

Burak Özbağcı

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Professional Service

President of the Turkish Mathematical Society, Jan 2019–April 2021
Codirector of the Istanbul Center for Mathematical Sciences, Sept 2017– Aug 2019
Management Committee Member, Feza Gürsey Center for Physics and Math, Jan 2023 –

Academic

Employment

Professor, Koç University, Nov 2012–present
Visiting Scholar, University of California at Los Angeles, Aug 2016–Aug 2017
Visiting Scholar, Stanford University, Summer 2010
Member of the Mathematical Sciences Research Institute, Aug 2009–May 2010
Associate Professor, Koç University, Feb 2007–Nov 2012
Visiting Assistant Professor, Georgia Institute of Technology, Aug 2005–May 2006
Assistant Professor, Koç University, Aug 2002–Feb 2007
Visiting Research Instructor, Michigan State University, Aug 1999–Aug 2002

Education

Ph.D. in Mathematics, University of California at Irvine, June 1999
B.Sc. in Mathematics, Middle East Technical University, June 1993.

Grants and Funding

TÜBİTAK (Scientific and Tech. Research Council of Turkey) Grant (Nov 2016–Aug 2017)
EU-FP7 Marie Curie International Outgoing Fellowship (Oct 2009–Sept 2011)
(First mathematician from Turkey who received this fellowship)
TÜBİTAK Grant (2007–2011)
National Science Foundation - Focused Research Group Grant (Aug 2005–May 2006)
Outstanding Young Scientist Grant by the Turkish Academy of Sciences (2003–2006)

Awards and Honors

Selected as a Senior Associate of the International Center for Theoretical Physics, 2022
Invited Speaker at the 8th European Congress of Mathematics, 2021
ODTÜ M. Parlar Foundation Science Award, 2020
College of Sciences Outstanding Research Award, 2018
Koç University Outstanding Teaching Award, 2013
College of Sciences Outstanding Teaching Award, 2012
Masatoshi Gündüz Ikeda Science Award, 2008
ODTÜ M. Parlar Foundation Junior Research Award, 2007
Sedat Simavi Science Award, 2006
TÜBİTAK-TWAS (Third World Academy of Sciences) Science Award, 2006
Werner-von-Siemens Excellence Award (Koç University), 2005
Outstanding Young Scientist Award by the Turkish Academy of Sciences, 2003

Publications

Book:

Surgery on contact 3-manifolds and Stein surfaces, (with A. I. Stipsicz)
Bolyai Society Mathematical Studies, Vol. 13, Springer 2004

Book Chapter:

Lefschetz fibrations, open books, and symplectic fillings of contact 3-manifolds,
Proceedings of the 8th European Congress of Mathematics, 2023

Articles:

(44) *Unbraided wiring diagrams for Stein fillings of lens spaces* (with M. Bhupal)
submitted

(43) *Rational blowdown graphs for symplectic fillings of lens spaces* (with M. Bhupal)
to appear in the Annali della Scuola Normale Superiore di Pisa, Classe di Scienze

(42) *A characterization of quasipositive two-bridge knots* (with S. Orevkov)
International Journal of Mathematics 35 (2024)

(41) *Complex vs convex Morse functions and geodesic open books* (with P. Dehornoy)
International Journal of Mathematics 35 (2024)

(40) *Generalizations of planar contact manifolds to higher dimensions* (with B. Acu and J. Etnyre)
Journal of Symplectic Geometry 21 (2023)

(39) *On open books for nonorientable 3-manifolds*
Periodica Mathematica Hungarica 84 (2022)

(38) *Minimal number of singular fibers in a nonorientable Lefschetz fibration* (with S. Onaran)
Geometriae Dedicata 216 (2022)

(37) *Lefschetz fibrations on nonorientable 4-manifolds* (with M. Miller)
Pacific Journal of Mathematics 313 (2021)

(36) *Genus one Lefschetz fibrations on disk cotangent bundles of surfaces*
Revista Matemática Iberoamericana 36 (2020)

(35) *Stein and Weinstein structures on disk cotangent bundles of surfaces*
Archiv der Mathematik 113 (2019)

