

CONTACT INFORMATION Department of Mathematics, Faculty of Arts and Sciences, Office No: AS 147, Eastern Mediterranean University, Famagusta, North Cyprus Via Mersin 10, Turkey *Office Phone:* +90 392 630 2412

E-mails: neset.turgay@emu.edu.tr

NATIONALITY Turkish
DATE OF BIRTH April 1982
MARITAL STATUS Single

RESEARCH INTERESTS Algebra; Hopf algebras, in particular Leibniz-Hopf algebra; Overlapping shuffle algebra (MSC 57T05); Algebraic topology, especially Steenrod algebra (MSC 55S10); digital geometry, digital topology, and Clifford algebras.

EDUCATION **University of Swansea**, Swansea, Wales, UK

Ph.D., Mathematics, February 2013

- Thesis: *Conjugation invariants in word Hopf algebras*
- Supervisor: [Assoc. Prof. Dr. Martin Crossley](#)
- Second Supervisor: [Prof. Dr. Tomasz Brzezinski](#)

Ege University, Izmir, Turkey

M.S., Mathematics, July 2009

- Thesis: *Calculations in the Steenrod algebra*
- Supervisor: [Prof. Dr. Ismet Karaca](#)

University of Aberdeen, Aberdeen, Scotland, UK

Erasmus Programme, Mathematics 2008-2009

- Research subject: *Steenrod algebra*
- Supervisor: [Prof. Dr. Stephen Theriault](#)

Ege University, Izmir, Turkey

B.S., Mathematics June 2006

ACADEMIC TITLES

- Assistant professor 2022-Present.
- Associate professor (Docent) in Mathematics, by Inter-University Council (ÜAK) of Turkey (Since 6 March 2018)
- Ph.D. (Since 28 February 2013)

EMPLOYMENT

- Assistant professor 2022-Present.
- Part-time lecturer, Eastern Mediterranean University, 2016-2022.

ACADEMIC
EXPERIENCE

- Part-time lecturer at Eastern Mediterranean University, February 2016 –
- Visitor, Ege University Mathematics Department, 2013-2015.
- Tutor, Swansea, UK, Further Maths Support Programme, Wales Institute of Mathematical and Computational Sciences, 2012.
- Tutor, Swansea Maths Master classes February-March 2012.
- Student Demonstrator, Swansea University, 2009-2013.
- Volunteer tutorial assistant, Introductory to Mathematics, University of Aberdeen, UK, Spring 2008.

ARTICLES
PUBLISHED IN
JOURNALS
COVERED BY SCI
AND SCI
EXPANDED,
INTERNATIONAL

1. G. Kovács, B. Nagy, G. Stomfai, **N.D. Turgay**, B. Vizvári, On Chamfer Distances on the Square and Body-Centered Cubic Grids: An Operational Research Approach. *Mathematical Problems in Engineering* 2021, (2021), doi:[10.1155/2021/5582034](https://doi.org/10.1155/2021/5582034) (SCI-Expanded)
2. G. Kovács, B. Nagy, **N.D. Turgay**, Distance on the Cairo pattern. *Pattern Recognition Letters* 145, (2021), 141–146 doi:[10.1016/j.patrec.2021.02.002](https://doi.org/10.1016/j.patrec.2021.02.002) (SCI-Expanded)
3. G. Kovács, B. Nagy, G. Stomfai, **N.D. Turgay**, B. Vizvári, Discrete Optimization: The Case of Generalized BCC Lattice. *Mathematics* 9(3), 208, (2021), doi:[10.3390/math9030208](https://doi.org/10.3390/math9030208) (SCI-Expanded)
4. **N.D. Turgay**, I. Karaca, The Arnón bases in the Steenrod algebra. *Georgian Mathematical Journal* 27(4), (2020), 649–654 doi:[10.1515/gmj-2018-0076](https://doi.org/10.1515/gmj-2018-0076) (SCI-Expanded)
5. **N.D. Turgay**, On The Mod p Steenrod algebra and the Leibniz-Hopf Algebra, *Electronic Research Archive* 28(2), (2020), 951–959 doi:[10.3934/era.2020050](https://doi.org/10.3934/era.2020050) (SCI-Expanded)
6. **N.D. Turgay**, Invariants under decomposition of the conjugation in the mod 2 dual Leibniz-Hopf Algebra. *Miskolc Math Notes* 19(2), (2018), 1217–1222. doi:[10.18514/MMN.2018.2591](https://doi.org/10.18514/MMN.2018.2591) (SCI-Expanded)
7. **N.D. Turgay**, An alternative approach to the Adem relations in the mod p Steenrod algebra, *Comptes rendus de l'Académie bulgare des Sciences* 70(4), (2017), 457–466 (SCI-Expanded)
8. **N.D. Turgay**, S. Kaji, The mod 2 dual Steenrod algebra as a subalgebra of the mod 2 dual Leibniz-Hopf algebra, *Journal of Homotopy and Related Structures*, 12(3), (2017), 727–739 doi:[10.1007/s40062-016-0163-x](https://doi.org/10.1007/s40062-016-0163-x) (SCI-Expanded)
9. **N.D. Turgay**, An alternative approach to the Adem relations in the mod 2 Steenrod algebra, *Turkish Journal of Mathematics*, 38(5), (2014), 924–934. doi:[10.3906/mat-1309-6](https://doi.org/10.3906/mat-1309-6) (SCI-Expanded)
10. M.D. Crossley, **N.D. Turgay**, Conjugation Invariants in the Leibniz-Hopf algebra, *Journal of Pure and Applied Algebra*, 217(12), (2013), 2247–2254. doi:[10.1016/j.jpaa.2013.03.003](https://doi.org/10.1016/j.jpaa.2013.03.003) (SCI)

