



# College of Engineering

FACULTY RESOURCE GUIDE



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This year marks the tenth anniversary of Koç Engineering as the College of Engineering has admitted its first freshman class in the 1999-2000 academic year. In this 10 years, Koç Engineering has become one of the most dynamic and strongest engineering colleges in Turkey. We offer undergraduate (BS) and graduate (MS and PhD) degrees in electrical and electronics engineering, computer engineering, mechanical engineering, industrial engineering, and chemical and biological engineering. Our faculty size has reached 41 and is continuing to grow to further expand our impact on the Turkish academic and industrial research scene. Our faculty members are among the world leaders in their respective research areas and have come to Koç Engineering with significant post-doc, academic and/or industrial experience from the best institutions worldwide.

Our research mission is to create new knowledge in order to advance the state of the art in engineering internationally and to stimulate development of innovative technologies of high societal impact for Turkey. To this effect, we host a number of interdisciplinary research centers and laboratories including Center for Computational Biology and Bioinformatics, Photonics Center, Manufacturing and Automation Research Center, Supply-Chain Research Center, Energy Research Center, Robotics and Mechatronics Lab, Optical Microsystems Lab, Laser Lab, Multimedia, Vision and Graphics Lab, where our faculty from various disciplines collaborate with each other, as well as with industry and government labs and with other universities to share expertise and resources in order to make a bigger impact on the Turkish industry and economy at large.

This guide has been prepared to introduce the research expertise and professional backgrounds of Koç Engineering faculty. In the pages that follow you can find listings of our faculty members organised by departments, by their association with various research centers, as well as their short CVs. I hope that this guide will serve as a useful reference for industrial and government research centers and organizations to establish future collaborations with Koç Engineering. In addition, graduate student applicants may find this guide useful in finding research topics and advisors for their MS and PhD thesis work.

Sincerely,  
A. Murat Tekalp  
Dean  
College of Engineering

# FACULTY TELEPHONE NUMBERS & E-MAIL ADDRESSES

## A

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## B

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Öznur Özkasap, +90-212-338-1584	oozkasap@ku.edu.tr

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Deniz Yüret, +90-212-338-1724	dyuret@ku.edu.tr

## COLLEGE ADMINISTRATION

### DEAN

Murat Tekalp  
+90-212-338-1593

### ASSOCIATE DEAN

Fikri Karaesmen  
+90-212-338-1718

# FACULTY BY LABORATORIES

## Center for Computational Biology & Bioinformatics (CCBB)

<http://portal.ku.edu.tr/~ccbb/>

Burak Erman, Attila Gürsoy, Özlem Keskin, Yaman Arkun, Engin Erzin, Halil Kavaklı, Çağatay Başdoğan, Sibel Salman, Metin Türkay, Ceyda Oğuz

## Computational Systems Biology Group (COSBI)

<http://prism.cccb.ku.edu.tr/cosbi/>

Attila Gürsoy, Özlem Keskin

## Manufacturing Automation and Research Center (MARC)

<http://home.ku.edu.tr/~ilazoglu/marc.html>

İsmail Lazoğlu, Metin Türkay, Erdem Alaca, Seda Kızılel, Hakan Ürey, Iskender Yılgör

## Koç-IBM Supply Chain Research Center

<http://koçibm-scm.ku.edu.tr/>

Metin Türkay, Fikri Karaesmen, Ceyda Oğuz, Sibel Salman, Lerzan Örmeci, Onur Kaya, Süleyman Özekici

## Multimedia, Vision & Graphics Laboratory (MVGL)

<http://mvgl.ku.edu.tr/>

A. Murat Tekalp, Engin Erzin, Yücel Yemez, Metin Sezgin

## Optical Microsystems Laboratory (OML)

<http://mems.ku.edu.tr>

Hakan Ürey, Erdem Alaca

## Mechanical Characterization Laboratory

<http://home.ku.edu.tr/~ealaca/links.html>

B. Erdem Alaca

## Micro-Nano Fabrication Laboratory (Clean room)

<http://home.ku.edu.tr/~ealaca/links.html>

B. Erdem Alaca, Hakan Ürey, Can Erkey, Alper Kiraz, Alphan Sennaroğlu

## Robotics and Mechatronics Laboratory (RML)

<http://portal.ku.edu.tr/~cbasdogan/Research>

Activities 20at 20 Koç 20University.pdf

Çağatay Başdoğan, Demircan Canadınç, Serdar Taşırın, Metin Sezgin, İpek Başdoğan

## Advanced Materials Laboratory

[home.ku.edu.tr/~dcanadinc/amg.htm](http://home.ku.edu.tr/~dcanadinc/amg.htm)

Demircan Canadınç

## Vibration and Design Laboratory

<http://home.ku.edu.tr/~ibasdogan/>

İpek Başdoğan

## Energy Technologies and Supercritical Fluids Research Laboratory

Can Erkey

## Molecular Biochemistry Research Laboratory

<http://home.ku.edu.tr/~hkavakli/>

Halil Kavaklı

## Cell and Tissue Engineering Laboratory

<http://home.ku.edu.tr/~skizilel/research.htm>

Seda Kızılel

## Wireless Sensor Networks Laboratory

Sinem Çöleri Ergen

## Computational Fluid Dynamics (CFD) Laboratory

<http://home.ku.edu.tr/~mmuradoglu/research.htm>

Metin Muradoğlu

## Center for Advanced Design Technologies

<http://home.ku.edu.tr/~designtech/>

Alper Demir, Lerzan Örmeci, Serdar Taşırın

## Intelligent User Interfaces Laboratory

<http://iui.ku.edu.tr/>

Metin Sezgin

## Composite Materials Manufacturing Lab (CMML)

<http://network.ku.edu.tr/~msozer/>

Murat Sözer

## Networked and Distributed Systems Laboratory (NDSL)

<http://ndsl.ku.edu.tr/>

Öznur Özkasap, A. Murat Tekalp, Sinem Çöleri Ergen

## FACULTY BY DEPARTMENT

### COMPUTER ENGINEERING

Engin Erzin  
Attila Gürsoy  
Alptekin Küpçü  
Öznur Özkasap  
T. Metin Sezgin  
Serdar Taşırın  
Yücel Yemez  
Emine Yılmaz  
Deniz Yüret

### ELECTRICAL & ELECTRONICS ENGINEERING

Özgür Barış Akan  
M. İrşadi Aksun  
Alper Demir  
Alper T. Erdoğan  
Sinem Çöleri Ergen  
Umran S. İnan  
S. Serdar Kozat  
Alphan Sennaroğlu  
A. Murat Tekalp  
Hakan Ürey

### INDUSTRIAL ENGINEERING

Fikri Karaesmen  
Onur Kaya  
Ceyda Oğuz  
E. Lerzan Örmeci  
Süleyman Özekici  
Sibel Salman  
Metin Türkay

### MECHANICAL ENGINEERING

B. Erdem Alaca  
Çağatay Başdoğan  
İpek Başdoğan  
Demircan Canadınç  
İsmail Lazoğlu  
Metin Muradoğlu  
Mehmet Sayar  
E. Murat Sözer

### CHEMICAL & BIOLOGICAL ENGINEERING

Yaman Arkun  
Can Erkey

Burak Erman  
İ. Halil Kavaklı

Özlem Keskin  
Seda Keskin

Seda Kızılel

# FACULTY BY SPECIALTY

## A

### ADAPTIVE SIGNAL PROCESSING

S. Serdar Kozat

### AFFECTIVE COMPUTING AND AFFECTIVE INTERFACES

T. Metin Sezgin

### ANTENNAS AND PROPAGATION

M. İrşadi Aksun

### APPLICATIONS OF MACHINE LEARNING

Emine Yılmaz

### APPLIED ELECTROMAGNETICS

Umran S. İnan

### APPLIED PROBABILITY & STATISTICS

Süleyman Özekici, Fikri Karaesmen

### ARTIFICIAL INTELLIGENCE

T. Metin Sezgin, Deniz Yüret

### AUTOMATION AND MECHATRONICS

İsmail Lazoğlu

## B

### BIOCHEMISTRY

İ. Halil Kavaklı

### BIOLOGICAL CLOCK

İ. Halil Kavaklı

### BIOINFORMATICS

Özlem Keskin, Metin Türkay, Atilla

Gürsoy, Ceyda Oğuz

### BIOLOGICALLY-INSPIRED DISTRIBUTED

### ALGORITHMS

Öznur Özkasap

### BIOMEDICAL ENGINEERING,

### BIOMECHANICS AND

### BIOMANUFACTURING

Çağatay Başdoğan, İsmail Lazoğlu,

Demircan Canadıncı

### BIOMETRICS

Yücel Yemez

### BIOTECHNOLOGY

İ. Halil Kavaklı

### BIOMATERIALS AND BIOMEDICAL ENGINEERING

Seda Kızılel

## C

### CATALYSIS

Can Erkey

### CHARACTERIZATION OF FABRIC

### PERMEABILITY AND COMPACTION

E. Murat Sözer

### CHEMICAL REACTION ENGINEERING

Can Erkey

### CLOUD SYSTEMS

Alptekin Küpçü

### COGNITIVE RADIO

Özgür B. Akan

### COMBUSTION

Metin Muradoğlu

### COMMUNICATIONS, DIGITAL

Alper T. Erdoğan, Sinem Çöleri Ergen

### COMMUNICATION NETWORKS

Özgür B. Akan

### COMPUTATIONAL BIOLOGY

Özlem Keskin, Metin Türkay, Atilla

Gürsoy, Ceyda Oğuz

### COMPUTATIONAL BIOLOGY AND BIOINFORMATICS

Atilla Gürsoy, Ceyda Oğuz, Özlem

Keskin, Atilla Gürsoy

### COMPUTATIONAL BIOPHYSICS

Burak Erman, Özlem Keskin, Atilla

Gürsoy

### COMPUTATIONAL COMPLEXITY

Ceyda Oğuz, Metin Türkay

### COMPUTATIONAL ELECTROMAGNETICS AND OPTICS

M. İrşadi Aksun

### COMPUTATIONAL FLUID DYNAMICS AND SCIENTIFIC COMPUTING

Metin Muradoğlu

### COMPUTATIONAL MATERIALS SCIENCE

Mehmet Sayar, Demircan Canadıncı

### COMPUTATIONAL PROTOTYPING OF ELECTRONIC, OPTO-ELECTRONIC AND BIOLOGICAL SYSTEMS

Alper Demir

### COMPUTER AIDED DESIGN AND MANUFACTURING (CAD/CAM)

İsmail Lazoğlu

### COMPUTER AIDED NUMERICAL

### CONTROL (CNC) SYSTEM AND MACHINE TOOLS

İsmail Lazoğlu

COMPUTER AIDED SYSTEMS  
ENGINEERING  
Yaman Arkun

COMPUTER AND COMMUNICATION  
NETWORKS  
Öznur Özkasap, Sinem Çöleri Ergen

COMPUTER VISION, GRAPHICS AND  
ANIMATION  
Yücel Yemez, T. Metin Sezgin, Çağatay  
Başdoğan

CONCURRENT SYSTEMS:  
MULTITHREADED SOFTWARE, MULTI-  
PROCESSOR HARDWARE  
Serdar Taşiran, Atilla Gürsoy

CONTENT-BASED 3D RETRIEVAL  
Yücel Yemez

CONTROL SYSTEMS AND  
APPLICATIONS  
Çağatay Başdoğan

CRYPTOGRAPHY  
Alptekin Küpçü

## D

DESIGN AND OPTIMIZATION  
Yaman Arkun, İpek Başdoğan, Metin  
Türkay

DESIGN AUTOMATION TOOLS FOR  
HARDWARE AND SOFTWARE SYSTEMS  
Serdar Taşiran

DESIGN TECHNOLOGIES FOR  
ELECTRONIC AND BIOLOGICAL SYSTEMS  
Alper Demir

DISCRETE OPTIMIZATION  
F. Sibel Salman, Metin Türkay

DISPLAYS  
Hakan Ürey

DISTRIBUTED REAL-TIME SYSTEMS  
Öznur Özkasap

DISTRIBUTED COMPUTING SYSTEMS  
Öznur Özkasap

DRAG AND LIFT FORCES ON MOVING  
SUBMERGED SLENDER BODIES  
E. Murat Sözer

DRUG DESIGN  
Burak Erman

DYNAMICS AND STRUCTURAL ANALYSIS  
İpek Başdoğan

DYNAMICS AND CONTROL OF  
BIOLOGICAL SYSTEMS  
Yaman Arkun

## E

ELECTROMAGNETIC FIELD THEORY  
M. İrşadi Aksun

ENERGY  
Can Erkey, Seda Keskin

EXPERIMENTAL AND COMPUTATIONAL  
MODELING OF FUNCTIONAL  
HYDROGELS  
Seda Kızılel

## F

FEMTOSECOND LASERS  
Alphan Sennaroğlu

FINANCIAL ENGINEERING  
Süleyman Özekici

FLUID MECHANICS  
Metin Muradoğlu

## G

GLASS LASERS  
Alphan Sennaroğlu

## H

HAPTICS (HUMAN AND  
MACHINE TOUCH)  
Çağatay Başdoğan

## I

IMAGE PROCESSING, DIGITAL  
A. Murat Tekalp, Yücel Yemez

INFORMATION THEORY  
Özgür B. Akan

INTELLIGENT DRIVER MONITORING  
SYSTEMS  
T. Metin Sezgin

IONOSPHERIC & RADIATION BELT PHYSICS  
Umrans S. İnan

INFORMATION RETRIEVAL  
Emine Yılmaz

INTERACTIONS  
Umrans S. İnan

# FACULTY BY SPECIALTY

ISLET ENCAPSULATION VIA INTERFACIAL  
PHOTOPOLYMERIZATION  
Seda Kızılel

## L

LASERS  
Alphan Sennaroğlu

LIGHTNING DISCHARGES  
Umran S. İnan

LOGISTICS  
Ceyda Oğuz, Metin Türkay, Sibel Salman

## M

MACHINE LEARNING, THEORY AND  
APPLICATIONS  
Deniz Yüret, S. Serdar Kozat,  
T. Metin Sezgin

