOI: 0.1007/s11118-021-09922-3); arXiv:1507.04115

[5.] *[ENGINEERING]* Adaptive convolution kernel for artificial neural networks, Journal of Visual Communication and Image Representation, (joint with Martin T. Barlow, University of British Columbia), Volume 75, Issue 2, (2021), Page: 103015.
(DOI: 10.1016/j.jvcir.2020.103015); arXiv:2009.06385

[4.] *[MATH]* Extension of Mikhlin Multiplier Theorem to Fractional Derivatives and Stable Processes, Fractional Calculus and Applied Analysis, Volume 21, Issue 2, (2018), Pages 486-508.
(DOI: 10.1515/fca-2018-0027); arXiv: 1806.09975

[3.] *[MATH]* A Multiplier Related to Symmetric Stable Processes, Hacettepe Journal of Mathematics and Statistics, Volume 46(2) (2017), pp 217-228.
(DOI: 10.15672/HJMS.20164517212); arXiv:1507.04115

[2.] *[MATH]* An Extension of a Boundedness Result for Singular Integral Operators, Colloquium Mathematicum, Volume 145, Issue 1, (2016), pp 15-33.
(DOI: 10.4064/cm6722-1-2016); arXiv:1501.05164

[1.] *[MATH]* Harnack Inequality and Regularity for a Product of Symmetric Stable Process and Brownian Motion, Potential Analysis: Volume 38, Issue 1 (2013), pp 95-117.
(DOI: 10.1007/s11118-011-9265-6); arXiv:1010.4904

Research Projects

[5.] (*Continues*) Development of Mathematical Models for the Optimum Utilization of 3D Printers in Spare Parts Inventory Management In Existence of Supply Chain Risks, Prj. Nr. 219M243, Funded by TUBITAK, 36 Months, (Researcher).

Category of the Project: ARDEB 1001

Duration of the Project: 2019-2022

[4.] (*Continues*) Stable Stochastic Processes, Fractional Calculus and Their Effects in Economic Order Quantity (EOQ) Model, Scientific Research Projects (SRP) (also known as BAP), Project Nr. 20A101, Funded by Işık University, 24 Months (Principle Investigator).

Category of the Project: BAP

Duration of the Project: 2020-2022

[3.] (*Continues*) The focusing neuron model and a new method to learn network connection topology in artificial neural networks, Prj. Nr. 118E722, Funded by TUBITAK, 30 Months, (Researcher).

Category of the Project: ARDEB 1001

Duration of the Project: 2019-2021

[2.] (*Completed Successfully*) Optimum Spare Parts Inventory Control With Installed Base Information In Existence of Secondary Markets, Prj. Nr. 118M477, Funded by TUBITAK, 20 Months, (Researcher).

Category of the Project: ARDEB 3501

Duration of the Project: 2018-2020

[1.] (*Completed Successfully*) Study of Bounded Integral Operators by Means of Littlewood-Paley Operators: A Probabilistic Approach, Scientific Research Projects (SRP) (also known as BAP), Project Nr. 14B103, Funded by Işık University, 24 Months (Principle Investigator).

Category of the Project: BAP

Duration of the Project: 2014-2016

PhD Thesis
Littlewood-Paley Functions from a Probabilistic Point of View
    University of Connecticut
        Advisor : Prof. Richard F. Bass (University of Connecticut)

Storrs, CT, United States, *2010*

Master Thesis
The group algebra $L^1(G)$ of a compact abelian group G
    Boğaziçi University
        Advisor : Prof. Ali Ülger (Koç University)
        Co-Advisor: Prof. Betül Tanbay (Boğaziçi University)

Istanbul, Turkey, *2005*

Honors and Awards

Excellence in Teaching Award, University of British Columbia,

Vancouver, BC, Canada, *Spring 2012*

Doctoral Dissertation Fellowship Award, University of Connecticut,

Storrs, CT, United States, *Spring 2010*

Department of Mathematics Graduate Fellowship, University of Connecticut,

Storrs, CT, United States, *Spring 2010*

Department of Mathematics Graduate Fellowship, University of Connecticut,

Storrs, CT, United States, *Fall 2009*

Dissertator Travel Award, University of Connecticut,

Storrs, CT, United States, *Spring 2009*

Letter of Appreciation of Excellence in Teaching, University of Connecticut,

Storrs, CT, United States, *Fall 2006 & Fall 2008*

Selected Invited Talks

Singular Integral Operators by means of Stable Processes and their Connection to Fractional Derivatives, American Mathematical Society Sectional Meeting,