11. M.D. Crossley, **N.D. Turgay**, Conjugation invariants in the mod 2 dual Leibniz-Hopf algebra, *Communications in Algebra*, 41(9), (2013), 3261–3266. doi:[10.1080/00927872.2012.682675](https://doi.org/10.1080/00927872.2012.682675) (SCI-Expanded)

ARTICLES
PUBLISHED IN
JOURNALS
COVERED BY
OTHER INDEXES,
INTERNATIONAL

1. H.J.Al Hwaeer, G. Albkwe, **N.D. Turgay**, Correction to “On prime near-rings with generalized (σ, τ) –derivations, *Kyungpook Math. J.*, 45(2005), 249–254”. *Kyungpook Math. J.*, 60(2) 2020, 415–421. doi:[10.5666/KMJ.2020.60.2.415](https://doi.org/10.5666/KMJ.2020.60.2.415) (ESCI, SCOPUS, AMS-MR(MR4157350))
2. **N.D. Turgay**, On the X basis in the Steenrod algebra, *Journal of Linear and Topological Algebra* 08(4) (2019), 215–218. (zbMath(Zbl 1449.55005), OCLC WorldCat, Copernicus, Google Scholar)
3. **N.D. Turgay**, A remark on the conjugation in the Steenrod algebra. *Communications of the Korean Mathematical Society*, 30(3) (2015), 269–276. doi:[10.4134/CKMS.2015.30.3.269](https://doi.org/10.4134/CKMS.2015.30.3.269) (ESCI, SCOPUS, AMS-MR(MR3383634))
4. **N.D. Turgay**, On the conjugation invariant problem in the mod p dual Steenrod algebra. *Italian Journal of Pure and Applied Algebra*, 34 (2015), 151–158. (ESCI, SCOPUS, zbMath, AMS-MR(MR3393077))
5. **N.D. Turgay**, A Short Note on the Conjugation in the Leibniz-Hopf Algebra, *Journal of Mathematics and System Science*, 4(1) (2014) 34-36. (EBSCO, Google Scholar, Index Copernicus, etc.)
6. **N.D. Turgay**, Some notes on the dual Leibniz-Hopf algebra, *Journal of Mathematics and System Science*, 3(11) (2013), 573–576. (EBSCO, Google Scholar, Index Copernicus, etc.)
7. **N.D. Turgay**, A note on conjugation invariants in the dual-Leibniz Hopf algebra, *International journal of algebra* 7(17) (2013), 809–815. doi:[10.12988/ija.2013.31099](https://doi.org/10.12988/ija.2013.31099) (AMS-MR(MR3158606), zbMath, EBSCO, Google Scholar, ULRICH’s Periodicals Directory, etc.)

PROJECTS

- Scientific Research Project (BAP 08-FEN-003) Ege University, Turkey 2009
Project Title: Some calculations in the Steenrod algebra
Director of the Project: Prof. Dr. Ismet Karaca

WORK
PRESENTED IN
INTERNATIONAL
SCIENTIFIC
MEETINGS, WITH
THE ABSTRACT
PUBLISHED IN
THE
PROCEEDINGS
BOOKLET EITHER
IN PRINT OR
ELECTRONICALLY.