MANAGEMENT SCIENCE  
Süleyman Özekici

MANUFACTURING OF COMPOSITE  
MATERIALS  
E. Murat Sözer

MANUFACTURING PROCESSES AND  
SYSTEMS: MODELING, DESIGN,  
MONITORING, OPTIMIZATION AND  
CONTROL  
İsmail Lazoğlu

MATERIALS  
Can Erkey

MATERIALS BEHAVIOR/ SMALL-SCALE  
TESTING  
Erdem Alaca, Demircan Canadınc

MATERIALS SCIENCE  
Burak Erman, Demircan Canadınc

MATHEMATICAL MODELING OF CELL  
ENCAPSULATION BY INTERFACIAL  
POLYMERIZATION  
Seda Kızılel

MATHEMATICAL PROGRAMMING  
Ceyda Oğuz, Metin Türkay

MEMBRANE-BASED GAS SEPARATIONS  
Seda Keskin

MECHATRONICS  
İsmail Lazoğlu

METAHEURISTICS  
Ceyda Oğuz

MICO/BIOFLUIDICS  
Metin Muradoğlu

MICRO/NANO ELECTROMECHANICAL  
SYSTEMS (MEMS/NEMS)  
Erdem Alaca, Hakan Ürey

MICROWAVE THEORY AND TECHNIQUES  
M. İrşadi Aksun

MIXED-INTEGER PROGRAMMING  
THEORY AND ALGORITHMS  
Metin Türkay, Sibel Salman

MODELING & DESIGN OF MICRO/MACRO  
SYSTEMS  
İpek Başdoğan

MODELING AND NONLINEAR DYNAMICS  
Yaman Arkun

MODELING OF GAS ADSORPTION AND  
TRANSPORT IN NANOPORES  
Seda Keskin

MONITORING AND CONTROL OF  
INDUSTRIAL PROCESSES  
Yaman Arkun

MOLECULAR BIOLOGY  
İ. Halil Kavaklı

MULTIMEDIA AND MULTIMODAL SIGNAL  
PROCESSING  
Engin Erzin, A. Murat Tekalp, Yücel  
Yemez

MULTIMODAL HUMAN-COMPUTER  
INTERFACES  
T. Metin Sezgin, A. Murat Tekalp, Çağatay  
Başdoğan

MULTIPHASE FLOWS  
Metin Muradoğlu

MULTI-SCALE EXPERIMENTAL AND  
COMPUTATIONAL MECHANICS  
OF MATERIALS WITH EMPHASIS  
ON HIGH-STRENGTH STEELS,  
MECHANICALLY ACTIVE MATERIALS,  
ULTRA-FINE GRAINED MATERIALS, AND  
BIOMATERIALS  
Demircan Canadınc

## N

NANOPOROUS MATERIALS  
Seda Keskin, Can Erkey

NANOSCALE COMMUNICATIONS  
Özgür B. Akan



## NATURAL LANGUAGE PROCESSING

Deniz Yüret

## NETWORK OPTIMIZATION

F. Sibel Salman

## NETWORK TRANSPORT PROTOCOLS

Öznur Özkasap

## NONLINEAR UNSTEADY FREE-SURFACE FLOWS

E. Murat Sözer

## NOISE IN NONLINEAR ELECTRONIC, OPTICAL, COMMUNICATION AND BIOLOGICAL SYSTEMS

Alper Demir

## NUMERICAL MODELING AND ANALYSIS

Alper Demir

## NANOTECHNOLOGY

Çağatay Başdoğan

## O

### ONLINE LEARNING

S. Serdar Kozat

### OPERATIONS RESEARCH

Süleyman Özekici, F. Sibel Salman, Metin

Türkay, Ceyda Oğuz

### OPTICS AND PHOTONICS

Hakan Ürey

## P

### PARALLEL COMPUTING

Attila Gürsoy, Öznur Özkasap

## PATTERN RECOGNITION

Engin Erzin, Yücel Yemez

## PLASMA PHYSICS

Umran S. İnan

## PEER-TO-PEER SYSTEMS

Öznur Özkasap

## PEN-BASED COMPUTING

T. Metin Sezgin

## PHYSICAL CHEMISTRY

Burak Erman

## PHYSICS-BASED MODELING AND SIMULATION

Çağatay Başdoğan

## PHYSICS OF BIOPOLYMERS

Mehmet Sayar

## PHYSICS OF POLYELECTROLYTES

Mehmet Sayar

## POLYMER PHYSICS

Mehmet Sayar

## PRIVACY

Alptekin Küpçü

## PROCESS MODELING

E. Murat Sözer, Yaman Arkun

## PROCESS CONTROL

Yaman Arkun

## PRODUCTION AND INVENTORY SYSTEMS

Onur Kaya, Ceyda Oğuz, Fikri Karaesmen

## Q

### QUANTUM COMMUNICATIONS

Özgür B. Akan

## R

### REFINERY PROCESSES

Can Erkey

### RELIABILITY AND MAINTENANCE

Süleyman Özekici

### RELIABLE MULTICAST PROTOCOLS

Öznur Özkasap

### REMOTE SENSING

Umran S. İnan

### RESIN TRANSFER MOLDING (RTM) PROCESS

E. Murat Sözer

### ROBOTICS AND MECHATRONICS

Çağatay Başdoğan

## S

### SECURITY

Alptekin Küpçü

### SCHEDULING

Onur Kaya, Sibel Salman, Ceyda Oğuz

### SERVICE SYSTEMS

E. Lerzan Örmeci, Fikri Karaesmen

### SIGNAL PROCESSING

Özgür B. Akan

# FACULTY BY SPECIALTY

## SIGNAL PROCESSING, DIGITAL

Alper T. Erdoğan, Engin Erzin, Sinem  
Çöleri Ergen, A. Murat Tekalp

## SIGNAL PROCESSING ALGORITHMS FOR MATHEMATICAL FINANCE

S. Serdar Kozat

## SOFT CONDENSED MATTER

Mehmet Sayar

## SOLID MECHANICS (FRACTURE, FATIGUE, PLASTICITY)

Erdem Alaca, Demircan Canadıncı

## SOFTWARE ENGINEERING: SOFTWARE RELIABILITY, PROGRAM ANALYSIS, SOFTWARE VERIFICATION

Serdar Taşırın

## SOLID-STATE LASERS

Alphan Sennaroğlu

## SPACE COMMUNICATIONS

Özgür B. Akan

## SPECTROSCOPY

Alphan Sennaroğlu

## SPEECH PROCESSING

Engin Erzin

## STATISTICS AND INFORMATION THEORY

Emine Yılmaz

## STATISTICAL TECHNIQUES IN MEDICINE

T. Metin Sezgin

## STOCHASTIC DYNAMICAL SYSTEMS

Alper Demir

## STOCHASTIC MODELS AND PROCESSES

E.Lerzan Örmeci, Onur Kaya, Süleyman  
Özekici, Fikri Karaesmen

## STRATEGIC CONTROL IN COMPOSITES MANUFACTURING

E. Murat Sözer

## STRUCTURE-BASED DRUG DESIGN

Metin Türkay

## SUPERCRITICAL FLUIDS

Can Erkey

## SUPPLY CHAIN MANAGEMENT

Onur Kaya, Metin Türkay, Sibel Salman

## SUSTAINABILITY

Metin Türkay

## SYSTEMS BIOLOGY

Metin Türkay, Özlem Keskin,  
Atilla Gürsoy

## SYSTEM DYNAMICS AND CONTROL

İsmail Lazoğlu, Yaman Arkun

## T

## TELECOMMUNICATIONS

Özgür B. Akan

## THEORY OF MACHINE SCHEDULING

Ceyda Oğuz

## THERMODYNAMICS AND PHASE EQUILIBRIA

Can Erkey

## THIN FILMS/ INTERFACES

Erdem Alaca

## 3D CAPTURE, MODELING AND TRANSMISSION

Yücel Yemez

## 3D DIGITIZATION OF CULTURAL HERITAGE

Yücel Yemez, Engin Erzin, A. Murat  
Tekalp

## 3D GRAPHICS AND VIRTUAL REALITY TECHNOLOGY

Çağatay Başdoğan

## 3DTV

A. Murat Tekalp

## 2-D AND 3-D PATTERNING OF HYDROGELS

Seda Kızılel

## TURBULENT REACTING FLOW

Metin Muradoğlu

## U

## ULTRAFAST AND NONLINEAR OPTICS

Alphan Sennaroğlu

## UNDERWATER ACOUSTIC COMMUNICATIONS

Özgür B. Akan

## V

## VACUUM INFUSION (VI) PROCESS

E. Murat Sözer

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VIBRO-ACOUSTICS ANALYSIS AND

TESTING

İpek Başdođan

VIDEO PROCESSING

A. Murat Tekalp

VORTEX SHEET METHOD

E. Murat Sözer



WIRELESS COMMUNICATIONS

Özgür B. Akan, Sinem Çöleri Ergen

WEB SEARCH

Emine Yılmaz



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oakan@ku.edu.tr • http://home.ku.edu.tr/~akan

## ÖZGÜR BARIŞ AKAN

Associate Professor of Electrical and Electronics Engineering

COGNITIVE RADIO  
COMMUNICATION NETWORKS  
INFORMATION THEORY  
NANOSCALE COMMUNICATIONS  
QUANTUM COMMUNICATIONS

SIGNAL PROCESSING  
SPACE COMMUNICATIONS  
TELECOMMUNICATIONS  
UNDERWATER ACOUSTIC COMMUNICATIONS  
WIRELESS COMMUNICATIONS

Ph.D., Georgia Institute of Technology, Electrical and Computer Engineering, 2004; M.Sc., METU, Electrical and Electronics Engineering, 2002; B.Sc., Bilkent University, Electrical and Electronics Engineering, 1999

Professor Akan teaches communication theory, telecommunications, and communication networks, wireless communications, information theory, signal processing, quantum communications, space communications, probability theory. His recent research focuses on wireless communications, nanoscale communications, space communications, cognitive radio, quantum communications, information theory, signal processing, underwater acoustic communications.

### SELECTED PUBLICATIONS

M. Arik, O. B. Akan, "Collaborative Mobile Target Imaging in UWB Wireless Radar Sensor Networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 28, no. 6, pp. 950-961, August 2010

B. Atakan, O. B. Akan, "Carbon Nanotube-based Nanoscale Ad Hoc Networks," *IEEE Communications Magazine*, vol. 48, no. 6, pp. 129-135, June 2010

F. Dressler, O. B. Akan, "A Survey on Bio-inspired Networking," *Computer Networks Journal (Elsevier)*, vol. 54, no. 6, pp. 881-900, April 2010

B. Atakan, O. B. Akan, "Deterministic Capacity of Information Flow in Molecular Nanonetworks," *Nano Communication Networks Journal (Elsevier)*, vol. 1, no. 1, pp. 31-42, March 2010

M. T. Isik, O. B. Akan, "A Three Dimensional Localization Algorithm for Underwater Acoustic Sensor Networks," *IEEE Transactions on Wireless Communications*, vol. 8, no. 9, pp. 4457-4463, September 2009

### EDITORIAL BOARDS

Associate Editor, *IEEE Transactions on Vehicular Technology*  
Editor, *Nano Communication Networks Journal (Elsevier)*  
Editor, *International Journal of Communication Systems (Wiley)*

Editor, *ICST Transactions on Bio-Engineering and Bio-inspired Systems*

Editor (past), *ACM Wireless Networks (WINET) Journal (2004-2010)*  
Area Editor (past), *AD HOC Networks Journal (Elsevier) (2004-2008)*

### GRANTS and CONSULTING

"Nanoscale and Quantum Communication Networks", TÜBİTAK, April 2010-April 2013

"NanoNets: Theory and Algorithms for Nano-Scale Communication Networks", IBM Faculty Award, December 2008-December 2010

"Passive Wireless Sensor Networks (pWSN): Sensor Network Paradigm Revisited", TÜBİTAK-Career Award, April 2005-April 2010

"Biologically-inspired Techniques for Next Generation Wireless Communications", TÜBİTAK, February 2007-August 2009

"Communication Protocols for Next Generation Multiservice Wireless Internet", EU-COST 290, July 2005-August 2008

"Power Line Communication Modem Design for Automated Meter Reading", BARIS Elektrik Inc., December 2006-December 2007

"Remote Surveillance with Wireless Sensor Networks", ASELSAN Inc., April 2005-December 2006

"Maritime Patrol Aircraft Communication System", HAVELSAN Inc., June 2005-December 2006

### PROFESSIONAL EXPERIENCE

#### Academic

Sept. 2010-present; Associate Professor, Dept. of Electrical and Electronics Engineering, Koç University

Sept. 2006-Aug. 2010, Associate Professor, Dept. of Electrical and Electronics Engineering, METU

July 2004-Sept. 2006, Assistant Professor, Dept. of Electrical and Electronics Engineering, METU

Jan. 2002-May 2004, Graduate Research/Teaching Assistant, School of Electrical & Computer Engineering, Georgia Institute of Technology



## Industry Experience

1999-2002, Network Engineer, IT Department, Türkiye İş Bankası

1997-1999, System Designer, Easy Life Co.