Orlando, FL, United States, *September 2017*

Singular Integral Operators by means of Stable Processes and their Connection to Fractional Derivatives, Boğaziçi University,

Istanbul, Turkey, *December 2017*

Boundedness of Singular Integral Operator by Probabilistic Methods, The 3rd Ankara-Istanbul Workshop on Stochastic Processes, Middle East Technical University,

Ankara, Turkey, *April 2016*

Singular Integral Operators by Means of Stable Processes, Gebze Technical University,

Istanbul, Turkey, *April 2015*

Stable Processes and Lp-operators, Galatasaray University,

Istanbul, Turkey, *October 2014*

Probabilistic Approach to Analysis of Lp-operators, The 1st Ankara-Istanbul Workshop on Stochastic Processes,

Istanbul, Turkey, *June 2014*

Probabilistic Approach to Analysis of Lp-operators, Koç University,

Istanbul, Turkey, *April 2014*

Probabilistic Approach to Analysis of Lp-operators, Istanbul Analysis Seminars,

Istanbul, Turkey, *February 2014*

The Harnack Inequality and Littlewood-Paley Functions for Symmetric Stable Processes, SIAM Conference on Analysis of Partial Differential Equations,

San Diego, CA, United States, *November 2011*

Littlewood-Paley Theory and Multiplier Problem from a Probabilistic Approach, Cornell University,

Ithaca, NY, United States, *February 2011*

Multiplier Problem and Probabilistic Littlewood-Paley Functions, The University of British Columbia,

Vancouver, Canada, *September 2010*

Some Other Talks Given

Symmetric Stable Processes and corresponding Littlewood-Paley Functions, SSP 2010, University of Central Florida,

Orlando, FL, United States, *2010*

Littlewood-Paley Functions from a Probabilistic point of view, University of Connecticut,

Storrs, CT, United States, *2009*

Littlewood-Paley Functions from a Probabilistic point of view, Boğaziçi University,

Istanbul, Turkey, *2009*

Closed ideals of Compact Abelian Groups, Boğaziçi University,

Istanbul, Turkey, *2005*

Refreed for Journals

The Electronic Journal of Probability
Stochastics: An International Journal Of Probability And Stochastic Processes
Journal of Applied Mathematics
AMS Mathematical Reviews

Some Workshops and Conferences Attended

American Mathematical Society Sectional Meeting, University of Central Florida,

Orlando, FL, United States, *2017*
The 2nd Ankara-Istanbul Workshop on Stochastic Processes, Middleeast Technichal University,

Ankara, Turkey, *2016*
The 1st Ankara-Istanbul Workshop on Stochastic Processes, Koç University,

Istanbul, Turkey, *2014*
North West Probability Seminar, University of British Columbia,

Vancouver, BC, Canada, *2013*
PIMS-Mprime Summer School in Probability, University of British Columbia,

Vancouver, BC, Canada, *2012*
North West Probability Seminar, University of Washington,

WA, United States, *2011*
9th North East Probability Seminar, Columbia University,

New York, United States, *2010*

North West Probability Seminar, Microsoft research,

WA, United States, *2010*

8th North East Probability Seminar, Columbia University,

New York, United States, *2009*

AMS Eastern Sectional Meeting, University of Connecticut,

Connecticut, United States, *Fall 2006*

Workshop and Seminars on Functional Analysis, Boğaziçi University ,

Istanbul, Turkey, *2004*

International Abstract Harmonic Analysis Conference, Koç University,

Istanbul, Turkey, *2004*

Member of

SIAM, AMS, TMD

Work Experience

Assistant Professor, Department of Mathematics, Işık University,

Istanbul, Turkey, *2012-Present*

Post-Doc Fellow/Researcher, Department of Mathematics, The University of British Columbia,