1. Overlapping shuffle algebra and the mod p dual Steenrod algebra, contributed online talk by zoom, [Euro Asia 9th. International Congress on Applied Sciences](#) Erzurum, Turkey, August 11-12, 2021 (abstract is available at conference webpage).
2. Invariant elements in the mod 2 dual Leibniz-Hopf algebra, contributed online talk by zoom, [6th international gap mathematics-engineering-science and health sciences congress](#) Sanliurfa, Turkey, June 26-27, 2021 (abstract is available at conference webpage).

3. A note on change of bases in the mod- p dual Steenrod algebra, contributed online talk by zoom, [6th international gap mathematics-engineering-science and health sciences congress](#) Sanliurfa, Turkey, June 26-27, 2021 (abstract is available at conference webpage).
4. Mod p Leibniz Hopf algebra and the conjugation in the mod p Steenrod algebra, contributed online talk by zoom, [International 19 may innovative scientific approaches congress-v](#) Samsun, Turkey, May 19, 2021 (abstract is available at conference webpage).
5. Leibniz Hopf algebra and the anti-automorphism of the mod 2 Steenrod algebra, contributed online talk by zoom, [Ispec 10th international conference on engineering & natural sciences](#) Siirt University, Siirt, Turkey, May 16-18, 2021 (abstract is available at conference webpage).
6. Some results of conjugation in the mod 2 dual Leibniz-Hopf algebra, contributed talk, [XV. Antalya Algebra Days](#) Izmir, Turkey, 22 - 26 May, 2013 (abstract is available at conference webpage).
7. Conjugation invariants in the Leibniz-Hopf algebra, contributed talk, University of Cambridge, ICMS, 27th British Topology Meeting 2012, CMS, UK, September 6-8, 2012 (abstract is available).
8. Conjugation invariants in the mod-2 Leibniz-Hopf algebra, contributed talk, [Queen's University Belfast](#), Algebra, Combinatorics, Dynamics and Applications, UK, August 27-30, 2012 (abstract is available at conference webpage).
9. Conjugation invariants in the Leibniz-Hopf algebra, contributed talk, [University of Copenhagen](#), Young Topologists Meeting, Denmark, July 26, 2012 (abstract is available).
10. Conjugation invariants in the dual Leibniz-Hopf algebra, contributed talk, University of Edinburgh, ICMS, 26th British Topology Meeting, UK, September 1-3, 2011 (abstract is available).
11. Conjugation invariants in the mod- p and Integral Leibniz-Hopf algebra, invited talk, University of Manchester, Departmental Topology Seminar, 5th November 2012.
12. Free conjugation invariants, contributed talk, Gregynog, [Mathematics Colloquium](#), UK, 2011.
13. Contribution to weekly topology seminar for undergraduate students, coordinated by Prof. Ismet Karaca, Mathematics Department Ege University, 2007-2008.

POSTER
PRESENTATIONS

- University of Manchester, *Calculations in the Steenrod algebra*, MAGIC Postgraduate Student Conference, UK, Jan 12-14, 2009.

UNDERGRADUATE COURSES TAUGHT IN TURKISH

- Mate111 - General Mathematics (Fall 2017)
- Mate163 - Discrete Mathematics (Spring 2021)
- Mate204 - Linear Algebra II (Spring 2016 - Spring 2017)
- Mate218 - Linear Algebra II (Spring 2016)
- Mate306 - Topology (Fall 2017)
- Mate319 - Analytic Geometry 1 (Fall 2018)

UNDERGRADUATE COURSES TAUGHT IN ENGLISH

- Math106 - Linear Algebra (Spring 2016 - Spring 2022)
- Math134 - Discrete Mathematics for Information Technology (Fall 2021)
- Math135 - Basic Mathematics for Health Sciences (Fall 2018)
- Math151 - Calculus 1 (Spring 2016 - Fall 2022)
- Math152 - Calculus 2 (Spring 2016 - Spring 2022)
- Math163 - Discrete Mathematics (Fall 2019 - Spring 2022)
- Math361 - Elementary Number Theory (Spring 2021)
- Math494 - Topology (Fall 2018 - Fall 2022)

RESEARCH FELLOWSHIPS, GRANTS AND SCHOLARSHIPS

- Departmental Scholarship, Swansea University, UK 2009-2012.
- Socrates Erasmus Grant, University of Aberdeen 2008-2009.
- Research project “Some calculations in the Steenrod algebra” financed by Faculty of Science, Ege University, Turkey 2008-2009.

AWARDS

- Publication Awards (8 times), Eastern Mediterranean University 2017-2021.
- Departmental Scholarship, Swansea University. 2009-2012.
- Erasmus Grant, University of Aberdeen, UK. 2008-2009.