## HONORS and AWARDS

“Distributed Nanoscale Quantum Computing Architectures”, IBM Faculty Award, August 2010-August 2011

Middle East Technical University Thesis Advisor of the Year Award 2010, METU (2010)

“Nano-scale Molecular and Quantum Communications”, Turkish Academy of Sciences (TÜBA-GEBİP Award), June 2008-June 2011

Turkish Academy of Sciences (2008)

IBM Faculty Award, IBM (2008)

Middle East Technical University Outstanding Young Researcher Award 2008, METU (2008)

Senior Member, IEEE (Communication Society)

Editor of the Year Award, AD HOC Networks Journal (Elsevier Science), (2006)

Parlar Foundation Research Encouragement Award, Prof. Mustafa Parlar Foundation, METU (2006)

Best Paper Award, IEEE ISCN 2006, (2006)

TÜBİTAK-Career Award, The Scientific & Technological Research Council of Turkey, (2005)

Researcher of the Year 2003 Award, Broadband and Wireless Networking Laboratory, School of Electrical and Computer Engineering, Georgia Institute of Technology, (2003)

Bilkent University Scholarship, Bilkent University, (1994-1999)

Ranked 11th in the Turkish nationwide university entrance exam among more than a million high-school graduates (1994)

## MEMBER

Senior Member, Institute of Electrical and Electronics Engineers (IEEE) (Communications Society)

Publications Committee Councilor, Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (ICST)

Member of Executive Board, TÜBİTAK-ULAKBİM

Vice President, IEEE Communication Society-Turkey Section

Senior Member, IEEE Communication Society (IEEE ComSoc)

Key Member, IEEE Technical Committee on Multimedia

Communications Interest Group

Founding Member, IEEE Technical Subcommittee on Nano-scale and Quantum Communications

Member, Association for Computing Machinery (ACM)

Member, Chamber of Electrical Engineers (EMO)



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## M. İRŞADI AKSUN

Professor of Electrical and Electronics Engineering  
Vice President for Research and Development of Koç University

### ELECTROMAGNETIC FIELD THEORY COMPUTATIONAL EM AND OPTICS

Ph.D. in Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 1990; M.Sc. in Electrical and Electronics Engineering, Middle East Technical University, 1983; B.Sc. in Electrical Engineering, Middle East Technical University, 1981

Professor Aksun teaches electromagnetics, microwave engineering, antennas and propagation, nanophotonics. His recent research focuses on the areas of characterization of layered media; computational optics; development of efficient CAD software for planar geometries; design and analysis of multi-function microstrip antennas; study and application of numerical techniques

#### SELECTED PUBLICATIONS

M. İ. Aksun and Gulbin Dural, "Clarification of issues on the closed-form Green's functions in stratified media," IEEE Trans. Antennas Propagation, vol. AP-53, pp. 3644-3653, Nov. 2005  
T. Onal, M. İ. Aksun and N. Kinayman, "An efficient full-wave simulation algorithm of multiple vertical conductors in printed circuits," IEEE Trans. Microwave Theory Tech, vol. 54, pp. 3739 – 3745, Oct. 2006  
T. Onal, M. İ. Aksun and N. Kinayman, "A rigorous and efficient analysis of 3D printed circuits: vertical conductors arbitrarily distributed in multilayer environment," IEEE Trans. Antennas Propagation, Vol. 55, pp. 3726-3729, Dec. 2007  
M. İ. Aksun, A. Alparslan, E. Pinar Karabulut, Erdinc Irci, and Vakur B. Ertürk, "Determining the effective constitutive parameters of finite periodic structures: Photonic Crystals and Metamaterials," IEEE Trans. Microwave Theory Tech, vol. 56, pp. 1423 - 1434, Jun. 2008  
M. Dogan, M. İ. Aksun, A. Swan, B. B. Goldberg and M. S. Unlu, "Closed-form representations of field components of fluorescent emitters in layered media," J. Opt. Soc. Am. A., vol. 26, no. 6, pp. 1458-1466, Jun. 2009

### MICROWAVE THEORY AND TECHNIQUES ANTENNAS AND PROPAGATION

#### PROFESSIONAL EXPERIENCE

##### Academic

9/09-Present Vice President for Research and Development, Koç University

5/04-9/09 Dean of Engineering, Koç University

9/01-Present, Professor of Electrical & Electronical Engineering, Koç University

1/99-9/01, Professor, Bilkent University

7/94-1/99, Associate Professor, Bilkent University

9/92-7/94, Assistant Professor, Bilkent University

##### Industry Experience

1/84-1/85, Electronic Maintenance Engineer, Arabian Cement Company

6/81-9/82, Research Engineer, Aselsan Military Electronic Ind

#### HONORS and AWARDS

Best Paper Award in ION GPS-92

ION Satellite Division's 5th International Meeting Sept. 1992

TÜBİTAK (Turkish NSF) Scientific Encouragement Award July 1994

Bilkent Distinguished Teaching Award-2001 Recipient

(<http://www.bilkent.edu.tr/~Bilnews/current/honor.html>)

May 2001

TÜBİTAK (Turkish NSF) Science Award July 2007

#### MEMBER

IEEE Senior Member



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## B. ERDEM ALACA

Assistant Professor of Mechanical Engineering

### MEMS/NEMS

#### MATERIALS BEHAVIOR/ SMALL-SCALE TESTING

Ph.D. in Mechanical Engineering, University of Illinois at Urbana-Champaign, 2003; M.S. in Mechanical Engineering, University of Illinois at Urbana-Champaign, 1999; B.S. in Mechanical Engineering, Boğaziçi University, 1997

Professor Alaca teaches micro and nanofabrication; mechanics of MEMS; engineering materials; microstructure-property relations. His recent research focuses on the areas of development of batch-compatible fabrication techniques for micro-nano integration; fabrication and properties of self-assembled nanowires; fabrication of nanotweezers & nanomanipulation, biosensors for drug detection; fatigue and fracture of nanoscale films using bulge testing; multilayer fracture.

#### SELECTED PUBLICATIONS

O. Ozsun, B. E. Alaca, Y. Leblebici, A. D. Yalçinkaya, I. Yıldız, M. Yılmaz, and M. Zervas, "Monolithic integration of silicon nanowires with a microgripper", *Journal of Microelectromechanical Systems*, 18(6), 1335-1344 (2009)  
B. E. Alaca, "Integration of one-dimensional nanostructures with microsystems: An overview", *International Materials Reviews*, 54(5), 245-282 (2009)  
B. E. Alaca, K. B. Toga, O. Akar, and T. Akin, "Strain-controlled bulge test", *Journal of Materials Research*, 23(12), 3295-3302 (2008)  
O. Sardan, B. E. Alaca, A. D. Yalçinkaya, P. Bøggild, P. T. Tang, and O. Hansen, "Microgrippers: a case study for batch-compatible integration of MEMS with nanostructures", *Nanotechnology* 18, 375501 (2007)  
K. B. Toga and B. E. Alaca, "Junction formation during desiccation cracking", *Physical Review E* 74(2), 021405 (2006)  
B. E. Alaca, H. Sehitoglu, and T. Saif, "Guided self-assembly of metallic nanowires and channels", *Applied Physics Letters* 84(23), 4669-4671 (2004)  
B. E. Alaca, M. T. A. Saif, and H. Sehitoglu, "On the interface debond at the edge of a thin film on a thick substrate", *Acta*

### SOLID MECHANICS (FRACTURE, FATIGUE, PLASTICITY) THIN FILMS/ INTERFACES

*Materialia* 50(5), 1197-1209 (2002)

#### GRANTS and CONSULTING

Fabrication of Nanotweezers by Self-Assembly, Career Award, The Scientific and Technological Research Council of Turkey, TÜBİTAK, Principal Investigator, 2005-2010  
Biosensor for Narcotics, Research Project (Program Code: 1001), The Scientific and Technological Research Council of Turkey, TÜBİTAK, Principal Investigator, 2006-2009

#### PROFESSIONAL EXPERIENCE

##### Academic

Assistant Professor of Mechanical Engineering, 01/2004-present, Koç University  
Graduate Research Assistant, 08/2003-12/2003, University of Illinois  
Graduate Teaching Fellow, 08/2002-08/2003, University of Illinois  
Graduate Research Assistant, 01/1998-08/2002, University of Illinois  
Graduate Teaching Assistant, 08/1997-12/1997, University of Illinois

#### HONORS and AWARDS

Turkish Academy of Sciences, Distinguished Young Scientist Award, 2009  
University of Illinois "An Incomplete List of Teachers Ranked as Excellent By Their Students", Fall 2002  
Alumni Association Teaching Fellow Award for the Academic Year 2002-03, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign

#### MEMBER

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IEEE



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## YAMAN ARKUN

Professor of Chemical and Biological Engineering

MONITORING AND CONTROL OF INDUSTRIAL PROCESSES  
DYNAMICS AND CONTROL OF BIOLOGICAL SYSTEMS  
MODELING AND NONLINEAR DYNAMICS

DESIGN AND OPTIMIZATION  
COMPUTER AIDED SYSTEMS ENGINEERING

Ph.D. in Chemical Engineering, University of Minnesota, 1979;  
M.S. in Chemical Engineering, University of Minnesota, 1976;  
B.S. in Chemical Engineering, Boğaziçi University, 1974

Professor Arkun's research interests are in process modeling and control. His recent research focuses on the areas of dynamics and control of biological systems, nonlinear systems, model predictive control, design, optimization, and systems engineering.

### SELECTED PUBLICATIONS

Palazoğlu, A., Gürsoy, A., Arkun, Y. and B. Erman, "Folding Dynamics of Proteins from Denatured to Native State: Principal Component Analysis", J. of Comp.Biology, 11 (6): 1149-1168, 2004

Lu, Y., Arkun, Y. and A. Palazoğlu, "Real-time Application of Scheduling Quasi-Min-Max Model Predictive Control to a Bench-scale Neutralization Reactor", I&EC Research, 43, 2730-2735, 2004

Guner, U., Arkun, Y., and Erman, B., "Optimum Folding Pathways of Proteins. Their Determination and Properties", J. of Phys. Chem., 124, 134911, 2006

Mestan, E., Turkey, M. and Arkun, Y., " Optimization of Operations in Supply Chain Systems Using Hybrid Systems Approach and Model Predictive Control", I&EC Research, 45, 6493-6503, 2006

Baday, S., Arkun, Y. and Erman, B., "Determination of Pair-wise Inter-residue Interaction Forces from Folding Pathways and their Implementation in Coarse-Grained Folding Prediction", Phys. Chem. Chem. Phys., 11, 1949-1961, 2009

### EDITORIAL BOARDS

Journal of Process Control

### GRANTS and CONSULTING

US-Turkey Cooperative Research Project: Studies on the Folding of Protein Dynamics (with A. Palazoğlu, B.Erman and A. Gürsoy). National Science Foundation

Real-time Optimization and Control of Hydrocrackers (with C. Erkey). TÜPRAŞ

### PATENTS

Control system for cross-directional profile sheet formation. US patent 6,026,334

### PROFESSIONAL EXPERIENCE

#### Academic

Professor of Chemical and Biological Engineering, Koç University, 1999- present

Provost, Koç University, Nov. 2003-2009

Dean of Engineering, Koç University, September 1999- November 2003

Professor, Georgia Institute of Technology, 1991 - 1999

Associate Professor, Georgia Institute of Technology 1985 - 1991

Assistant & Associate Professor, Rensselaer Polytechnic Institute, 1979 - 1985

#### Industry Experience

Consulting at Tennessee Eastman, DuPont, Weyerhaeuser

### HONORS and AWARDS

Donald P. Eckman Award, presented by the American Automatic Control Council in recognition of outstanding contributions in the field of automatic control, 1986

Outstanding Teacher Award, presented by the AIChE Student Chapter of Georgia Tech., 1986

TÜBİTAK (Turkish Scientific and Technological Council) Science Award, 2003

Somer Professional Award in Chemical Engineering given by Middle East Technology University, October, 2003

TÜBA (Turkish Academy of Sciences) member, Dec. 2005

AIChE Fellow

### MEMBER

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## ÇAĞATAY BAŞDOĞAN

Associate Professor of Mechanical Engineering

**ROBOTICS AND MECHATRONICS**  
**BIOMECHANICS AND BIOMEDICAL ENGINEERING**  
**3D GRAPHICS AND VIRTUAL REALITY TECHNOLOGY**

Ph.D. in Mechanical Engineering, Southern Methodist University, 1994; M.Sc. in Mechanical Engineering, Middle East Technical University, 1991; B.Sc. in Mechanical Engineering, Middle East Technical University, 1989

Professor Başdoğan teaches dynamic modeling and control, machine design, robotics, computer based modeling and simulation. His recent research focuses on the areas of human-machine interfaces, haptics (sense of touch) and applications, robotic manipulation of micro/nano objects, control systems applications in nano-technology, biomechanics, biomedical engineering, medical simulation and robotics, 3D registration, visualization, and physics-based simulation and multi-modal virtual environments.

### SELECTED PUBLICATIONS

Orun, B., Necipoglu, S., Başdoğan, C., Guvenc, L., 2009, "State Feedback Control for Adjusting the Dynamic Behavior of a Piezoactuated Bimorph Atomic Force Microscopy Probe", Review of Scientific Instruments, Vol. 80, No.6, 063701  
Yannier, N., Başdoğan, C., Tasiran, S., Sen, O.L., 2009, "Using Haptics to Convey Cause and Effect Relations in Climate Visualization", IEEE Transactions on Haptics, Vol. 1, No. 2, pp. 130-141. (Our work appeared in NewScientist magazine, Wheather map interface lets you feel the wind, several internet-based news portals around the world, a local newspaper, Hürriyet, March 07, 2008, and a TV Channel, Ntvmsnbc)  
Bukusoglu, I., Başdoğan, C., Kiraz, A., Kurt, A., 2008, "Haptic Manipulation of Microspheres Using Optical Tweezers Under the Guidance of Artificial Force Fields", Presence: Teleoperators and Virtual Environments, MIT Pres, Vol. 17, No. 4, pp. 344-364  
Gunev, I., Varol, A., Karaman, S., Başdoğan, C., 2007,

"Adaptive Q Control for Tapping-mode Nano-scanning Using a Piezo-actuated Bimorph Probe", Review of Scientific Instruments, Vol. 78, No. 4 (8 pages)

Subasi, E., Başdoğan, C., 2008, "A New Haptic Interaction and Visualization Approach for Rigid Molecular Docking in Virtual Environments", Presence: Teleoperators and Virtual Environments, MIT Press, Vol. 17, No.1, pp. 73-90

Samur, E., Sedef, M., Başdoğan, C., Avtan, L., Duzgun, O., 2007, "A Robotic Indenter for Minimally Invasive Measurement and Characterization of Soft Tissue Behavior", Medical Image Analysis, Vol. 11, No.4, pp. 361-373

Başdoğan, C., Sedef, M., Harders, M., Wesarg, S., 2007, "Virtual Reality Supported Simulators for Training in Minimally Invasive Surgery", IEEE Computer Graphics and Applications, Vol. 27, No.2, pp. 54-66

Başdoğan, C., 2007, "From 2D images to 3D Tangible Models: Autostereoscopic and Haptic Visualization of Martian Rocks in Virtual Environments", Presence: Teleoperators and Virtual Environments, MIT Press, Vol. 16, No. 1, pp. 1-15 (images appeared in the front cover of the journal and the paper is listed 5th in the top 25 most-downloaded articles of the journal for all times)

