

Onur Oktay

ooktay@math.umd.edu
<http://www.math.umd.edu/~ooktay/>

- RESEARCH INTERESTS Harmonic analysis, frame theory, wavelet theory and their applications in signal and image processing.
- EDUCATION **University of Maryland**, College Park, Maryland USA
Ph.D., Mathematics, January 2008
M.A., Mathematics, January 2006
Koç University, Istanbul, Turkey
B.S., Mathematics, June 2002
- HONOURS AND AWARDS Koç University undergraduate full scholarship, 1997 - 2002.
- TEACHING EXPERIENCE **Jacob University Bremen**, Bremen, Germany
Instructor August 2008 - July 2010
Taught undergraduate level mathematics courses.
 - 110112 Natural Science Lab Unit - Numerical Software, Spring 2010.
 - 120121 Engineering and Science Mathematics - Calculus and Matrix Algebra, Fall 2009.
 - 110112 Natural Science Lab Unit - Numerical Software, Spring 2009.
 - 100291 Perspectives of Mathematics I, Fall 2008.**University of Maryland**, College Park, Maryland USA
Instructor August 2006 - December 2006
Taught undergraduate level mathematics course.
 - MATH113 College Algebra with Applications, Fall 2006.Teaching Assistant August 2002 - May 2006
Duties at various times have included office hours, leading discussion sessions, preparing and grading exams, quizzes and homework assignments.
 - MATH660 Complex Analysis I, Spring 2006.
 - MATH630 Real Analysis I, Fall 2005 and Spring 2006.
 - MATH463 Complex Variables for Scientists and Engineers, Spring 2005.
 - MATH113 College Algebra with Applications, Fall 2004.
 - MATH241 Calculus III, Spring 2004.
 - MATH240 Introduction to Linear Algebra, Fall 2003.
 - MATH220 Elementary Calculus I, Fall 2002 and Spring 2003.**Koç University**, Istanbul, Turkey
Teaching Assistant September 2000 - June 2002
Duties at various times have included office hours, leading discussion sessions, grading quizzes and homework assignments.
 - MATH302 Real Analysis II, Spring 2002.
 - MATH301 Real Analysis I, Fall 2001.
 - MATH204 Differential Equations, Spring 2001 and Fall 2001.
 - MATH102 Calculus II, Fall 2000.

RESEARCH EXPERIENCE	Postdoctoral Fellow School of Engineering and Science	August 2008 - July 2010 Jacobs University Bremen
	Postdoctoral Research Associate Norbert Wiener Center	January 2008 - August 2008 University of Maryland
	Research Assistant Norbert Wiener Center	January 2007 - December 2007 University of Maryland
PUBLICATIONS	<p>“Frame Quantization Theory and Equiangular Tight Frames”, PhD Thesis, Mathematics, Univ. Maryland at College Park (2007).</p> <p>“PCM - Sigma Delta Comparison and Sparse Representation Quantization”, with J.J. Benedetto (2008). Proceeding of CISS 2008 Invited Session on Sparse Representations and Frames, Princeton, NJ, USA.</p> <p>“Complex SigmaDelta quantization algorithms for finite frames”, with J.J. Benedetto and A. Tangboondouangjit (2008). AMS Contemporary Mathematics 464, 27-51.</p> <p>“Pointwise comparison of PCM and SigmaDelta quantization”, with J.J. Benedetto (2010), Constructive Approximation 32, 131-158.</p> <p>“GMSK Signal Compression for Technology Independent Base Stations,” with M. Dellomo, unpublished.</p>	
TALKS AND PRESENTATIONS	<p>“Minimization theorem for 1-bit quantization for finite frames.” Special session “Computational Methods in Harmonic Analysis and Signal Processing,” AMS 2007 Fall Western Section Meeting, Albuquerque, October 2007.</p> <p>“PCM - SigmaDelta Comparison and Sparse Representation Quantization.” Invited Session “Sparse Representations and Frames III: Quantization and Frames,” CISS 2008, Princeton, March 2008.</p> <p>“Empirical Mode Decomposition, Frames and Sparse Representation.” Computational Analysis Seminar, Jacobs University Bremen, October 2008.</p> <p>“Zauner’s Conjecture and Finite Equiangular Gabor (Weyl - Heisenberg) frames.” Computational Analysis Seminar, Jacobs University Bremen, April 2009.</p> <p>“Coarse Quantization of Bandlimited Operators.” Computational Analysis Seminar, Jacobs University Bremen, October 2009.</p>	