REFEREEING IN INTERNATIONAL PUBLICATIONS

1. *Hacettepe Journal of Mathematics & Statistics* (SCI-Expanded) (**2 times**)
2. *Journal of Function Spaces* (SCI-Expanded)
3. *Bulletin of the Malaysian Mathematical Sciences Society* (SCI-Expanded)
4. *Utilitas Mathematica* (SCI-Expanded)
5. *Filomat* (SCI-Expanded)
6. *Computational and Mathematical Methods in Medicine* (SCI-Expanded)
7. *Electronic Research Archive* (SCI-Expanded) (**5 times**)
8. *Journal of Linear and Topological Algebra* (zbMath, OCLC WorldCat, Copernicus, Google Scholar) (**2 times**)
9. *Bulletin of International Mathematical Virtual Institute* (AMS-MR, zbMath) (**2 times**)
10. *Osmaniye Korkut Ata University Journal of The Institute of Science and Technology* (Tubitak Ulakbim TR Index, TR Dizin, Crossref, Scientific Indexing Services) (**2 times**)

11. *Romanian Journal of Mathematics and Computer Science* (AMS-MR, zbMath, DOAJ)
12. *Italian Journal of Pure and Applied Algebra* (ESCI, SCOPUS, zbMath, AMS-MR)
13. *Cogent Mathematics* (DOAJ, Google Scholar)
14. *Montes Taurus Journal of Pure and Applied Mathematics* (Index Copernicus International)

REVIEWS FOR
MATHEMATICAL
REVIEWS AMS

1. MR4386465 Larson, Donald M., *Connectedness of graphs arising from the dual Steenrod algebra*, *J. Homotopy Relat. Struct.* 17 (2022), no. 1, 145–161 55S10 (05E16 16T05)
2. MR4344705 Shelukhin, Egor, *Pseudo-rotations and Steenrod squares revisited*, *Math. Res. Lett.* 28 (2021), no. 4, 1255–1261 57R17 (37K06)
3. MR4163079 Zheng, Yiwei; Gao, Yun; Hu, Naihong *Finite-dimensional Hopf algebras over the Hopf algebra $H_{b,1}$ of Kashina*. *J. Algebra* 567 (2021), 613–659. 16T05 (16T99)
4. MR4143889 Halbig, Sebastian and Krämer, Ulrich, *A Hopf algebra without a modular pair in involution*, in *Geometric methods in physics XXXVII*, 140–142, Birkhäuser/Springer, Cham, 2019 16T05 (57T05)

SERVICES
TOWARDS EMU

- Examiner for Qualifying Examination MATH163 CMPE 2021-2022 Fall
- Internal M.S. examiner, Eastern Mediterranean University 2016.
- Representative instructor in Orientation Days, Eastern Mediterranean University 2016-2017

LANGUAGES

- Turkish (Mother-tongue)
- English (Fluent)

COMPUTER
EXPERIENCE

- Latex, Mathematica, Maple, Matlab

COURSES,
CONFERENCES
AND MEETINGS
ATTENDED

- 36th Meeting of New Directions in Group Theory and Triangulated Categories, 29th March 2022, zoom meeting.
- Dynamics, Topology and Computations Bedlowa, Poland June 15-20, 2015.
- Applied Algebraic Topology Workshop, Castro Urdiales, CIEM Spain, 2014.
- Mathematical Structures of Computation, Directed topology, France, 2014.
- TTT86, Sheffield University, UK, 2013.
- Modern Perspectives in Homotopy Theory: Infinity Categories and Homotopy Type Theory, Swansea University, 10-13 April, 2012.
- Fourth Sheffield Homotopy Miniconference: Homotopy and Geometry of Loop Spaces 20-22 January, 2012.

- YTM, EPFL, Lausanne, Switzerland, June 14 - 18, 2011.
- TTT75, Sheffield University, UK, 2010.
- International Conference on Algebraic and Geometric Topology, Capital Normal University, Beijing, China, 28 June - 2 July, 2010.
- Toric Topology - Malaga Spring School, Malaga University, Spain, 2010.
- ICMS, Generic Skills Courses for First Year Postgraduates in the Mathematical Sciences, Edinburgh University, UK, Spring 2009.
- ICMS, Generic Skills Courses for Mathematics Later Years Postgraduates, Edinburgh University, UK, Autumn 2008.

ADDITIONAL
EXPERIENCE

- Treasurer of AEGEE “European Students Forum” Abertawe, 2009-2012.
- ACE (Aiming for College Education) day leader, Student ACE day tomorrow with Reaching Winder, Swansea University, 2011–2013.
- Swansea study abroad programme Weihai, China, 2010.