

Gökhan Bora Esmer

CONTACT INFORMATION

Department of Electrical and Electronics Engineering
Bilkent University
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Bilkent, Ankara, TURKEY

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RESEARCH INTERESTS

Digital Holography, Digital Signal Processing, Optical Signal Processing, Inverse Problems

EDUCATION

PhD

Department of Electrical and Electronics Engineering, April 2010
Bilkent University, Ankara, TURKEY
(GPA: 3.71/4.00)
Dissertation Title: “Calculation Of Scalar Optical Diffraction Field
From Its Distributed Samples Over The Space”
Supervisor: Prof. Levent Onural

MSc

Department of Electrical and Electronics Engineering, June 2004
Bilkent University, Ankara, TURKEY
(GPA: 3.59/4.00)
MS Thesis Title: “Computation Of Holographic Patterns Between Tilted Planes”
Supervisor: Prof. Levent Onural

BSc

Department of Electrical and Electronics Engineering, June 2001
Hacettepe University, Ankara, TURKEY
(GPA: 3.72/4.00; Highest Score in Engineering Faculty)

High School

İstanbul Atatürk Science High School, June 1996
İstanbul, TURKEY
(GPA: 4.01/5.00)

HONORS AND AWARDS

- Represented my high school for the third National Physics Olympiad, Ankara, 1995
- Highest graduation score in Engineering Faculty, 2001
- Full Graduate Scholarship by Bilkent University, including tuition waiver and full stipend, 2001-present

ACADEMIC EXPERIENCE

Tampere University of Technology, Tampere, FINLAND

Visiting Researcher

September, 2006 - November, 2006

Under supervision of Atanas Gotchev

Bilkent University, Ankara, TURKEY

Graduate Student

June, 2004 - April 2010

Includes current Ph.D. research, Ph.D. and Masters level coursework and research/consulting projects.

EEE101 (Introduction to Electrical and Electronics Engineering)
EEE102 (Introduction to Digital Circuit Design)
Math 250 (Introduction to Probability)
EEE321 (Basics of Signals and Systems)
EEE424 (Digital Signal Processing)
EEE526 (Digital Image Processing)

PUBLICATIONS

Journal:

- G.B. Esmer, V. Uzunov, L. Onural, H.M. Ozaktas, A. Gotchev, "Diffraction field computation from arbitrarily distributed data points in space", Signal Processing: Image Communication, vol.22 pp.178-187, February 2007.

Book Chapter:

- M. Kovachev, R. Ilieva, P. Benzie, G. B. Esmer, L. Onural, J. Watson, T. Reyhan, "Holographic 3DTV Displays Using Spatial Light Modulators", in Three-Dimensional Television - Capture, Transmission, Display, (Eds: H. M. Ozaktas, L. Onural), Chapter 15, pp. 529-555, Springer, 2008.

Conference Proceedings:

- G.B. Esmer, L. Onural, "Hologram Simölatorü", 11 Sinyal İşleme ve Uygulamaları Kurultayı Kitapçığı, pp. 487-490, Koç Üniversitesi, İstanbul, TÜRKİYE, Haziran 2003.
- G.B. Esmer, L. Onural, "Simulation of scalar optical diffraction between arbitrarily oriented planes", Proceedings of 2004 First International Symposium on Control, Communications and Signal Processing, ISCCSP 2004, Hammamet, Tunisia, 21-24 March 2004.
- G.B. Esmer, L. Onural, "Computation of holographic patterns between tilted planes", Holography 05 conference, Varna, Bulgaria, 21-25 May 2005.
- G. B. Esmer, L. Onural, H. Ozaktas, A. Gotchev, "An algorithm for calculation of scalar optical diffraction due to distributed data over 3D space", ICOB 2005.
- L. Onural, H. Özaktas, M.I. Kovachev, R.T. Ilieva-Kovacheva, T. Reyhan, O. Aytür, G.B. Esmer, and E. Ulusoy, "Üç-boyutlu Televizyon ve Optik", In Yedinci Ulusal Optik, Elektro-Optik ve Fotonik Çalışma Toplantısı, page 26, Ankara, 12 December 2005.
- E. Ulusoy, G. B. Esmer, H. M. Ozaktas, L. Onural, A. Gotchev and V. Uzunov, "Signal Processing Problems and Algorithms in Display Side of 3DTV", ICIP 2006.
- V. Uzunov, A. Gotchev, G.B. Esmer, H. Ozaktas, L. Onural, "Non-uniform sampling and reconstruction of diffraction field", Workshop on SMMSP'06, Florence, Italy, 2006.
- M. Kovachev, R. Ilieva, L. Onural, G. B. Esmer, T. Reyhan, J. Watson, P. Benzie, "Reconstruction of Computer Generated Holograms by Spatial Light Modulators", MRCS 2006.
- V. Uzunov, G.B. Esmer, A. Gotchev, L. Onural, and H.M. Ozaktas, "Bessel Functions-Based Reconstruction of Non-Uniformly Sampled Diffraction Fields" 3DTV-CON 2007, Kos Island, Greece, 7-9 May 2007.

	• G.B. Esmer, L. Onural, V. Uzunov, A. Gotchev and H.M. Ozaktas “Reconstruction of Scalar Diffraction Field from Distributed Data Points Over 3D Space” 3DTVCON 2007, Kos Island, Greece, 7-9 May 2007. • G.B. Esmer, L. Onural, H.M. Ozaktas, V. Uzunov, A. Gotchev, “Performance Assessment of A Diffraction Field Computation Method Based on Source Model”, 3DTV Conference: The True Vision - Capture, Transmission and Display of 3D Video, 2008
PAPERS IN PREPARATION	• G.B. Esmer, L. Onural, “Diffraction field computation from the diffraction pattern over a manifold”
PROFESSIONAL EXPERIENCE	Research and Teaching Assistant September, 2001 - April 2010 Department of Electrical and Electronics Engineering, Bilkent University, Ankara, TURKEY Visiting Researcher September, 2006 - November, 2006 Department of Signal Processing, Transforms and Spectral Techniques Group, Tampere University of Technology, Tampere, FINLAND Summer Practice July, 2000 - August, 2000 Department of Electrical and Electronics Engineering, Hacettepe University, Ankara, TURKEY Summer Practice July, 1999 - August, 1999 EPROM, Ankara, TURKEY Summer Practice June, 1999 - July, 1999 Communication Division, ASELSAN, Ankara, TURKEY Summer Practice June, 1998 - July, 1998 AKTAŞ Elektrik, Tekirdağ, TURKEY
LANGUAGE	Fluent in English, Elementary in German
COMPUTER SKILLS	• Languages: C, C++, MATLAB, VHDL, L^AT_EX, 8085 Assembly, Pascal, Basic. • Operating Systems: Windows (98, 2000, XP, Vista), Linux, MS-DOS. • Software Packages: LAPACK in C++ • Applications: MS Office, Adobe Premier, Blender 3d
MEMBERSHIP	Student member of IEEE since 2001
REFERENCES	Prof.Dr. Levent Onural Phone: (312) 2901263 E-mail: onural@ee.bilkent.edu.tr Prof.Dr. Feza Arıkan Phone: (312) 2977095 E-mail: arikan@hacettepe.edu.tr Prof.Dr. Ziya İder Phone: (312) 2902339 E-mail: ider@ee.bilkent.edu.tr Prof.Dr. Haldun Özaktas Phone: (312) 2901619 E-mail: haldun@ee.bilkent.edu.tr

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Prof.Dr. Salim Kayhan

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PERSONAL DETAILS

- Date and Place of Birth: April 25, 1978 and Tekirdağ
- Driving License: Class B