### EDITORIAL BOARDS

#### Member of the Editorial Board

Associate Editor of IEEE Transactions on Haptics  
Associate Editor of Computer Animation and Virtual Worlds

#### Reviewer for Conferences

IEEE Haptics Symposium (2003, 2004, 2005, 2006, 2008, 2010), IEEE Biomedical Robotics and Biomechanics Conference (2006, 2008), IEEE Visualization Conference (2002, 2005); IEEE Virtual Reality Conference (2002) ACM Virtual Reality Software and Technology Conference (2007); ACM Solid Modeling Conference (2001), ACM Multimedia Conference (2000), International Symposium on Visual



Computing (2006), EuroHaptics (2005, 2008), Winter Annual Meetings of ASME (1995, 1997, 1998)

### **Member of the Program Committee**

IEEE Haptics Symposium (2002, 2003, 2004, 2006, 2008, 2010), IEEE Biomedical Robotics and Biomechanics Conference (2008), IEEE Virtual Reality Conference (2002, 2003), EuroHaptics (2006, 2008)

ACM Virtual Reality Software and Technology (2007)  
ACM Solid Modeling Conference (2001), ACM Multimedia Conference (2000), International Symposium on Medical Simulation (2004, 2006, 2008), International Symposium on Visual Computing (2006), World Haptics (2005, 2007, 2009), Fourth MIT-Phantom Users Group Conference (2000)

### **Member of the Organizing Committee**

IEEE Haptics Symposium (Associate Editor, 2006, 2008, 2010, Demonstrations and Exhibit Chair 2008, Publications Chair 2010), EuroHaptics (Associate Editor, 2010), World Haptics (General Chair, 2011)

### **GRANTS and CONSULTING**

Characterization of tissue properties and their integration into surgical simulators, TÜBİTAK (Turkish Science Foundation), 04/05-04/10 (PI)

Multimodal Shared Virtual Environments for Robust Rover Autonomy, NASA-Autonomy Program, 09/00-09/01 (PI)  
Haptics in Space Exploration, NASA-Autonomy Program, 09/99-09/00 (PI)

Integration of Touch Feedback in Virtual Reality Based Training Systems for Minimally Invasive Procedures, 08/1998-08/01, Harvard Medical School, (Co-PI)

Enabling Research on the Human Operator for the Virtual Environment Technology for Training Program, 08/1997-08/1998, ONR, (Investigator)

Multimodal Software Development for the Virtual Environment Technology for Training Program, 08/1997-08/1998, ONR, (Investigator)

Force-reflecting Soft Tissue Models for Simulating Laparoscopic Surgical Procedures in Virtual Reality Systems, Massachusetts General Hospital, 06/97 – 06/98, (PI)

Surgical Simulation for Limb Trauma Management, ARPA, Technology Reinvestment Program, 06/94 - 06/96, (Investigator)

Analysis of Human Joint Kinematics Following a Medium Duration Space Flight, NASA, 06/94 - 09/94, Summer Research Grant, (Summer Research Fellow)

### **PATENTS**

Başdoğan, C., Ho, C., Srinivasan, M.A., 1998, "Ray-Based Interaction System", U.S. Patent Application No: 09/418,715,

MIT Case No: 81665 (US Patent App. No: 09/418,715)

Başdoğan, C., 2001, Real-time finite element models for simulating surgical procedures in virtual environments, NTR (New Technology Report) No. 21190, JPL/Caltech

Başdoğan, C., Ho, C., Srinivasan, M., 2001, Algorithms for haptic rendering of 3d objects in virtual environments, NTR No. 21191, JPL/Caltech (appeared in NASA Technical Briefs, July 2003 issue)

Başdoğan, C., Ho, C., 2001, System integration and development of set-up for simulating minimally invasive surgical procedures in virtual environments, NTR No. 21192, JPL/Caltech

### **PROFESSIONAL EXPERIENCE**

#### **Academic**

06/2009 – Present, Associate Professor of Mechanical Engineering, College of Engineering, Koç University

09/2002 – 06/2009, Assistant Professor, College of Engineering, Koç University

10/1999 – 09/2002 Senior Member of Technical Staff, Information Technologies and Software Systems Division Jet Propulsion Laboratory, California Institute of Technology

06/1996 - 10/1999 Research Scientist, Research Laboratory of Electronics, Electrical Engineering and Computer Science, Massachusetts Institute of Technology

06/1997 – 06/1998 Research Fellow, Center for Innovative Minimally Invasive Therapy, Massachusetts General Hospital, Harvard Medical School

09/1991 - 06/1994 Research Assistant, Mechanical Engineering Department, Southern Methodist University

07/1992 - 02/1994 Research Assistant, Mobility Research and Assessment Laboratory, Southwestern Medical Center, The University of Texas

#### **Visiting Academic Positions**

06/1994 - 09/1994 Visiting Scientist, NASA-Johnson Space Center, Houston

#### **Industry Experience**

08/1994 - 06/1996 Research Scientist, Musculographics Inc., Northwestern University Research Park

#### **HONORS and AWARDS**

The Frederick E. Terman Award, 1992-1993, for academic achievement in Mechanical Engineering, Southern Methodist University

Srinivasan, M.A., Başdoğan, C., 1997, "Haptics in Virtual Environments: Taxonomy, Research Status, and Challenges", (Best Paper of Computers and Graphics Journal), Vol. 21, No. 4, pp. 393-404



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## İPEK BAŞDOĞAN

Assistant Professor of Mechanical Engineering

### MODELING AND DESIGN OF MICRO/MACRO SYSTEMS DYNAMICS AND STRUCTURAL ANALYSIS

Ph.D. in Mechanical Engineering, University of Illinois at Chicago, 1997; M.Sc. in Mechanical Engineering, Southern Methodist University, 1994; B.Sc. in Mechanical Engineering, Middle East Technical University, 1991

Professor Başdoğan teaches theory of vibration, introduction to mechanical engineering design, mechanical engineering laboratory, introduction to engineering, heat transfer. Her recent research focuses on the areas of modeling and design of mechanical systems, micro-electro mechanical systems, dynamics and structural analysis, vibration isolation and controls-structure interactions, vibro-acoustic analysis, vibration testing and experimental analysis.

#### SELECTED PUBLICATIONS

- I. Veryeri and İ. Başdoğan, "Adjusting the Vibratory Response of a Micro Mirror via Position and Velocity Feedback" accepted to Journal of Vibration and Control, August, 2009
- İ. Başdoğan and E. Dikmen, "Modeling Viscoelastic Response of Vehicle Door Seal", accepted to Experimental Techniques, July, 2009
- E. Dikmen, İ. Başdoğan, "Material Characteristics of Vehicle Door Seal and its Effect on Vehicle Vibrations," Vehicle System Dynamics Journal, Vol 46, Issue 11, pp. 975-990, 2008
- O. Anac, İ. Başdoğan, "Model Validation and Performance Prediction in the Design of Micro Systems," Journal of Vibration and Control, Vol 14, no 11, 1711-1728, 2008
- F. C. Meral, İ. Başdoğan, "Design methodology for MEMS, Case Study: Torsional Scanner Mirror," ASME Journal of Mechanical Design, vol 129, Issue 10, pp. 1023-1030, 2007

#### GRANTS and CONSULTING

- İ. Başdoğan, "Developing a Technique for the Reduction and Prediction of the Road and Wheel Induced Vibrations Transmitted to the Passenger Cabin via Suspension System", Tofaş A. Ş., December 2008 – February 2010
- İ. Başdoğan and N. Ozguven "Prediction, Reduction and Control of the Vehicle Interior Noise During and After the Design Process", TÜBİTAK 1001 Award, Sep. 2008-Sep. 2011

### VIBRO-ACOUSTICS ANALYSIS AND TESTING.

İ. Başdoğan, "Designing Micro Systems Using an Integrated Modeling, Testing, and Validation Methodology"; TÜBİTAK Young Investigator Career Development Award, April 2005-April 2009

İ. Başdoğan, "Nonlinear and Linear Modeling of Weatherstrip Seal and Investigation of its Effects in Vehicle Vibrations"; Ford Otosan, March 2005

İ. Başdoğan, "Investigation of the Sound Pressure in the Passenger Cabin of Automobiles Using Vibro-Acoustic Models"; Ford Otosan, Sep 2006-June 2008

Network of Excellence on Micro-Optics, FP6, March 2005-Jan. 2009

#### PROFESSIONAL EXPERIENCE

##### Academic

- 09/2002-Present, Assistant Professor of Mechanical Engineering, Koç University
- 12/2000-08/2002 Senior Member of Engineering Staff, Jet Propulsion Laboratory (NASA), California Institute of Technology
- 10/1997 – 11/2000 Member of Engineering Staff, Jet Propulsion Laboratory (NASA), California Institute of Technology
- 06/1995 - 09/1997 Laboratory Graduate, Argonne National Laboratory-Advanced Photon Source
- 06/1995-08/1996 Research Assistant, Mechanical Engineering Department, University of Illinois at Chicago
- 08/1994-06/1995 Teaching Assistant, Mechanical Engineering Department, University of Illinois at Chicago
- 01/1994-06/1994 Intern Engineer, CAD-Design Services, Dallas
- 09/1992 - 08/1994 Teaching Assistant, Mechanical Engineering Department, Southern Methodist University

#### HONORS and AWARDS

- Level C Technical Achievements Bonus Award (Jet Propulsion Laboratory-Caltech, 2000)
- NOVA Technical Achievements Award (Jet Propulsion Laboratory-Caltech, 1999)
- Summer Research Aide, Argonne National Laboratory, 06/95-09/95
- Laboratory Fellowship, Argonne National Laboratory, 09/95-09/97

#### MEMBER

- ASME  
Society of Mechanical Engineers



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## DEMİRCAN CANADİNC

Assistant Professor of Mechanical Engineering

### MULTI-SCALE EXPERIMENTAL AND COMPUTATIONAL MECHANICS OF MATERIALS WITH EMPHASIS ON HIGH-STRENGTH STEELS, MECHANICALLY ACTIVE MATERIALS, ULTRA-FINE GRAINED MATERIALS, AND BIOMATERIALS

Ph.D., University of Illinois at Urbana-Champaign, Mechanical Engineering, 2005; M.Sc., University of Illinois at Urbana-Champaign, Mechanical Engineering, 2001; B.Sc., Middle East Technical University, Mechanical Engineering, 2000

Professor Canadinc teaches metal framing; finite element analysis, solid mechanics, elasticity, plasticity, micromechanics, crystal plasticity, and the use of mechanics and materials in medicine. His recent research focuses on the areas of materials behavior; multi-scale experimental and computational mechanics of materials; mechanically active materials and shape memory alloys; ultrafine-grained materials; biomaterials and high-strength steels.

#### SELECTED PUBLICATIONS

- M.C. Uslu, D. Canadinc: "Modeling the Role of Hydrogen Interstitial Concentration on Internal Stress Fields in Iron Matrix" *Journal of Materials Science* 2010; vol. 45: pp. 1683-1687
- H.-G. Lambers, S. Tschumak, H.J. Maier, D. Canadinc: "Pre-Deformation – Transformation Plasticity Relationship during Martensitic Transformation" *Materials Science and Engineering A* 2010; vol. 527: pp. 625-633
- D. Canadinc, C. Efstathiou, H. Sehitoglu: "On the Negative Strain Rate Sensitivity of Hadfield Steel Polycrystals" *Scripta Materialia* 2008; vol. 59: pp. 1103-1106
- D. Canadinc, J. Dadda, H.J. Maier, I. Karaman, H.E. Karaca, Y.I. Chumlyakov: "On the Role of Cooling Rate and Crystallographic Orientation on the Shape Memory Properties of CoNiAl Single Crystals under Compression" *Smart Materials and Structures* 2007; vol. 16: pp. 1006-1015
- D. Canadinc, H. Sehitoglu, H.J. Maier, Y. I. Chumlyakov: "Strain Hardening Behavior of Aluminum Alloyed Hadfield Steel Single Crystals" *Acta Materialia* 2005; vol. 53: pp. 1831-1842

#### GRANTS and CONSULTING

01/2007-06/2007 American Association of Railroads (as a part of a University of Illinois team)

#### PROFESSIONAL EXPERIENCE

##### Academic

- 09/2007-Present, Assistant Professor, Mechanical Engineering Department, Koç University
- 01/2007-08/2007, Post Doctorate Research Associate, Department of Mechanical Science and Engineering, University of Illinois
- 01/2006-09/2007, Post Doctorate Research Associate, Department of Materials Science, University of Paderborn
- 07/2000-01/2006, Graduate Research Assistant, Department of Mechanical Engineering, University of Illinois

##### Industrial Experience

08/1999-07/2000 Part-Time Engineer, ASELSAN Military Electronics, Inc.

##### HONORS and AWARDS

2010 Turkish Academy of Sciences Award (TÜBA-GEBİP)



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## ALPER DEMİR

Associate Professor of Electrical and Electronics Engineering

**COMPUTATIONAL PROTOTYPING OF ELECTRONIC,  
OPTO-ELECTRONIC AND BIOLOGICAL SYSTEMS  
NUMERICAL MODELING AND ANALYSIS  
STOCHASTIC DYNAMICAL SYSTEMS**

Ph.D. in Electrical Engineering and Computer Sciences, University of California, 1997; M.S. in Electrical Engineering and Computer Sciences, University of California, 1994; B.S. in Electrical Engineering, Bilkent University, 1991

Professor Demir teaches electrical and computer engineering, numerical methods and simulation, stochastic dynamical systems. His recent research focuses on the areas of computational prototyping of electronic, opto-electronic and biological systems, numerical modeling and analysis, stochastic dynamical systems, noise in nonlinear electronic, optical, communication and biological systems, design technologies for electronic and biological systems.