Vancouver, BC, Canada, *2010-2012*

Instructor, Department of Mathematics, The University of British Columbia,

Vancouver, BC, Canada, *2010-2012*

Instructor, Department of Mathematics, University of Connecticut,

Storrs, CT, United States, *2005-2010*

Instructor, Center for Academic Programs (CAP), University of Connecticut,

Storrs, CT, United States, *2005-2010*

Instructor, Summer Programs, Bogazici University,

Istanbul, Turkey, *Summer 2010*

Teaching Assistant, Department of Mathematics, Bogazici University,

Istanbul, Turkey, *2002-2005*

Teaching Experience

Tebip (Temel Bilimler Üstün Başarı Programı/ Honors Programs in Natural Sciences), YÖK - CoHE - Council of Higher Education,Istanbul, Turkey, *2019-Present*

Işık University - Istanbul, Turkey, *2012-Present*

The University of British Columbia - Vancouver, BC, Canada, *2010-2012*

University of Connecticut - Storrs, CT, United States, *2005-2010*

Boğaziçi University - Istanbul, Turkey, *2002-2005 & Summer 2010*

Teaching Awards

Exelence in Teaching Award, The University of British Columbia
Vancouver, BC, Canada, 2012
Letter of Appreciation of Excellence in Teaching, University of Connecticut
Storrs, CT, United States 2006 & 2008

Teaching Certificates

Instructor Skill Workshop, The University of British Columbia
Vancouver, BC, Canada, 2010

The Institute for Teaching and Learning Workshop, University of Connecticut
Storrs, CT, United States 2005

Courses Taught:

Işık University *Fall 2012 to Present*
Instructor & Coordinator- Coordination of several part-time and full-time faculties, preparation and presentation of lectures.

> Calculus for Engineers I & II, Calculus for Business I & II,
> Probability, Functional Analysis, Introduction to Real Analysis,
> Undergraduate Thesis

The University of British Columbia *Fall 2010 to 2012*
Instructor - Preparation and presentation of lectures.

> Ordinary Differential Equations, Calculus for Engineers, Calculus for Business

Boğaziçi University *Summer 2010*
Instructor - Preparation and presentation of lectures.

> Probability Theory

University of Connecticut *Fall 2005 to 2010*
Instructor - Preparation and presentation of lectures.

> Applied Finite Mathematics I & II , Introduction to Calculus I & II ,
> Elementary Discrete Mathematics , Calculus I & II, Multivariable Calculus

University of Connecticut Center for Academic Programs,　　　*Summer 2006, 2007, 2008*
Instructor - Preparation and presentation of lectures.

Introduction to Calculus I, PreCalculus , Applied Finite Mathematics

Boğaziçi University　　　*Fall 2002 to Spring 2005*
Preparation and presentation of discussion/problem/review sessions, grading papers and quizzes, some guest lecturing

Calculus I & II , Complex Analysis , Real Analysis , Applied Finite Mathematics
Functional Analysis , Numerical Analysis

Skills

Languages
Turkish (Native),
English (Fluent),
German

Computer Languages
C, C++, Pascal, Cgi, Perl

Computer applications experience
Mathematica, Maple, Quilt

Extra Activities

Mathematics seminars for highschool students;
　　　FMW Işık Lisesi - Güneş Campus: Weekly seminars on interesting
　　　mathematical topics for highschool students for 2 semesters
　　　　　　　　　　　　　　　　　　　　　　　　　2014-2015
Organizer of Undergraduate Math Seminars
　　　Organized the seminars, and given several talks on interesting
　　　topics in Mathematics
　　　　　　　　　　　　　　　　　　　　　　　　　2013-2015
Advisors of Student clubs:
　　　Mathematics Club, Photography Club, Quiditch Club　　　*2013-2016*

Organizer of "Hazine Avı";
　　　An outdoor Mathematics game for undergraduate university students
　　　　　　　　　　　　　　　　　　　　　　　　　2013-2015
The Head of Turkish Student Association at University of Connecticut,
　　　Representing the Turkish Comunity of the University of Connecticut
　　　and hosting events on Turkish culture
　　　　　　　　　　　　　　　　　　　　　　　　　2006-2009

Citizenship

Turkey