

# Mustafa Gökhan Benli

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Middle East Technical University  
Department of Mathematics  
Ankara, Turkey  
benli@metu.edu.tr  
<http://blog.metu.edu.tr/benli/>

**EMPLOYMENT** *Spring 2015-* Assistant Professor  
Middle East Technical University, Department of Mathematics, TURKEY

*Fall 2014- Spring 2015* Assistant Professor  
Middle East Technical University, Northern Cyprus Campus, TRNC

*Fall 2013 - Summer 2014*, Visiting Assistant Professor  
Texas A&M University Department of Mathematics, College Station, USA

**EDUCATION** *2007-2013*, Ph.D. in Mathematics  
Texas A&M University Department of Mathematics, College Station, USA  
Advisor: Rostislav Grigorchuk

*2005-2007*, Graduate Course Work  
Middle East Technical University, Department of Mathematics, TURKEY

*2002-2005*, BS in Mathematics  
Middle East Technical University, Department of Mathematics, TURKEY

*2000-2004*, BS in Statistics  
Middle East Technical University, Department of Mathematics, TURKEY

**RESEARCH INTERESTS** Geometric and combinatorial group theory. Groups acting on rooted trees: self-similar groups, groups generated by automata, discrete and profinite branch groups. Groups of intermediate growth. Endomorphic presentations.

- PUBLICATIONS**
1. *Universal groups of intermediate growth and their invariant random subgroups.* (Joint with R. Grigorchuk and T. Nagnibeda) Functional Analysis and Its Applications, Volume 49, Issue 3, pp 159-174, 2015. (SCI-E)
  2. *Uncountably many 2-generated just-infinite branch pro-2 groups.* (Joint with R. Grigorchuk) Algebra and Discrete Mathematics, Volume 19, No. 1, 8-18, 2015.
  3. *On the condensation property of the Lamplighter groups and groups of intermediate growth.* (Joint with R. Grigorchuk) Algebra and Discrete Mathematics, Volume 17, No. 2, 222-231, 2014.

4. *On growth of random groups of intermediate growth.*  
(Joint with R. Grigorchuk and Y. Vorobets) Groups, Geometry and Dynamics, 8, No. 3, 643-667, 2014. (SCI-E)
5. *Amenable groups without finitely presented amenable covers.*  
(joint with R. Grigorchuk and P. De La Harpe) Bulletin of Mathematical Sciences, 3, no. 1, 2013. (SCI-E)
6. *Profinite completion of Grigorchuk's group is not finitely presented.*  
Internat. J. Algebra Comput., 22, no. 5, 2012. (SCI-E)
7. *Indicable groups and endomorphic presentations.*  
Glasgow Mathematical Journal, 54, no. 2, 335-344, 2012. (SCI-E)

## AWARDS

Received the L.F. Guseman Prize in Mathematics 2012, Texas A&M University Department of Mathematics.

## SEMINAR AND CONFERENCE TALKS

- Universal groups of intermediate growth and their invariant random subgroups, Second Romanian-Turkish Mathematics Colloquium, Galatasaray University, October 2017. (Invited)
- How groups grow, IMBM Matematik Günleri, September 2017. (Invited)
- Universal groups of intermediate growth and their invariant random subgroups, 4th Biennial International Group Theory Conference, Kuala Lumpur, Malaysia, January 23-26, 2017. (Invited)
- Groups of intermediate growth, Bilkent University Algebra Seminar, December 6, 2016. (Invited)
- Universal groups of intermediate growth and their invariant random subgroups, 4th Cemal Koç Algebra Days, METU, Ankara, April 22-23, 2016.
- How groups grow, Middle East Technical University, General Seminar, October 2015.
- Universal groups of intermediate growth and their invariant random subgroups, Summer 2015 Workshop Asymptotic properties of groups and dynamical systems, Texas A&M University, August 2015
- Space of finitely generated groups (Tutorial), Models and Groups, Istanbul 4, March 2015. (Invited)
- Space of finitely generated groups and self-similar groups, Models and Groups, Istanbul 3, October 2014. (Invited)
- Sonlu gösterilemeyen uyumlu gruplar, Turkish Mathematical Symposium, Istanbul, August 2014. (Invited)
- On Random Groups of Intermediate Growth, Mimar Sinan University of Fine Arts, December 2013. (Invited)
- Profinite completions of branch groups, Groups and Geometry Seminar, University of Geneva, March 2013.
- Endomorphic presentations and subgroups of finitely presented groups, Middle East Technical University, Algebra Seminar, October 2012.
- Amenable groups without finitely presented amenable extensions, Groups and Dynamics Seminar, Texas A&M University, September 2012.
- Amenable groups without finitely presented amenable extensions, Groups and Geometry Seminar, University of Geneva, April 2012. (Invited)
- Presentation problem for the completion of the Grigorchuk group, AMS Sectional Meeting, University of Kansas, Lawrence March, 2012. (Invited)
- L-Presentations of Groups, Texas A&M University Graduate Student Seminar, February 2012.
- Self-similar groups, Texas A&M University Graduate Student Seminar, September 2010.