### SELECTED PUBLICATIONS

- A. Demir and A. Erdogan, Emulation and Inversion of Polarization Mode Dispersion: A Lumped System and Pade Approximation Perspective, *IEEE/OSA Journal of Lightwave Technology*, September 2008
- A. Demir, Nonlinear Phase Noise in Optical Fiber Communication Systems, *IEEE/OSA Journal of Lightwave Technology*, August 2007
- A. Demir, non Monte Carlo Formulations and Computational Techniques for the Stochastic Nonlinear Schrödinger Equation, *Journal of Computational Physics*, November 2004
- A. Demir, Phase Noise and Timing Jitter in Oscillators with Colored Noise Sources. *IEEE Transactions on Circuits and Systems-I: Fundamental Theory and Applications*, December 2002
- A. Demir, A. Mehrotra and J. Roychowdhury, Phase Noise in Oscillators: A Unifying Theory and Numerical Methods

**NOISE IN NONLINEAR ELECTRONIC, OPTICAL,  
COMMUNICATION AND BIOLOGICAL SYSTEMS  
DESIGN TECHNOLOGIES FOR ELECTRONIC AND  
BIOLOGICAL SYSTEMS**

for Characterisation. *IEEE Transactions on Circuits and Systems-I: Fundamental Theory and Applications*, May 2000

A. Demir and A. Sangiovanni-Vincentelli, *Analysis and Simulation of Noise in Nonlinear Electronic Circuits and Systems*. Kluwer Academic Publishers, 1998

### EDITORIAL BOARDS

ACM/IEEE Design Automation Conference (DAC), Technical Program Committee Member, 2008-2010; Asia and South Pacific Design Automation Conference (ASP-DAC), Technical Program Committee Member, 2008-2010  
ACM/IEEE International Conference on Computer-Aided Design, Technical Program Committee Member, Analog Subcommittee Chair, 2005-2007; Design, Automation and Test in Europe (DATE) Technical Program Committee Member, 2007; ACM/IEEE International Conference on Computer-Aided Design, Technical Program Committee Member, 2004; ACM/IEEE International Conference on Computer-Aided Design, Technical Program Committee Member, 1999-2001

### GRANTS and CONSULTING

Technical Advisory Board Member for Silicon Valley Startup, Berkeley Design Automation, Inc. August 2004 - present  
Scientific and Technical Research Council of Turkey (TÜBİTAK) Career Award, 2005-2010

### PATENTS

Method and System for Mitigating Nonlinear Transmission Impairments in Fiber-Optic Communications Systems, US Patent No 7,224,906. Issued May 29, 2007 (with Cho et al.)  
System and Method for Code Division Multiplexed Optical Communication, US Patent No 7,167,651. Issued January 23, 2007 (with Shpantzer et al.)



## ALPER DEMİR

System and Method for Orthogonal Frequency Division Multiplexed Optical Communication, US Patent No 7,076,169. Issued July 11, 2006 (with Shpantzer et al.)  
Method and Apparatus for Evaluating Effects of Switching Noise in Digital and Analog Circuitry, US Patent No 6,668,333. Issued December 23, 2003. (with P. Feldmann)  
Oscillator Phase Noise Prediction, US Patent No 6,529,859. Issued March 4, 2003 (with J. Roychowdhury)  
Method and Apparatus for Characterizing Phase Noise and Timing Jitter in Oscillators, US Patent No 6,167,359 Issued December 26, 2000 (with A. Mehrotra and J. Roychowdhury)

### PROFESSIONAL EXPERIENCE

#### Academic

Associate Professor of Electrical and Electronics Engineering, Koç University, December 2007-present  
Assistant Professor, University, February 2002–December 2007  
Graduate Student Researcher, University of California, Berkeley, May 1992–January 1997  
Graduate Student Instructor, University of California, Berkeley, Fall 1996

#### Visiting Academic Positions

Visiting Professor, University of California, Berkeley, September 2009-September 2010  
Visiting Scientist, Research Laboratory of Electronics, MIT, July-August 2002, August 2005

#### Industry Experience

Manager, Optical Telecommunication Systems Design, CeLight, Inc. Iselin, N.J., November 2000–February 2002  
Member of Technical Staff, Design Principles Research Department, Bell Laboratories Research, Lucent Technologies, January 1997–November 2000

### HONORS and AWARDS

TÜBİTAK 2219 Research Fellowship, Scientific and Technological Research Council of Turkey, 2009  
Young Scientist Award, Scientific and Technological Research Council of Turkey (TÜBİTAK), 2007  
2004 IEEE Circuits and Systems Society Guillemin-Cauer Best Paper Award for the paper, "Phase Noise

and Timing Jitter in Oscillators with Colored-Noise Sources", in the IEEE Transactions on Circuits and Systems - Part I: Fundamental Theory and Applications, vol. 49, no. 12, pp. 1782-1791, December 2002  
2003 IEEE/ACM William J. McCalla ICCAD Best Paper Award for the paper "Noise Analysis for Optical Fiber Communication Systems" at the IEEE/ACM International Conference on Computer Aided Design held in San Jose, California in November 2003  
Distinguished Young Scientist Award, Turkish Academy of Sciences, 2003  
Best paper award, for the paper "Time-Domain non-Monte Carlo Noise Simulation for Nonlinear Dynamic Circuits with Arbitrary Excitations" in The Best of ICCAD: 20 years of excellence in computer-aided design, 2002  
Regents Fellowship, University of California, Berkeley, 1991-92  
Eugene C. and Mona Fay Gee Fellowship, University of California, Berkeley, 1991-92  
One of the four NATO Honorary Fellows in Electrical Engineering selected by the Scientific and Technical Research Council of Turkey, 1991

### MEMBER

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## ALPER T. ERDOĞAN

Associate Professor of Electrical and Electronics Engineering

### SIGNAL PROCESSING COMMUNICATIONS

Ph.D. in Electrical Engineering, Stanford University, 1999;  
MS in Electrical Engineering, Stanford University, 1995; BS  
in Electrical Engineering, Middle East Technical University,  
1993

Professor Erdoğan teaches systems and control theory,  
estimation theory, advanced digital signal processing,  
numerical methods, introduction to engineering. His  
recent research focuses on the areas of adaptive signal  
processing, blind source separation, independent  
component analysis, fiber optical communications, system  
and estimation theory and optimization.

#### SELECTED PUBLICATIONS

“On the Convergence of ICA Algorithms with Symmetric  
Orthogonalization”, Alper T. Erdoğan, IEEE Trans. on Signal  
Processing, Vol:57, No:6, pp:2209:2221, June 2009  
“Automatic PMD Compensation by Unsupervised  
Polarization Diversity Combining Coherent Receivers”  
Alper T. Erdoğan, Alper Demir, Turgut M. Öktem IEEE-OSA  
Journal of Lightwave Technology, Vol.:26 , No:13 , p:1823-  
1834 , July 2008  
“Globally Convergent Deflationary Instantaneous Blind  
Source Separation Algorithm for Digital Communication  
Signals”, Alper T. Erdoğan, IEEE Trans. on Signal Processing,  
Vol:55, No:5, p:2182-2192, May 2007  
“A Simple Geometric Blind Source Separation Method for  
Bounded Magnitude Sources”, Alper T. Erdoğan, IEEE Trans.  
on Signal Processing, Vol:54, No:2, p:438-446, February  
2006  
“MIMO Linear Equalization with an H1 criterion”, Babak  
Hassibi, Alper T. Erdoğan and Thomas Kailath, IEEE Trans.  
on Signal Processing, Vol:54, No:2, p:499-511, February  
2006  
“Fast and Low Complexity Blind Equalization via  
Subgradient Projections”, Alper T. Erdoğan and Can  
Kizilkale, IEEE Trans. On Signal Processing, Vol:53, No:7,

p:2513-2524, July 2005

“MIMO Decision Feedback Equalization from an H1  
Perspective”, Alper T. Erdoğan, Babak Hassibi and Thomas  
Kailath, IEEE Trans. On Signal Processing, Vol:52, p: 734-745,  
March 2004

#### EDITORIAL BOARDS

Associate Editor for IEEE Trans. on Signal Processing

#### GRANTS and CONSULTING

TÜBİTAK Kariyer Award (104E073) 2005-2010

#### PATENTS

US 20040021595: “Method and system for implementing a  
sigma delta analog-to-digital converter”, Alper T. Erdoğan,  
Chung-Li Lu and Bijit Halder (Issued)  
US 20030235245: “Method and system for computing pre-  
equalizer coefficients”, Alper T. Erdoğan, Bijit Halder and  
Tzu-Hsien Sang (Issued)  
US 20030202612: “Method and system for rate  
enhanced SHDSL”, Bijit Halder, Debojyati Pal and Alper T.  
Erdoğan (Pending)  
US 20030118177: Method and system for implementing  
a reduced complexity dual rate echo canceller Ahmet  
Karakas, Alper T. Erdoğan and Bijit Halder (Pending)  
US 20030112966: “Method and system for implementing  
a reduced complexity dual rate echo canceler”, Bijit Halder  
and Alper T. Erdoğan (Pending)  
US 20030112887: “Method and system for implementing  
weighted vector error echo cancelers”, Tzu-Hsien Sang,  
Alper T. Erdoğan and Bijit Halder (Pending)  
US 20030112861: “Method and system for adaptively  
training time domain equalizers”, Alper T. Erdoğan, Bijit  
Halder, Tzu-Hsien Sang (Pending)  
US 20030112860: “Method and system for shortening  
channel impulse response using time domain equalization  
filter”, Alper T. Erdoğan (Pending)

#### PROFESSIONAL EXPERIENCE

##### Academic

December 2007-present, Associate Professor of Electrical



## ALPER T. ERDOĞAN

---

and Electronics Engineering, Koç University  
2002 – December 2007, Assistant Professor, Koç University,

### **Industry Experience**

1999 – 2001, Principal Research Engineer, Globespan-Virata  
(Excess Bandwidth) Corp.

### **HONORS and AWARDS**

TÜBİTAK Incentive Award (2010)

TÜBA GEBİP Award (2008)

Werner Von Siemens Excellence Award (2007)

Awarded “Doçent” Title by Higher Education Council of  
Turkey (2006)

Co-author for the 3rd ranked paper in IEEE SIU Best  
Student Paper; Award (Recipient: Turgut Oktem) (2006)

EURASIP Nonlinear Signal and Image Processing Workshop  
Best Student Paper Award (1999)

Hugh Hildreth Skilling Award for Outstanding Teaching  
Assistant in Electrical Engineering in Stanford University  
(1997)

### **MEMBER**

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## CAN ERKEY

Professor of Chemical and Biological Engineering

### ENERGY MATERIALS

Ph.D., Chemical Engineering, Texas A&M University, 1989;  
M.Eng., Chemical Engineering, University of Bradford,  
1985; B.S., Chemical Engineering, Boğaziçi University, 1984

Professor Erkey teaches mass transfer, sustainable energy,  
transport phenomena, separations. His recent research  
focuses on the areas of nanostructured materials, energy,  
supercritical fluids.

#### SELECTED RECENT PUBLICATIONS

Haji, S., Y. Zhang and C. Erkey "Atmospheric  
Hydrodesulfurization of Diesel Fuel Using Pt/Al<sub>2</sub>O<sub>3</sub>  
Catalysts Prepared by Supercritical Deposition for Fuel Cell  
Applications," *Applied Catal. A: Gen.* 374, 1 (2010)  
Kartal, A. M. and C. Erkey, "Surface modification of silica  
aerogels by hexamethyldisilazane - carbon dioxide  
mixtures and their phase behaviour," *J. Supercrit. Fluids.*, in  
press  
Cangül, B., L.C. Zhang, M. Aindow and C. Erkey,  
"Preparation of carbon black supported Pd, Pt and Pd-  
Pt nanoparticles using supercritical CO<sub>2</sub> deposition," *J.  
Supercrit. Fluids.*, 50, 82 (2009)  
Garrabos, Y., F. Palencia, C. Lecoutre, and C. Erkey, "Master  
crossover functions for one-component fluids," *Phy. Rev. E*,  
77, 021116 (2008)  
Bayrakçeken, A., A. Smirnova, U. Kitkamthorn, M. Aindow,  
L Türker, İ. Eroğlu and C. Erkey, "Pt-based electrocatalysts  
for polymer electrolyte fuel cells prepared by supercritical  
deposition technique," *Journal of Power Sources*, 179, 532  
(2008)  
Bayrakçeken, A., U. Kitkamthorn, M. Aindow and C. Erkey,  
"Decoration of multi-wall carbon nanotubes with  
platinum nanoparticles using supercritical deposition  
with thermodynamic control of metal loading," *Scripta  
Materialia*, 56, 101 (2007)

#### EDITORIAL BOARDS

*Journal of Supercritical Fluids*

### SUPERCritical FLUIDS

#### GRANTS and CONSULTING

Novel Nanocomposite Materials via Supercritical  
Impregnation by Organometallic and Conducting  
Compounds; TÜBİTAK; 9/01/09 – 8/31/11  
Development of Aerogel Based High Performance  
Insulating Materials; TÜBİTAK; 9/01/07 – 8/31/10  
Use of Supercritical Fluids in Development of Microfluidic  
Reactor Systems; US Army CECOM; 09/01/04 – 08/31/05  
Investigation of Attrition Resistance of Supported Precious  
Metal Catalysts; NASA-EPSCOR; 06/01/04 – 05/31/05  
Preparation of Pt/SiO<sub>2</sub> Catalysts by Supercritical  
Deposition; Hamilton Sundstrand/UTC; 06/01/03 –  
07/01/03  
Supercritical Fluid Aided Preparation of PLGA  
Nanospheres; National Science Fundation; 1/01/03 –  
12/31/04  
Aerogel Based Catalysts for Hydrodesulfurization of Diesel  
for Polymer Electrolyte Membrane Fuel Cells; US Army  
CECOM; 1/01/03 – 5/31/04  
Development of a Diesel Fuel Processor for Integration into  
a 1kW Portable PEM Fuel Cell System; US Army CECOM;  
1/01/02 – 12/31/02  
Synthesis of Metal-Aerogel Nanocomposites Using  
Supercritical Carbon Dioxide; ICA; 6/1/01 – 12/31/02  
Chemical Engineering at the Nanoscale – REU; National  
Science Foundation; 2/1/02 – 12/31/04  
Processing of Inorganic Materials using Supercritical Fluids;  
Norton/St. Gobain; 6/1/00 – 5/30/04  
Development of a Catalytic Reaction Engineering  
Experiment for the Undergraduate Laboratory; University  
of Connecticut School of Engineering; 1/1/00 – 12/31/00  
A Novel Approach to Design of Homogeneous Catalysts;  
NSF; 6/1/00 – 5/30/01  
Synthesis of Nanoparticles in Supercritical Carbon Dioxide;  
Connecticut Innovations, Inc; 1/1/99 – 5/31/01  
Supercritical Fluid Processing of Electrically Conductive