- (34) *Trisections of 4-manifolds via Lefschetz fibrations* (with N. Castro)
Mathematical Research Letters 26 (2019)
- (33) *Canonical contact unit cotangent bundle* (with T. Oba)
Advances in Geometry 18 (2018)
- (32) *Exotic Stein fillings with arbitrary fundamental group* (with A. Akhmedov)
Geometriae Dedicata 195 (2018)
- (31) *Fillings of unit cotangent bundles of nonorientable surfaces* (with Y. Li)
Bulletin of the London Mathematical Society 50 (1) 2018
- (30) *Symplectic fillings of lens spaces as Lefschetz fibrations* (with M. Bhupal)
Journal of the European Mathematical Society 18 (7) 2016
- (29) *Generalized plumbings and Murasugi sums* (with P. Popescu-Pampu)
Arnold Mathematical Journal 2 (1) 2016
- (28) *On the topology of fillings of contact 3-manifolds*
Geometry and Topology Monographs (19) 2015
- (27) *Contact open books with exotic pages* (with O. van Koert)
Archiv der Mathematik 104 (6) 2015
- (26) *Singularity links with exotic Stein fillings* (with A. Akhmedov)
Journal of Singularities (8) 2014
- (25) *Canonical contact structures on some singularity links* (with M. Bhupal)
Bulletin of the London Mathematical Society 46 (3) 2014
- (24) *Milnor open books of links of some rational surface singularities* (with M. Bhupal)
Pacific Journal of Mathematics 254 (1) 2011
- (23) *On the Heegaard genus of contact 3-manifolds*
Central European Journal of Mathematics 9 (4) 2011
- (22) *Contact handle decompositions*
Topology and its Applications 158 (5) 2011
- (21) *On the relative Giroux correspondence* (with T. Evgü)
Proceedings of Symposia in Pure Mathematics (82) 2011
- (20) *Milnor fillable contact structures are universally tight* (with Y. Lekili)
Mathematical Research Letters 17 (6) 2010

- (19) *Full Lutz twist along the binding of an open book* (with M. Pamuk)
Geometriae Dedicata 147 (1) 2010
- (18) *On the contact Ozsváth-Szabó invariant* (with T. Egtü)
Studia Scientiarum Mathematicarum Hungarica 47 (1) 2010
- (17) *Partial open book decompositions and the contact class in sutured Floer homology* (with T. Egtü)
Turkish Journal of Mathematics 33 (3) 2009
- (16) *Surgery diagrams for horizontal contact structures*
Acta Mathematica Hungarica 120 (1) 2008
- (15) *On sections of elliptic fibrations* (with M. Korkmaz)
Michigan Mathematical Journal 56 (1) 2008
- (14) *Invariants of contact structures from open books* (with J. B. Etnyre)
Transactions of the American Mathematical Society 360 (6) 2008
- (13) *Explicit horizontal open books on some Seifert fibered 3-manifolds*
Topology and its Applications 154 (4) 2007
- (12) *Open books and plumbings* (with J. B. Etnyre)
International Mathematics Research Notices vol. 2006 Article ID 72710, 2006.
- (11) *Explicit horizontal open books on some plumbings* (with T. Egtü)
International Journal of Mathematics 17 (9) 2006
- (10) *Embedding fillings of contact 3-manifolds*
Expositiones Mathematicae 24 (2) 2006
- (9) *An open book decomposition compatible with rational contact surgery*
Proceedings of 12th Gökova Geometry-Topology Conference 2005
- (8) *A note on contact surgery diagrams*
International Journal of Mathematics 16 (1) 2005
- (7) *Contact 3-manifolds with infinitely many Stein fillings* (with A. I. Stipsicz)
Proceedings of the American Mathematical Society (132) 2004
- (6) *Commutators, Lefschetz fibrations and signatures of surface bundles over surfaces* (with H. Endo, M. Korkmaz, D. Kotschick, A. I. Stipsicz)
Topology (41) 2002
- (5) *On the topology of compact Stein surfaces* (with S. Akbulut)
International Mathematics Research Notices (15) 2002

(4) *Signatures of Lefschetz fibrations*

Pacific Journal of Mathematics 202 (1) 2002

(3) *Lefschetz fibrations on compact Stein surfaces* (with S. Akbulut)

Geometry and Topology (5) 2001

(2) *Minimal number of singular fibers in a Lefschetz fibration* (with M. Korkmaz)

Proceedings of the American Mathematical Society (129) 2001

(1) *Noncomplex smooth 4-manifolds with genus-2 Lefschetz fibrations* (with A. I. Stipsicz)

Proceedings of the American Mathematical Society (128) 2000

Invited talks

2nd Joint Meeting of the Unione Matematica Italiana (UMI) and the American Mathematical Society (AMS), Palermo, July 2024

Geometry in Istanbul, Feza Gürsey Center for Physics and Mathematics, April 2023

Workshop on low dimensional topology, Erdős Center, Budapest, March 2023

Geometry and Topology Seminar, Middle East Technical University, April 2022 (zoom talk)

8th European Congress of Mathematics, Invited Speaker, June 2021 (zoom talk)

8th European Congress of Mathematics, Low-dimensional Topology Mini-Symposium, June 2021 (zoom talk)