- Groups generated by automata, Middle East Technical University, Algebra Seminar, December 2009.
- Indicible groups and endomorphic presentations. Groups and Dynamics Seminar, Texas A&M University, December 2009.

**CONFERENCE ORGANIZATIONS**

- 4th Cemal Koç Algebra Days  
Middle East Technical University, Ankara, Turkey 22-23 April 2016  
<http://cemalkoc.math.metu.edu.tr/>
- Antalya Algebra Days XVII Nesin Mathematics Village, May 20-24 2015  
<http://www.nesinkoyleri.org/etkinlik-detay.php?egitimkod=86#hakkinda>

**CURRENT PROJECTS**

- METU BAP PROJECT: Spectra of Schreier graphs associated with groups of intermediate growth, 2016-2018.

**GRADUATE STUDENTS**

- Anıl Özdemir, TOBB University,  
*Topological full groups of Cantor minimal systems*  
(Masters degree, completed Summer 2017).
- Beyza Nur Yasar, Gazi University,  
*Self-similar groups and groups generated by automata*  
(Masters Degree, ongoing)

**TEACHING EXPERIENCE**

*Middle East Technical University, TURKEY*

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|--|-------------|
| • Math367, Abstract Algebra                            | Spring 2017 |
| • Math 119, Calculus with Analytic Geometry            | Fall 2016   |
| • Math 116, Basic Algebraic Structures                 | Spring 2016 |
| • Math 120, Calculus of Functions of Several Variables | Spring 2016 |
| • Math 119, Calculus with Analytic Geometry            | Fall 2015   |
| • Math 119, Calculus with Analytic Geometry            | Spring 2015 |

*Middle East Technical University Northern Cyprus Campus, TRNC*

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| • Math 120, Calculus of functions of several variables | Fall 2014 |
| • Math 100, Pre-Calculus                               | Fall 2014 |

*Texas A&M University, USA*

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| • Math 304 Linear Algebra                  | Summer 2014 |
| • Math 152 Engineering Mathematics II      | Spring 2014 |
| • Math 142 Business Mathematics II         | Fall 2013   |
| • Math 131 Mathematical Concepts, Calculus | Summer 2012 |

**ASSISTANTSHIP** *Texas A&M University, USA*  
**EXPERIENCE**

- Math 152 Engineering Mathematics II Fall 2010
- Math 151 Engineering Mathematics II Fall 2009
- Math 151 Engineering Mathematics II Spring 2009
- Math 151 Engineering Mathematics I Fall 2008
- Math 151 Engineering Mathematics I Spring 2008

*Middle East Technical University, TURKEY*

- Math 120 Calculus of Functions of Several Variables Spring 2007
- Math 120 Calculus of Functions of Several Variables Fall 2006
- Math 119 Calculus with Analytic Geometry Spring 2006
- Math 119 Calculus with Analytic Geometry Fall 2005

*Atılım University, TURKEY*

- Math 120 Calculus of Functions of Several Variables Summer 2005
- Math 119 Calculus with Analytic Geometry Spring 2005

Grading Assistant Texas A&M University, USA

- Math 433 Applied Algebra Summer 2012
- Math 436 Introduction to Topology Spring 2012
- Math 636 Topology I (Graduate) Fall 2011
- Math 662 Seminar in Algebra Spring 2011
- Math 654 Algebra II (Graduate) Spring 2010
- Math 166 Topics in contemporary mathematics II Summer 2009
- Math 411 Mathematical Probability Summer 2008
- Math 141 Business Mathematics I Summer 2008
- Math 415 Modern Algebra I Fall 2007

**LANGUAGE SKILLS**

Turkish (Native Language), Fluent in English and German, I Posses a German "Sprach Diplom".

**COMPUTER SKILLS**

- Matlab, Maple, Mathematica
- Latex, Microsoft Office
- GAP - Groups, Algorithms, Programming - a System for Computational Discrete Algebra
- Programming languages: Pascal, C.