## CAN ERKEY

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Elastomer Foams; Yankee Ingenuity Initiative, Connecticut Innovation, Inc.; 6/1/98 - 5/30/00

Solid Waste Processing for Long Term Space Exploratory Missions; Hamilton Standard Space Systems International; 6/1/98 - 8/31/98

### **PATENTS**

Processes for Making Electrolyte – Aerogel Nanocomposites, with H. Hara, U.S. Patent #7,247,259, July 24, 2007

Conductive elastomeric foams and method of manufacture thereof, with R. A. Weiss, S. L. Shenoy and D. Cohen, U.S. Patent #7,029,722, April 18, 2006

Catalysis by water-soluble organometallic complexes in water-in-densified fluid microemulsions, with X. Dong, U.S. Patent #7,002,044, February 21, 2006

### **PROFESSIONAL EXPERIENCE**

#### **Academic**

Professor of Chemical and Biological Engineering, September 2006 – present, Department of Chemical and Biological Engineering, Koç University  
Professor, August 2006, Department of Chemical, Materials and Biomolecular Engineering, University of Connecticut  
Department Head, December 2005 – September 2006, Department of Chemical, Materials and Biomolecular Engineering, University of Connecticut  
Associate Professor, August 2001 – August 2006, Chemical Engineering Department, University of Connecticut  
Assistant Professor, September 1995 – July 2001, Chemical Engineering Department, University of Connecticut  
Research Scientist, 1989 - 1994, Chemical Engineering Department, Texas A&M University

#### **Visiting Academic Positions**

Visiting Professor, September 2004 – August 2005, Bordeaux Institute of Condensed Matter Chemistry - CNRS, Supercritical Fluids - Group XI  
Visiting Assistant Professor, June 1994 - August 1995, Chemical Engineering Department, Texas A&M University

#### **HONORS and AWARDS**

Rogers Outstanding Teacher Award, University of Connecticut, Department of Chemical Engineering (1998; 2001)  
Best fundamental paper award for 1993 (Southwest Section of the American Institute of Chemical Engineers)

with C. Thibaud and A. Akgerman. Investigation of the Effect of Moisture on the Adsorption and Desorption of Chlorobenzene and Toluene from Soil

#### **MEMBER**

American Institute of Chemical Engineers  
European Federation of Chemical Engineers



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## BURAK ERMAN

Professor of Chemical and Biological Engineering

### COMPUTATIONAL BIOPHYSICS

#### MATERIALS SCIENCE

Ph.D. in Materials Science, İstanbul Technical University, 1974; MS in Civil Engineering, Robert College, 1968; BS in Civil Engineering, Robert College, 1966

Professor Erman teaches thermodynamics, bioinformatics. His recent research focuses on the areas of computational biophysics, materials science, physical chemistry.

#### SELECTED PUBLICATIONS

The Gaussian Network Model: Precise Prediction of Residue Fluctuations and Application to Binding Problems, B. Erman, Biophysical Journal, 91, 3589–3599 (2006)

Aggregation of Fillers Blended into Random Elastomeric Networks: Theory and Comparison with Experiments, M. Demir,\* Y. Z. Menciloglu, B. Erman, Macromol.Chem.Phys, 207,1515–1524 (2006)

Rubberlike Elasticity: A Molecular Primer. J.E. Mark, B. Erman, Cambridge University Press (2007)

Prediction of Binding Sites in Receptor-Ligand Complexes with the Gaussian Network Model. T. Haliloglu, E. The introduction of hydrogen bond and hydrophobicity effects into the rotational isomeric states model for Statistical Thermodynamics of Residue Fluctuations in Native Proteins, O. Yogurtcu, M. Gur, B. Erman, J. Analysis of Correlations between Energy and Residue Fluctuations in Native Proteins and Determination of Specific Sites for Binding, Turkan Haliloglu and Burak Erman, Physical Review Letters, 102, 088103-6, (2009)

#### EDITORIAL BOARDS

Open Structural Biology Journal

#### PATENTS

High Performance of Biodegradable Materials from Oriented Starch Derivatives, B. Erman, J. E. Mark, B.Z. Paterson, I.Bahar, A. Kloczkowski. US Patent #6,218,532 B1 (2001)

#### PROFESSIONAL EXPERIENCE

##### Academic

Fall 2002-present, Koç University, School of Engineering,

### PHYSICAL CHEMISTRY

Professor of Chemical and Biological Engineering 1998-2002, Sabancı University, School of Engineering and Natural Sciences, Professor

1982-98, Boğaziçi University, School of Engineering, Professor

Professor Erman has also worked in the research group of Prof. P.J. Flory at Stanford University and IBM Research, San Jose, at various intervals between 1976-1985

1978-82, Boğaziçi University, School of Engineering, Associate Professor

1972-78, Boğaziçi University, School of Engineering, Assistant Professor

1970-72, Robert College, School of Engineering, Instructor

#### HONORS and AWARDS

1982 TÜBİTAK Encouragement Award

1991 Simavi Science Award

1991 TÜBİTAK Science Award

2007 George Stafford Whitby Award

#### MEMBER

TÜBA

Biophysical Society

American Physical Society



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## ENGİN ERZİN

Associate Professor of Computer Engineering

### SIGNAL PROCESSING SPEECH PROCESSING

Ph.D. in Electrical and Electronics Engineering, Bilkent University, 1995; MS in Electrical and Electronics Engineering, Bilkent University, 1992; BS in Electrical and Electronics Engineering, Bilkent University, 1990

Professor Erzin teaches digital systems design, microprocessors, digital speech and audio processing, random processes. His recent research focuses on the areas of speech signal processing, pattern recognition, human-machine interaction and affective computing.

### SELECTED PUBLICATIONS

E. Erzin, "Improving Throat Microphone Speech Recognition by Joint Analysis of Throat and Acoustic Microphone Recordings," IEEE Transactions on Audio, Speech and Language Processing, vol. 17, no. 7, pp. 1316-1324, September 2009

M. E. Sargin, Y. Yemez, E. Erzin, and A. M. Tekalp, "Analysis of Head Gesture and Prosody Patterns for Prosody-Driven Head-Gesture Animation," IEEE Transactions on Pattern Analysis and Machine Intelligence, Volume 30, Issue 8, pp. 1330 - 1345, August 2008

M. E. Sargin, Y. Yemez, E. Erzin, and A. M. Tekalp, "Audio-Visual Synchronization and Fusion using Canonical Correlation Analysis," to appear in IEEE Transactions on Multimedia  
Bagcı, E. Erzin "Automatic Classification of Musical Genres Using Inter-Genre Similarity," IEEE Signal Processing Letters, Vol. 14, No. 8, pp. 521-524, August 2007

Osman N. Yogurtcu, Engin Erzin, Attila Gursoy "Extracting gene regulation information from microarray time-series data using hidden Markov models," 21st International Symposium on Computer and Information Sciences (ISCIS 2006), Lecture Notes in Computer Science, LNCS 4263, pp. 144-153, Springer Berlin Heidelberg 2006

### GRANTS and CONSULTING

TÜBİTAK Project : Cost Action 2102: Cross Modal Analysis of Verbal and Nonverbal Communication, 2008-2010

TÜBİTAK Project : Joint Processing of Throat-, Bone- and Acoustic-Microphone Recordings for Robust Speech

### MULTIMEDIA SIGNAL PROCESSING PATTERN RECOGNITION

Recognition, 2005-2008

E. Erzin, Y. Yemez, A.M. Tekalp, "Nedo Project: International Research Coordination of Driving Behavior Signal Processing based on Large Scale Real World Database," funded by Japanese Government, 2005-2007

E. Erzin, A. M. Tekalp, Y. Yemez, "Drive-Safe: Signal Processing and Advance Information Technologies for Improving Driver/ Driving Prudence and Accident Reduction," funded by DPT, 2005-2007

A. M. Tekalp, E. Erzin, Y. Yemez, "Similar: The European taskforce creating human-machine interfaces Similar to human-human communication," FP6 Network of Excellence, 2003-2007

### PATENTS

E. Erzin and M. C. Recchione, "Shaped Fixed Codebook Search for CELP Speech Coding", US Patent No. 6,449,313, issued September 10, 2002

E. Erzin, "Speech Coding and Decoding in a Voice Communication System", pending

### PROFESSIONAL EXPERIENCE

#### Academic

July 2009 - present; Associate Professor of Computer Engineering, Koç University

Jan 2001 - June 2009; Assistant Professor of Computer Engineering, Koç University

#### Visiting Academic Positions

Sept. 1995 - Sept. 1996: Visiting Researcher at University of California

#### Industry Experience

Oct. 1997-Dec. 2000: Member of Technical staff at Wireless Technology Laboratory, Lucent Technologies

Sept. 1996-Oct. 1997: Member of Technical staff at Consumer Products, Lucent Technologies

### MEMBER

IEEE - Institute of Electrical and Electronics Engineering (S'88-M'96-SM'06)

ISCA - International Speech Communication Association (2001 - )



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## SİNEM ÇÖLERİ ERGEN

Assistant Professor of Electrical and Electronics Engineering

### WIRELESS COMMUNICATION COMMUNICATION NETWORKS

Ph.D. Electrical Engineering and Computer Sciences, University of California, 2005; M.S. Electrical Engineering and Computer Sciences, University of California, 2002; B.S. Electrical Engineering and Computer Sciences, Bilkent University, 2000

Prof. Ergen's teaching interests are digital communication, wireless communication, probability, stochastic processes, communication networks. Her recent research focuses on the areas of wireless sensor networks, wireless communication, ad hoc networks, collaborative signal processing, optimization, transportation.

#### SELECTED PUBLICATIONS

S. C. Ergen, A. Sangiovanni-Vincentelli, X. Sun, R. Tebano, S. Alalusi, G. Audisio and M. Sabatini, "The Tire as an Intelligent Sensor", IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 28, no.7, pp. 941-955, July 2009

S. Pollin, M. Ergen, S. C. Ergen, B. Bougard, L.V. Perre, I. Moerman, A. Bahai, P. Varaiya and F. Catthoor, "Performance Analysis of Slotted Carrier Sense IEEE 802.15.4 Medium Access Layer", IEEE Transactions on Wireless Communication, vol.7, no.9, pp. 3359-3371, September 2008

S.C. Ergen and P. Varaiya, "Energy Efficient Routing with Delay Guarantee for Sensor Networks", ACM Wireless Networks Journal, vol.13, no. 5, pp. 679-690, October 2007

S.C. Ergen and P. Varaiya, "PEDAMACS: Power Efficient and Delay Aware Medium Access Protocol in Sensor Networks", IEEE Transactions on Mobile Computing, vol.5, no.7, pp. 920-930, July 2006 (Patented the idea at UC Berkeley)

S.Y. Cheung, S. Coleri, B. Dundar, S. Ganesh, C.W. Tan and P. Varaiya, "Traffic Measurement and Vehicle Classification with a Single Magnetic Sensor", Journal of Transportation Research Record, Feb. 2006, no. 1917 (Selected among the

### SIGNAL PROCESSING

papers in 84th Annual Meeting, Transportation Research Board.)

#### PATENTS

A. Gueye, S. C. Ergen and C. Borean, "Method and System for the Deployment of Nodes of a Wireless Communications Network", International Patent Application Pending

S. C. Ergen and X. Sun, "Method and System for Managing Data Transmission from a Plurality of Sensor Devices Included in a Tyre", International Patent Application Pending

C. Fischione, S.C.Ergen and C. Borean, "Method for Setting the Optimal Operation of a Routing Node of an Asynchronous Wireless Communication Network, Network Node and Communication Network Implementing the Method", International Patent Application Pending

S. C. Ergen, C. Borean and R. Giannantonio, "Method for Transmitting Information Packets within an Asynchronous Wireless Communication Network and Network Node Implementing It", International Patent Application Pending

C. Borean, R. Giannantonio and S. C. Ergen, "Method for Managing the Transfer of Information Packets across a Wireless Network and Routing Nodes Implementing It", International Patent Application Pending

S. Coleri and P. Varaiya, "Power Efficient Wireless System for Sensor Networks", US Patent 20050122231

#### PROFESSIONAL EXPERIENCE

##### Academic

Assistant Professor of Electrical and Electronics Engineering, Koç University, September 2009-present

Postdoctoral Researcher, University of California, January 2006-June 2006

Graduate Student Researcher, University of California, August 2000- December 2005

Graduate Student Instructor, University of California, Spring 2002



## SİNEM ÇÖLERİ ERGEN

---

### **Industry Experience**

Research Scientist, Wireless Sensor Networks Berkeley Lab,  
Pirelli and Telecom Italia, July 2006 - August 2009

Consultant, Sensys Networks, Berkeley, CA, October 2004-  
June 2006

Research Intern, National Semiconductor, San Jose, CA,  
June 2004 - August 2004

Part-Time Engineer, ASELSAN, Ankara, Turkey, October  
1999- May 2000

### **HONORS and AWARDS**

Regents Fellowship, University of California Berkeley, 2000-  
2001

Scholarship, Bilkent University, 1995-2000

### **MEMBER**

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## ATTILA GÜRSOY

Professor of Computer Engineering

### COMPUTATIONAL BIOLOGY AND BIOINFORMATICS PARALLEL COMPUTING

Ph.D. Computer Science, 1994, University of Illinois at Urbana-Champaign; M.Sc. Computer and Information Sciences, 1988, Bilkent University, B.Sc. Computer Engineering, 1986, Middle East Technical University

Professor Gürsoy teaches parallel programming, algorithms for computational biology, data structures, and software engineering. His recent research focuses on computational biology and bioinformatics, parallel and distributed high performance computing. He is particularly interested in network models of protein interactions, protein informatics, and their application in diseases and drug design. In the area of parallel programming, his work concentrates on parallel programming patterns, techniques for programming multi-core computers, design and development of high performance parallel/distributed algorithms for computational biology.