Geometry and Topology Seminar, Middle East Technical Uni., December 2020 (zoom talk) and May 2021 (zoom talk)

Algebraic Geometry and Differential Topology Seminar, Alfred Rényi Institute of Mathematics, May 2020 (zoom talk)

Workshop on Curves, Mapping Class Groups and their Applications, Middle East Technical University, January 2020

Lefschetz Fibrations Day, Hacettepe University, January 2020

Bosphorus Real Geometry Conference, Istanbul Center for Mathematical Sciences, October 2019

Topology, Geometry, and Dynamics: Rokhlin 100, Saint Petersburg, Russia, August 2019

Contact Topology Workshop, Hacettepe University, March 2019

Geometric structures on 3 and 4 manifolds, Inter University Center, Dubrovnik, Croatia, June 2018

XII Workshop on Symplectic Geometry, Contact Geometry, and Interactions, Uppsala University, Sweden, January 2018

Gökova Geometry Topology Institute, Winter Workshop, December 2017

Middle East Technical University, December 2017

Caltech, February 2017

University of California at Santa Barbara, January 2017

Claremont Topology Seminar, December 2016

Caltech-USC-UCLA Joint Topology Seminar, November 2016

University of Iowa, October 2016

Georgia Institute of Technology, September 2016

Perspectives in topology and geometry of 4-manifolds, Dubrovnik, Croatia, June 2016

Algebra, Geometry and Topology of Singularities, Galatasaray University, May 2016

Stein Manifolds, Contact Structures and Knots, CIRM in Marseille, September 2015

Symplectic techniques in topology and dynamics, University of Cologne, August 2015.
 Summer School "Mapping Class Groups, 3- and 4-manifolds", Cluj-Napoca, Romania, July 2015.
 Topics in Geometry, Istanbul Center for Mathematical Sciences, May 2015
 Bogazici University, May 2015
 Workshop on algebraic and geometric topology, Middle East Technical University, January 2015
 Workshop on contact topology, Hacettepe University, October 2014
 Graduate Workshop on 4-Manifolds, Simons Center for Geometry and Physics, August 2014
 Japanese Turkish Joint Geometry Meeting, Galatasaray University, November 2013
 November 2013 University of Lille, November 2013
 Istanbul Technical University, November 2013
 Mimar Sinan Fine Arts University, September 2013
 Geometry/Topology Summer School, Istanbul Center for Mathematical Sciences, August 2013
 Conference on the Topology and Invariants of Smooth 4-Manifolds, Minnesota, August 2013
 Interactions between low dimensional topology and mapping class groups, Max Planck Institute,
 Bonn, July 2013
 Workshop on symplectic manifolds, Dokuz Eylul University, June 2013
 Galatasaray University, April 2013
 Low-dimensional topology workshop, Istanbul Center for Mathematical Sciences, March 2013
 Workshop on low-dimensional topology, Hacettepe University, March 2013
 Geometry/Topology Summer School, Bilkent University, August 2012
 Conference on Holomorphic Curves and Low Dimensional Topology, Stanford, August 2012
 Bilkent University, Science seminar, Ankara, April 2012
 The topology and invariants of smooth 4-manifolds Workshop, Miami, March 2012
 Brussels-Cologne seminar, Cologne, January 2012
 Yeditepe University, Istanbul, October 2011
 Gauge Theory Workshop, Aarhus University, August 2011
 Bogazici University, Istanbul, April 2011
 Middle East Technical University, Ankara, March 2011
 Izmir Algebraic Geometric Topology Days II, Izmir, January 2011
 University of California, Berkeley, April 2010
 University of California, Davis, February 2010
 Rice University, Texas, November 2009
 Izmir Algebraic Geometric Topology Days, Izmir, January 2009
 Alfred Renyi Institute of Mathematics, Budapest, September 2008
 Middle East Technical University, Ankara, April 2008
 Georgia Topology Conference, University of Georgia, May 2007
 Atılım University, Ankara, December 2006
 13th Gökova Geometry / Topology conference, May 2006
 University of Georgia, December 2005
 Alfred Renyi Institute of Mathematics, Budapest, June 2004
 Korea Institute for Advanced Study, Seoul, July 2003
 Feza Gursey Institute, Istanbul, February 2003
 Department of Mathematics, Princeton University, April 2002
 Kansas State University, November 2001
 Cornell University, April 2001
 Symplectic Geometry and Applications to Physics, UC Irvine, April 2001

7th Gökova Geometry / Topology Conference, May 2000
Feza Gursey Institute, Istanbul, May 2000
Georgia Topology Conference, University of Georgia, May 1999
Duke University, January 1999