Umut Caglar

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Dept. of Mathematics and Statistics

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EDUCATION

Case Western Reserve University, Cleveland, Ohio

- **Ph.D. in Mathematics** 2010-2014
  Thesis: Divergence and entropy inequalities for log concave functions
  Advisers: Elisabeth M. Werner and Stanislaw J. Szarek
- **M.S. in Mathematics** 2008-2010
  Thesis: Floating bodies
  Adviser: Elisabeth M. Werner

Cukurova University, Adana, Turkey 2001-2005

- **B.S. in Mathematics**

PUBLICATIONS

- **U. Caglar** and E. M. Werner. "Divergence for s-concave and log-concave functions." **Advances in Mathematics** 257, pages: 219-247 (2014).
- **U. Caglar** and E. M. Werner. "Mixed f-divergence and inequalities for log-concave functions."
  Proceedings of the London Mathematical Society 110, pages: 271-290 (2015).
- **U. Caglar**, M. Fradelizi, O. Guedon, J. Lehec, C. Schütt and E. M. Werner.
  "Functional version of Lp-affine surface area and entropy inequalities."
  International Mathematics Research Notices 2016, pages: 1223-1250 (2016).
- **U. Caglar** and D. Ye. "Affine isoperimetric inequalities in the functional Orlicz- Brunn-Minkowski theory" **Advances in Applied Mathematics** 81, pages: 78-114 (2016)
- **U. Caglar** and E. M. Werner. "Stability results for some geometric inequalities and their functional versions" **Book Chapter: Convexity and Concentration**
  Vol. 161 of IMA Volumes in Math. and its Applications, pages: 541-564, Springer 2017

EMPLOYMENT

- Instructor 2015-Present
  Florida International University
  Department of Mathematics and Statistics
- Lecturer 2014-2015
  Case Western Reserve University
  Department of Mathematics

RESEARCH INTERESTS

Convex geometry, geometric analysis, geometric functional analysis, and information theory

TEACHING EXPERIENCE

- Calculus I — Fall 2017 (at FIU)
- Trigonometry — Fall 2017 (at FIU)
- Pre-Calculus — Fall 2017 (at FIU)
- Trigonometry (Hybrid) — Summer 2017 (at FIU)
- Trigonometry — Fall 2016 & Spring 2017 (at FIU)
- Pre-Calculus — Fall 2016 & Spring 2017 (at FIU)
- Discrete Mathematics — Summer 2016 (at FIU)
- Trigonometry — Fall 2015 & Spring 2016 (at FIU)
- Pre-Calculus — Fall 2015 & Spring 2016 (at FIU)
- Differential Equations — Summer 2015 (at CWRU)
- Calculus III — Fall 2014 & Spring 2015 (at CWRU)
- Calculus for non-science majors — Fall 2013 (at CWRU)
- Graduate Student Teaching Assistant — 2008-2013
  Tutoring & grading various undergraduate and graduate courses

Course Design: Developed Trigonometry (MAC 1114) in Hybrid format.

SERVICE

- **Coordinator of Trigonometry (MAC 1114) Since Fall 2016**
  Organize weekly meetings with faculty, prepare departmental syllabus and common final exam, provide resources to support teaching and learning, use technology (like Mymathlab and I-clicker) in classroom, and also maintain quality and consistency of instruction in multiple-sections

CONFERENCES

Invited Talks

- American Mathematical Society Meeting, University of Georgia — March 2016
  "Mixed f-divergence and inequalities for log concave functions"
- Colloquium Talk, Florida International University — October 2015
  "Divergence and Entropy inequalities for log concave functions"
- American Mathematical Society Meeting, San Francisco State University — October 2014
  "Mixed f-divergence and inequalities for log concave functions"
- Analysis Seminars, Kent State University — May 2014
  "Divergence and Entropy inequalities for log concave functions"
- American Mathematical Society Meeting, Washington University — October 2013
  "Divergence for s-concave and log concave functions"
- Asymptotic Geometric Analysis II — June 2013
  Euler International Mathematical Institute, St. Petersburg, Russia
  "Divergence for log concave functions"

Conferences and Workshops

- Introductory Workshop: phenomena in high dimensions
  at MSRI, Berkeley, CA August 2017
- Redesign: Technology and Innovation in Math & English, Charleston, SC March 2017
- Chairs +1 meeting, TPSE Math, College Park, Maryland March 2017
- Teaching in the 21st Century, Sunshine State Teaching and Learning Conference
  St. Petersburg, FL February 2017
- Information Theory and Concentration Phenomena, IMA, Minneapolis, MS April 2015
- Joint Mathematics Meetings, San Antonio, TX January 2015
- Interplay of convex geometry and Banach space theory, Banff, Canada March 2013
- Informal analysis seminars, Kent State University November 2012
- Invariants in convex geometry and Banach space theory, AIM, Palo Alto, CA August 2012
- Workshop on Convexity and Asymptotic Geometric Analysis April 2012
  at CRM and University of Montreal, Canada
- Informal analysis seminars, Kent State University March 2012
- Perspectives in High Dimensions, Case Western Reserve University August 2010

Posters

- Poster presentation, Information Theory and Concentration Phenomena April 2015
  IMA, Minneapolis, MS "Divergence for log concave functions"
- Poster presentation, Informal analysis seminars, Kent State University March 2014
  "Divergence for log concave functions

SCHOLARSHIPS &AWARDS

- Graduate student travel award from American Mathematical Society October 2013
- Visiting scholar, Kiel University in Germany May 2013
- Graduate assistantship (tuition, fees, monthly stipend), 2010-2014
  Mathematics Department, Case Western Reserve University
- Graduate scholarship (tuition, fees, monthly stipend) 2008-2014
  by Turkish Government for M.S. and Ph.D. degrees in USA
- Ranked first among the class of 2005 of the Cukurova University 2005
  Department of Mathematics (Valedictorian)

ORGANIZATIONS

- Case Western Reserve University
  President, Union of Turkish Student Association 2009-2011
- Cukurova University
  President, Math Club 2003-2005

TECHNICAL SKILLS

LATEX, MATLAB, MATHEMATICA, MYMATHLAB