#### SELECTED PUBLICATIONS

Kar G, Gürsoy A, Keskin O, Human cancer protein-protein interaction network: A structural perspective, PLOS Computational Biology, 2009  
Tuncbag N, Kar G, Gürsoy A, Keskin O, Nussinov R, Towards inferring time dimensionality in protein-protein interaction networks by integrating structures: the p53 example, Molecular BioSystems, 2009  
Keskin O, Gürsoy A, Ma B, Nussinov R. Towards drugs targeting multiple proteins in a systems biology approach Current Topics in Medicinal Chemistry 7 (10): 943-951 2007  
U. Ogmen, O. Keskin, S. Aytuna, R. Nussinov, A. Gürsoy, PRISM: Protein interactions by Structural Matching, Nucleic Acids Research, Vol. 33, Web Server issue, pp. W331-W336, (2005)  
A.S. Aytuna, A. Gürsoy, O. Keskin, Predictions of protein-protein interactions by combining structure and sequence conservation in protein interfaces, Bioinformatics, Vol. 21. No. 12, pp. 2850-2855, 2005  
A. Gürsoy, L. V. Kale, Performance and Modularity Benefits of Message-Driven Execution, Journal of Parallel and Distributed Computing, No 64 pp. 461-480, 2004  
L. Kale, R. Skeel, M. Bhandarkar, R. Brunner, A. Gürsoy, N. Krawetz, J. Phillips, A. Shinozaki, K. Varadarajan, and K. Schulten. NAMD2: Greater scalability for parallel molecular dynamics,

Journal of Computational Physics, 151, 283-312, 1999

#### GRANTS and CONSULTING

TÜBİTAK Research Grant, 2010-2012 Protein-interface-protein: A new model for representing protein-protein interaction networks, principal investigator  
TÜBİTAK Research Grant, 2009-2012, Extracting structural protein-protein interaction networks to analyze cancer-related proteins and their signaling pathways, co-investigator  
DPT-Cancer Drug Technologies, 2006-2009, co-investigator  
FP6-SEEGRID Computational Biology Applications, co-investigator, 2006-2008  
TÜBİTAK Research Grant, 2005-2008, Protein-protein interactions, co-investigator  
TÜBİTAK-NSF Research Grant, 2004-2007, Studies on protein folding, co-investigator  
TÜBİTAK Research Grant, 1997-1999, Development of algorithms and parallel object-oriented programming techniques for SMP clusters, principal investigator

#### PROFESSIONAL EXPERIENCE

Professor of Computer Engineering, Koç University, Feb 2010 - present  
Associate Professor Computer Engineering Dept., Koç University, Feb 2006 - 2010  
Assistant Professor Computer Engineering Dept., Koç University, Sep 2002 - Feb 2006  
Assistant Professor Computer Engineering Dept., Bilkent University, Sep 1996 - Sep 2002  
Postdoctoral Research Associate Theoretical Biophysics Group, Beckman Institute, University of Illinois at Urbana-Champaign, March 1994 - Aug 1996

#### HONORS and AWARDS

Werner-von-Siemens Excellence Award for Science and Innovation, 2005  
NATO Science Scholarship for Ph.D TÜBİTAK, Turkey, 1988-1991

#### MEMBER

IEEE  
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## UMRAN S. İNAN

Professor of Electrical and Electronics Engineering  
President of Koç University

APPLIED ELECTROMAGNETICS  
REMOTE SENSING  
IONOSPHERIC & RADIATION BELT PHYSICS  
VERY LOW FREQUENCY WAVE PROPAGATION & WAVE-PARTICLE

INTERACTIONS  
PLASMA PHYSICS  
LIGHTNING DISCHARGES

Ph.D. in Stanford University, 1977; M.Sc.; B. Sc. in Electrical and Electronics Engineering, Middle East Technical University, 1973;1972

Professor İnan teaches courses on engineering electromagnetics and electromagnetic waves, elementary plasma physics, and numerical electromagnetics. He has also taught courses on fourier transforms and applications, microwave engineering, antennas and statistical signal processing.

While at Stanford, Professor İnan served as principal investigator on many research grants, on topics including (i) optical observations of high altitude plasma discharges and luminous emissions known as sprites and elves, (ii) ground based VLF remote sensing of lightning-induced disturbances in ionospheric plasma and precipitation of energetic electrons at multiple sites across the United States, Canada and Antarctica, (iii) studies of HF radio wave heating of ionospheric plasma, (iv) interpretation of plasma wave and energetic particle data from low and high altitude satellites, (v) theoretical modeling of gyro-resonant wave-particle interactions in the magnetosphere, (vi) ELF/VLF observations of plasma waves at unmanned observatories in Antarctica and on ocean-based autonomous buoys, and (vii) investigations and computer simulation of energy efficiency of plasma display panels.

### SELECTED PUBLICATIONS

Author of 302 refereed scientific/technical papers  
1st author on 52 papers; 2nd author on 165 papers (mostly with PhD student as first author)  
İnan, U.S., N. G. Lehtinen, R. C. Moore, K. Hurley, S. Boggs, D. M. Smith, G. Fishman (2007). Massive disturbance of the daytime lower ionosphere by the giant g-ray flare from Magnetar SGR 1806-20, *Geophys. Res. Lett.*, 34, L08103,

doi:10.1029/2006GL029145

İnan, U. S., D. Piddychiy, W. B. Peter, J. A. Sauvaud, M. Parrot (2007), DEMETER satellite observations of lightning-induced electron precipitation, *Geophys. Res. Lett.*, 34, L07103, doi:10.1029/2006GL029238

İnan, U. S., and N. G. Lehtinen (2005), Production of terrestrial gamma-ray flashes by an electromagnetic pulse from a lightning return stroke, *Geophys. Res. Lett.*, 32, L19818, doi:10.1029/2005GL023702

İnan, U. S., M. Golkowski, D. L. Carpenter, N. Reddell, R. C. Moore, T. F. Bell, E. Paschal, P. Kossey, E. Kennedy, and S. Z. Meth (2004), Multi-hop whistler-mode ELF/VLF signals and triggered emissions excited by the HAARP HF heater, *Geophys. Res. Lett.*, 31, L24805, doi:10.1029/2004GL021647

İnan, U. S., M. Platino, T.F. Bell, D.A. Gurnett, and J.S. Pickett (2004), Cluster measurements of rapidly moving sources of ELF/VLF chorus, *J. Geophys. Res.*, 109, A05214, doi:10.1029/2003JA010289

İnan, U. S., T. F. Bell and J. Bortnik (2003), Controlled precipitation of radiation belt electrons, *J. Geophys. Res.*, 108, (A5), 1186, doi:1029/2002JA009580

İnan, U. S., C. Barrington-Leigh, S. Hansen, V. S. Glukhov, and T. F. Bell, Rapid Lateral Expansion of Optical Luminosity in Lightning-Induced Ionospheric Flashes Referred to as 'Elves', *Geophys. Res. Lett.*, 24, 583, 1997

İnan, U. S., T. F. Bell, and J. V. Rodriguez, Heating and Ionization of the Lower Ionosphere by Lightning Discharges, *Geophys. Res. Lett.*, 18, pp. 705-708, 1991

İnan, U. S., VLF Heating of the Lower Ionosphere, *Geophys. Res. Lett.*, 17, pp. 729-732, 1990

İnan, U. S., M. Walt, H. Voss, and W. Imhof, Energy Spectra and Pitch Angle Distribution of Lightning-Induced Electron Precipitation: Analysis of an Event Observed on the S81-1 (SEEP) Satellite, *J. Geophys. Res.*, 94, pp. 1379-1401, 1989

### PROFESSIONAL EXPERIENCE

9/09 - present President, Koç University





9/09 - present Professor of Electrical and Electronics Engineering, Koç University  
9/97- 9/09 Director, Space, Telecommunications and Radioscience (STAR) Laboratory  
9/92 - present Professor of Electrical Engineering, Stanford University  
9/85-8/92 Associate Professor of EE, Stanford University  
9/82-8/85 Assistant Professor of EE, Stanford University  
4/81-8/82 Acting Assistant Professor of EE, Stanford University  
2/81-3/81 Research Associate, EE Dept., Stanford University  
9/80-1/81 Assistant Professor of EE, Boğaziçi University, İstanbul, Turkey  
9/78-8/80 Acting Assistant Professor of EE, Stanford University  
9/77-8/78 Research Affiliate & Post-doctoral Fellow, EE Dept., Stanford University

#### **PATENTS**

U.S. Patent No. 7,288,892 B2 "Plasma Display Panel with Improved Cell Geometry" [2007]  
International Patent Application "Long-range Lightning Detection and Characterization System and Method" [filed May 2008]

#### **HONORS and AWARDS**

TÜBİTAK Special Award (2010)  
Fellow of the American Physical Society (APS) December, 2009  
Appleton Prize of the International Union of Radio Science and Royal Society of London, July 2008  
Allan Cox Medal of Stanford for Faculty Excellence in Fostering Undergraduate Research, June 2007  
Fellow of the American Geophysical Union (AGU), December 2006  
Fellow of the Institute of Electrical and Electronics Engineers (IEEE), November 2006  
European Space Agency (ESA) Certificate of Recognition (CLUSTER), September 2005  
Stanford Tau Beta Pi Award for Excellence in Undergraduate Teaching, June 1998  
Antarctic Mountain Named "İnan Peak" (78.333 S, 162.633 E) in Recognition of Service, 1994  
Outstanding Service Award of the EE Department for Excellence in Teaching, June 1978



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## FİKİRİ KARAESMEN

Professor of Industrial Engineering  
Associate Dean of College of Engineering

### STOCHASTIC MODELS AND PROCESSES PRODUCTION AND INVENTORY SYSTEMS

Ph.D. in Operations Research, Northeastern University, 1996;  
M.S. in Industrial Engineering, Northeastern University,  
1992; B.S. in Industrial Engineering, Middle East Technical  
University, 1990

Professor. Karaesmen teaches probability and statistics,  
supply chain modeling and analysis, decision analysis and  
simulation. His recent research focuses in applications of  
stochastic models in supply chains and service systems.

#### SELECTED PUBLICATIONS

- Cil. E.B., E.L. Ormeci and F. Karaesmen, "Effects of System Parameters on the Optimal Policy Structure in a Class of Queueing Control Problems", to appear in Queueing Systems, 2009
- Gayon J.-P., I. Talay, F. Karaesmen, and E.L. Ormeci, "Dynamic Pricing and Replenishment in a Production/Inventory System with Markov-Modulated Demand", Probability in the Engineering and Informational Sciences, Vol. 23, pp. 205-230, 2009
- Agrali S., B. Tan and F. Karaesmen, "Modeling and Analysis of an Auction-Based Logistics Market", European Journal of Operational Research, Vol. 191, pp. 272-294, 2008
- Uckun C., F. Karaesmen, and S. Savas, "Investment in Improved Inventory Accuracy in a Decentralized Supply Chain", International Journal of Production Economics, Vol. 113, pp. 546-566, 2008
- Aksin O.Z., F. de Véricourt, and F. Karaesmen, "Call Center Outsourcing Contract Design and Choice", Management Science, Vol. 54, pp. 354-368, 2008

#### EDITORIAL BOARDS

- Associate editor of IEEE Transactions on Automation Science and Engineering, 2005-present
- Associate editor of IIE Transactions, 2005-present
- Associate editor of Manufacturing & Service Operations Management, 2007-present
- Associate editor of Management Science, 2009-present

### APPLIED PROBABILITY AND STATISTICS SERVICE SYSTEMS

#### GRANTS and CONSULTING

- Several KÜMPER Research Projects
- Co-Principal Investigator for project financed by Bouygues Télécom, Design and Analysis of Call Centers, September 2000 – June 2003, Ecole Centrale Paris

#### PATENTS

- 2 patents on call center performance analysis

#### PROFESSIONAL EXPERIENCE

##### Academic

- Associate Dean of College of Engineering February 2010-present, Koç University
- Professor of Industrial Engineering, Feb. 2010 - present
- Department of Industrial Engineering, Koç University
- Associate Professor, April 2005 – Feb. 2010, Department of Industrial Engineering, Koç University
- Assistant Professor, September 2002 – March 2005, Department of Industrial Engineering, Koç University
- Assistant/Associate Professor, September 1999–August 2002, Department of Manufacturing and Logistics, Ecole Centrale Paris
- Post-doctoral Researcher, September 1997-August 1999, LIP6 (Laboratoire d'Informatique de Paris 6), Université Pierre et Marie Curie
- Research Assistant September 1990 - September 1996, Department of Mechanical, Industrial and Manufacturing Engineering, Northeastern University
- Visiting Academic Positions
- Visiting Associate Professor, September 2008 – August 2009, Department of Industrial Engineering and Management Sciences, Northwestern University
- Visiting Researcher, February 1997 - June 1997, Center for Economic Research, Tilburg University

#### HONORS and AWARDS

- TÜBA-GEBİP Award 2007
- TÜBİTAK Teşvik Ödülü 2009

#### MEMBER

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## İ. HALİL KAVAKLI

Assistant Professor of Chemical and Biological Engineering

### MOLECULAR BIOLOGY

### BIOTECHNOLOGY

Ph.D. in Genetics and Cell Biology, Washington State University, 2000; M.Sc. in Genetics and Cell Biology, Washington State University, 1996; B.Sc. in Biology, Middle East Technical University, 1992

Professor Kavaklı teaches general biology, biochemistry, biotechnology, industrial microbiology. His recent research focuses on the areas of biological clock in human, plant biotechnology, drug discovery.

