TEKİN KARADAĞ

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RESEARCH INTERESTS

- Noncommutative algebra
- Homological algebra
- Hochschild and Hopf algebra cohomologies
- Graded Lie structure on cohomologies

EDUCATION

Ankara University, Ankara, TURKEY *June 2011*

BS in Mathematics, Minor in Statistics.

Anadolu University, Eskisehir, TURKEY *September 2011*

Associate Degree of Banking and Insurance.

Ankara University, Ankara, TURKEY *June 2012*

MS in Teaching.

Texas A&M University, College Station, Texas *August 2016*

MS in Mathematics; advisor: Matthew Young.

Texas A&M University, College Station, Texas *August 2021*

PhD in Mathematics; advisor: Sarah Witherspoon

PUBLICATIONS

Book

ÖABT Matematik Öğretmenliği Soru Bankası (Linear Algebra and Algebra parts), *Murat Yayınları, 2013.*

MS Thesis

Modular Forms and L-functions, *Texas A&M University, 2016.*

Ph.D. Thesis

Gerstenhaber Bracket on Hopf Algebra Cohomology, Texas A&M University,

2021. **Articles**

1. Lie structure on a Hopf algebra cohomology, *Lie Theory and Its Applications in Physics, Springer 2022, Volume 396.(Peer-reviewed Conference Proceeding).*

2. Lie bracket on a Hopf algebra cohomology, (with S. Witherspoon), *Pacific Journal of Mathematics 316 (2022), no. 2, 395-407.*

3. Gerstenhaber bracket on Hopf algebra and Hochschild cohomologies, *J. Pure Appl. Algebra, J. Pure Appl. Algebra, 226 (2022), no. 7.*

4. Gerstenhaber brackets on Hochschild cohomology of general twisted tensor products, (with D. McPhate, P. Ocal, T. Oke, and S. Witherspoon), *J. Pure Appl. Algebra*, *225 (2021), no. 6, 14 pp.*

POSTER PRESENTATION

- Gerstenhaber bracket on Hopf algebra cohomology of 9 dimensional Taft algebra, *Southwest Local Algebra Meeting,* **Tulane University, LA, 2020.**

RESEARCH TALKS

- How does homotopy lifting work?, **Representation Theory and Related Geometry: Progress and Prospects,** *Athens, GA, May 2024.*

- Nonabelian Hochschild Cohomology and Abelian Hopf Cohomology (short talk), **Hochschild (Co)Homology and Applications**, *Mathematisches Forschungsinstitut Oberwolfach, Germany, April 2024.*

- Lecture on Lie Structure on Cohomologies, **Southern Regional Algebra Conference,** *Houston, TX, March 2024.*

- Lie Structure on Cohomologies by Homotopy Lifting, *AMS Fall Southeastern Sectional Meeting,* **AMS Special Session on Representation Theory of Finite and Algebraic Groups**, *Mobile, AL, October 2023.*

- Lie structure on Hopf algebra cohomology, **Southeastern Lie Theory Workshop XIII,** *Raleigh, NC, May 2023.*

- Lie Structure on Hopf Algebra Cohomology by Homotopy Lifting, *AMS Spring Southeastern Sectional Meeting,* **AMS Special Session on Representation Theory of Algebraic Groups and Quantum Groups: A Tribute to the Work of**

Cline, Parshall and Scott (CPS), *Atlanta, GA, March 2023.*
- Lie Structure on Hopf Algebra Cohomology, *AMS Fall Western Sectional Meeting,* **AMS Special Session on Building Bridges Between Commutative Algebra and Nearby Areas,** *Salt Lake City, Utah, October 2022.*
- Two Techniques to Show The Lie Structures on Hopf Algebra Cohomology, *AMS Fall Western Sectional Meeting, AMS Special Session on Geometry and Representation Theory of Quantum Algebras and Related Topics,* **Salt Lake City, Utah, October 2022.**
- Lie Structure on Hochschild and Hopf Algebra Cohomologies of a Taft Algebra, *Algebra Seminar,* **University of Georgia, September 2022.**
- Lie Structure on Cohomologies, *Algebra Seminar,* **University of Georgia, September 2022.**
- Hochschild Cohomology of Algebras, *AGANT,* **University of Georgia, August 2022.**
- Lie structure on Hopf algebra cohomology, **Southeastern Lie Theory Workshop XII,** *Charleston, SC, October 2021.*
- Lie structure on Hopf algebra cohomology, *Colloquium Series,* **College of Charleston, October 2021.**
- Lie structure on Hopf algebra cohomology, **Lie Theory and Its Applications in Physics (XIV. International Workshop),** *Sofia, Bulgaria, June 2021.*
- Lie structure on Hopf algebra cohomology, *Algebra and Number Theory Seminar,* **University of California Santa Cruz, CA, May 2021.**
- Gerstenhaber bracket on Hopf algebra cohomology, *Graduate Student Conference in Algebra, Geometry, and Topology,* **Temple University, May 2021.**
- Gerstenhaber bracket on Hopf algebra cohomology of a Taft algebra, *Algebra and Combinatoric Seminar,* **Texas A&M University, October 2020.**
- Gerstenhaber bracket on Hopf algebra cohomology of a Taft algebra, *Graduate Algebra Symposium,* **the University of Texas at Arlington, October 2020.**

WORK EXPERIENCE

Murat Education Institutions, Ankara, TURKEY.

- *Editor* **2013.**
- *Linear Algebra (Lecturer)* **Spring 2013.**
- *Abstract Algebra (Lecturer)* **Spring 2013.**

Texas A&M University, College Station, TX.

Instructor of Record

- *Mathematics for Business and Social Sciences* **Spring 2019.**
- *Mathematics for Business and Social Sciences* **Fall 2019.**
- *Finite Mathematics (Online)* **Summer 2020.**

- *Mathematics for Business and Social Sciences (Hybrid)* **Fall 2020.**
- *Mathematics for Business and Social Sciences* **Spring 2021.**

Editor

- *Business Mathematics, E. Tomastik and J. Epstein, Cengage Learning* **Fall 2019.**

College of Charleston, Charleston, SC.

- *Introductory Calculus (2 sections)* **Fall 2021.**
- *Contemporary Mathematics with Applications* **Fall 2021.**
- *Calculus for Business and Social Sciences (2 sections)* **Spring 2022.**
- *Precalculus* **Spring 2022.**

University of Georgia, Athens, GA.

- *Calculus I for Science and Engineering (2 sections),* **Fall 2022.**
- *Hochschild and Hopf Algebra Cohomologies,* **Spring 2023.**
- *Calculus I for Science and Engineering,* **Summer 2023.**
- *Calculus I for Science and Engineering (2 sections),* **Fall 2023.**
- *Calculus II for Science and Engineering,* **Spring 2024.**
- *Calculus I for Science and Engineering (Online),* **Summer 2024.**

ACADEMIC HONORS AND GRANTS

- Ankara University Fellowship, ***2009-2011.***
- Republic of Turkey Ministry of National Education Scholarship, ***2012-2021.***
- Outstanding TA Award, Dept. of Mathematics, *Texas A&M University,* ***2021.***
- AMS Faculty Travel Grant, ***2021.***
- Early-career AMS-NSF-Simons-ICM 2022 Travel Grant, ***2022.***
- Student/Faculty Enrichment Fund for "Chess Day", ***Fall 2023.***
- Student/Faculty Enrichment Fund for "Chess Day", ***Spring 2024.***
- US Junior Oberwolfach Fellows NSF Grant, ***2024.***
- UGA FY24 Provost International Travel Funds, Spring ***2024.***

OUTREACH ACTIVITIES

- Volunteer, Derivative Bee, *Texas A&M University,* **November 2016, November 2017.**
- Volunteer, High School Math Contest, *Texas A&M University,* **October 2016.**
- Organizer, Chess Day, *Texas A&M University, College of Charleston, University of Georgia,* **once in a semester from Fall 2019 to present.**
- Volunteer, Integral Bee, *Texas A&M University,* **March 2020.**
- Panelist, Cross-Cultural Teaching, *Texas A&M University,* **June 2021.**
- Volunteer, High School Math Contest, *University of Georgia,* **Fall 2023.**
- Student Marshal, Graduation Ceramony, *University of Georgia,* **Spring 2024.**
- Faculty Coordinator, UGA Math Camp, *University of Georgia,* **Summer 2024.**

ADMINISTRATIVE WORK

- Committee Member, Math Club, *College of Charleston,* **Spring 2022.**
- Weekly Algebra Seminar Organizer, *University of Georgia,* **Fall 2022-present.**
- Member in High School Math Contest Question Creater Comittee, *University of Georgia,* **Fall 2023.**
- Local Organizer, Representation Theory and Related Geometry: Progress and Prospects, *University of Georgia,* **May 2024.**

LANGUAGES

- Turkish (native)
- English (fluent)