### SELECTED PUBLICATIONS

- Barış I, Tuncel A, Ozber N, Keskin O, Kavaklı İH (2009). Investigation of the Interaction between the Large and Small Subunits of Potato ADP-Glucose Pyrophosphorylase. *PLoS Comput Biol.* 5(10): e1000546
- Dagliyan O, Kavaklı İH, Turkey M (2009). Classification of Cytochrome P450 Inhibitors with Respect to Binding Free Energy and pIC(50) Using Common Molecular Descriptors. *Journal of Chemical Information and Modeling*, 49(10): 2403-2411
- Armutlu P, Özdemir, M. E. Özdaş, S. Kavaklı, İ. H. and Türkay, M. (2009). Discovery of Novel CYP17 Inhibitors for the Treatment of Prostate Cancer with Structure-Based Drug Design Letters in *Drug Design and Discovery*, 6(8):337-344
- Tuncel A, Kavaklı İH and Keskin O (2008). Insights into subunit interactions in the Heterotetrameric Structure of Potato ADP-glucose Pyrophosphorylase. *Biophysical Journal*, 95:3628-3639
- Öztürk A, Ocaklı I, Özber N, Urey H, Kavaklı İH, Alaca E (2008) A magnetically acuated resonator mass sensor with integrated optical readout. *IEEE Photonics Technology Letters* 20:1905-1908
- Oztürk N, Kao Y-T, Selby CP, Kavaklı İH, Partch CL Zong D and Sancar A (2008) Purification and Characterization of a Type III Photolyase from *Caulobacter crescentus*. *Biochemistry* 47:10255-10261
- Armutlu P, Özdemir ME, Üney F, Kavaklı İH, and Türkay M (2008) Classification of Drug Molecules based on their activities using Mixed-integer linear programming based hyper-boxes method. *BMC Bioinformatics* 9:411
- Chaitanya Saxena, Haiyu Wang, I. Halil Kavaklı, Aziz Sancar, and Dongping Zhong (2005) Ultrafast Dynamics of Resonance Energy Transfer in Cryptochrome. Accepted *Journal of*

### BIOCHEMISTRY

American Chemical Society 127(22):7984-7985

### GRANTS and CONSULTING

- Structure-function analysis of ADP-glucose pyrophosphorylase, TÜBİTAK-TBAG, June 2009 - June 2010
- Investigation of the interaction between large and small subunits of ADP-glucose pyrophosphorylase, İstanbul University June 2009 - June 2011
- Structure-function analysis of mammalian cryptochrome, TÜBİTAK-TBAG, June 2009 - June 2010
- Development of Biosensor to detect drug from blood, TÜBİTAK-EEEAG, June 2006 - June 2009
- Identification of Light Dependent substrate of V.cholerae Cryptochrome, TÜBİTAK-TBAG, June 2006-June 2010

### PROFESSIONAL EXPERIENCE

#### Academic

- Assistant Professor, Koç University, Chemical and Biological Eng., September 2004-present
- Postdoctoral Research, Associate University of North Carolina-Chapel Hill, Biochemistry and Biophys, Jan 2001-Aug 2004
- Teaching Assistant, Washington State University in School of Molecular Biosciences, 1999
- Research Assistant, Washington State University in Institute of Biological Chemistry, Jan 1995-Dec 2000
- Teaching Assistant, Middle East Technical University in Dept. of Biology, 1994-1995

### HONORS and AWARDS

- Fevzi Akkaya Distinguished Young Scholar Award (FABED), 2008
- Turkish Academy of Sciences (TÜBA) Distinguished Young Scholar Award (GEBİP), 2006
- Young Investigator Career Award, TÜBİTAK (The Scientific and Technical Research Council of Turkey)
- 2005 Travel award, School of Molecular Biosciences, Washington State University, 2000
- R.A. Nilan travel award from Genetics and Cell Biology, WSU, 2000
- Travel grant from graduate school, Washington State University, 2000
- Loyal H Davis Fellowship, Washington State University, 1999

### MEMBER

- American Society of Plant Physiology
- American Plant Molecular Biology
- American Chemical Society



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## ONUR KAYA

Assistant Professor of Industrial Engineering

### PRODUCTION AND INVENTORY SYSTEMS SUPPLY CHAIN MANAGEMENT

Ph.D. in Industrial Engineering and Operations Research, University of California, 2006; M.A. in Statistics University of California, 2006; M.S. in Industrial Engineering and Operations Research, University of California, 2003; B.S. in Industrial Engineering, Middle East Technical University, 2002

Professor Kaya teaches mathematical programming, stochastic models, logistics and supply chain systems. His recent research focuses on the areas of production and inventory systems, supply chain management, game theory, stochastic processes, queuing models, scheduling and due-date quotation models, facility location and layout models.

### SELECTED PUBLICATIONS

Kaya, O., (2010). Incentive and Production Decisions for Remanufacturing Operations. *European Journal of Operational Research*, 201(2), pp.442-453  
Kaminsky, P. and O. Kaya, (2009). Combined Make-to-Order/Make-to-Stock Supply Chains. *IIE Transactions*, 41(2), pp.103-119  
Kaminsky, P. and O. Kaya, (2008), Scheduling and Due-Date Quotation in a MTO Supply Chain, *Naval Research Logistics*, 55(5), pp. 444-458  
Kaminsky, P. and O. Kaya, (2008). Inventory Positioning, Scheduling, and Lead Time Quotation in Supply Chains, *International Journal of Production Economics*, 114(1), pp.276-293

### PROFESSIONAL EXPERIENCE

#### Academic

Assistant Professor, Koç University, Industrial Engineering Department, Jan. 2007 - present  
Graduate Student Researcher, UC Berkeley, Department of IEOR, 2002-2006

#### Industry Experience

Contract based technical staff at Siemens TTB, Berkeley,

### STOCHASTIC PROCESSES SCHEDULING

May 2005 - Aug 2005

Part Time Technical Staff in ASELSAN A.Ş. Research & Planning Directorship, Jan 2002 - June 2002

### HONORS and AWARDS

Fellowship from University of California, Berkeley graduate program

Scholarship awarded from METU (1998 – 2002)

### MEMBER

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## ÖZLEM KESKİN

Associate Professor of Chemical and Biological Engineering

### COMPUTATIONAL BIOLOGY BIOINFORMATICS

Ph.D. in Chemical Engineering, Boğaziçi University, 1999;  
MS in Chemical Engineering, Boğaziçi University, 1995, BS  
in Chemical Engineering, Boğaziçi University, 1993

Professor Keskin teaches reaction engineering,  
introduction to chemical and biological engineering,  
bioinformatics and biomolecular structure, function and  
dynamics. Her recent research focuses on the areas of  
protein-protein interactions, protein-drug interactions,  
dynamics of biological systems.

#### SELECTED PUBLICATIONS

G. Kar, A. Gursoy, Ö. Keskin. Human cancer protein-protein  
interaction network: a structural perspective. Plos Comp  
Biol. Forthcoming  
N. Tuncbag, A. Gursoy, Ö. Keskin. Identification of  
Computational Hot Spots in Protein Interfaces: Combining  
Solvent Accessibility and Inter-Residue Potentials Improves  
the Accuracy. Bioinformatics, 25(12):1513-20, 2009  
N. Tuncbag, G Kar, Ö. Keskin, A. Gursoy, R. Nussinov. A  
Survey of available tools and web servers for analysis of  
protein – protein interactions and interfaces, Briefings in  
Bioinformatics, 10(3):217-32, 2009  
A. Tuncel, I.H. Kavaklı, Ö. Keskin. Insights into Subunit  
Interactions in the Heterotetrameric Structure of Potato  
ADP-glucose Pyrophosphorylase. Biophysical J, 95(8):3628-  
39, 2008  
N. Tuncbag, E. Guney, R. Nussinov, A. Gursoy, Ö. Keskin.  
Architectures and Functional Coverage of Protein-Protein  
Interfaces, J. Mol. Biol. 381(3):785-802, 2008  
Ö. Keskin, A. Gursoy, B. Ma, R. Nussinov, What is the  
preferred ways for proteins to interact, Chemical Rev.,  
108(4):1225-1244, 2008

#### GRANTS and CONSULTING

TÜBİTAK 109T343, TÜBİTAK 104T504 (completed)

FP6 project, SEE (South East Europe)-GRID (completed)

#### PROFESSIONAL EXPERIENCE

##### Academic

October 2007-present, Associate Professor of Chemical and  
Biological Engineering, Koç University

2003–October 2007, Assistant Professor of Chemical and  
Biological Engineering, Koç University

2001–2003, Assistant Professor of Chemistry, Koç  
University

1999- 2001, Post-doctoral Fellow at Frederick Cancer  
Research and Development Center, National Cancer  
Institute, National Institutes of Health, Laboratory of  
Experimental and Computational Biology, National Cancer  
Institute, National Institutes of Health.

1993- 1999, Teaching and Research Assistant in Chemical  
Engineering Department, Boğaziçi University, İstanbul

##### Visiting Academic Positions

07/2002 – 08/2005, Visiting Scientist for summers,  
Laboratory of Experimental and Computational Biology,  
National Cancer Institute, National Institutes of Health,  
Jun, 2001, Visiting Scientist, Center for Computational  
Biology & Bioinformatics, School of Medicine, University of  
Pittsburgh

Jan- Mar. 1999, Visiting Fellow in National Institutes of  
Health, NCI, (FCRDC), Frederick

Jul- Nov. 1998: Visiting Fellow in National Institutes of  
Health, NCI, (FCRDC), Frederick

Jun. 1994- Sept. 1994, Visiting Fellow in the University of  
South Florida

##### HONORS and AWARDS

TWAS (The Academy of Sciences for the Developing World)  
Encouragement Award, 2009

Turkish Academy of Sciences (TÜBA) Distinguished Young  
Investigator Award, 2006

UNESCO-L'OREAL Co-Sponsored Fellowship for Young



## ÖZLEM KESKİN

---

Women in Life Sciences, Fellow of Europe and North America, 2005

Habilitation in Chemical Engineering by YÖK (Turkish National Higher Education System), 2004

Best Presentation Award, ICSMB, 2003, Vienna, Austria

RECOMB Travel Award, 2002, Washington DC, USA

Best Ph.D. Dissertation Award, 1999, Boğaziçi University

International Integrated Graduate Research Fellowship, Scientific and Technical Research Council of Turkey

(TÜBİTAK) 1997-1999

Graduate Research Fellowship, Scientific and Technical

Research Council of Turkey (TÜBİTAK) 1996-1997

### **MEMBER**

Biophysical Society

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## SEDA KESKİN

Assistant Professor of Chemical and Biological Engineering

### ENERGY

#### NANOPOROUS MATERIALS

#### MEMBRANE-BASED GAS SEPARATIONS

Ph.D. in Chemical and Biomolecular Engineering, Georgia Institute of Technology, 2009; MS in Chemical Engineering, Boğaziçi University, 2006; BS in Chemical Engineering, Boğaziçi University, 2004

Professor Keskin teaches chemical and biological engineering design, molecular modeling and simulations. Her recent research focuses on the areas of metal organic frameworks for energy applications: hydrogen storage, carbon dioxide capture and storage, nanoporous membranes for gas separations, polymer/metal organic framework mixed matrix membranes, molecular simulation of gas adsorption and diffusion and supercritical fluids.

### SELECTED PUBLICATIONS

Keskin S., Liu J., Rankin R. B., Johnson J. K., Sholl D. S., 'Progress, Opportunities, and Challenges for Applying Atomically-detailed Modeling to Molecular Adsorption and Transport in Metal-Organic Framework Materials', *Industrial & Engineering Chemistry Research* 48(5), 2355-2371 (2009)

Keskin S. and David S. Sholl, 'Assessment of a Metal-Organic Framework Membrane for Gas Separations Using Atomically Detailed Calculations: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>, H<sub>2</sub> mixtures in MOF-5', *Industrial & Engineering Chemistry Research* 48(2), 914-922 (2009)

Keskin S., Liu J., Johnson J. K., Sholl D. S. 'Testing the Accuracy of Correlations for Multi-component Mass Transport of Adsorbed Gases in Metal Organic Frameworks: Diffusion of H<sub>2</sub>/CH<sub>4</sub> Mixtures in CuBTC', *Langmuir* 24(15), 8254-8261 (2008)

Keskin S. and David S. Sholl, 'Screening Metal-Organic Framework Materials for Membrane-based Methane/ Carbon Dioxide Separations', *Journal of Physical Chemistry C* 111(38), 14055-14059 (2007)

Keskin S., Kayrak-Talay D., Akman U., Hortacsu O., 'A Review of Ionic Liquids Toward Supercritical Fluid Applications', *Journal of Supercritical Fluids* 43(1), 150-180 (2007)

### MODELING OF GAS ADSORPTION

#### TRANSPORT IN NANOPORES

### PROFESSIONAL EXPERIENCE

#### Academic

Jan.10- present: Koç University, Chemical and Biological Engineering, Assistant Professor

Jan.08–Dec.09: Georgia Institute of Technology, Chemical and Biomolecular Engineering, Graduate Research and Teaching Assistant

Sep.06–Dec.07: Carnegie Mellon University, Chemical Engineering, Graduate Research and Teaching Assistant

Sep.04–Jul.06 : Boğaziçi University, Chemical Engineering, Graduate Research and Teaching Assistant

#### HONORS and AWARDS

Marie Curie Scholarship, NanoMemPro-The European Network of Membrane Technologies, Feb.08

Georgia Institute of Technology Graduate Scholarship, Jan.08

Carnegie Mellon University Graduate Fellowship, Aug.06

High Honors, Faculty of Engineering, Boğaziçi University, Jul.04

1st Place Award, Chemical Engineering Department, Boğaziçi University, Jul.04

Prof. Dr. Turgut Noyan Special Award, Boğaziçi University, Jul.04

#### MEMBER

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## SEDA KIZILEL

Assistant Professor of Chemical and Biological Engineering

### ISLET ENCAPSULATION VIA INTERFACIAL PHOTOPOLYMERIZATION MATHEMATICAL MODELING OF CELL ENCAPSULATION BY INTERFACIAL POLYMERIZATION EXPERIMENTAL AND COMPUTATIONAL MODELING OF FUNCTIONAL HYDROGELS 2-D AND 3-D PATTERNING OF HYDROGELS

Ph.D. in Biomedical Engineering, Illinois Institute of Technology, 2004; M.S. in Chemical Engineering, Boğaziçi University, 1998; B.S. in Chemical Engineering, Boğaziçi University, 1995

Professor Kizilel teaches fluid mechanics, heat and mass transfer, transport phenomena, and tissue engineering for chemical and biological engineers. Her research interests include the synthesis and characterization of biomaterials that can be used for tissue regeneration therapies, specifically in the form of encapsulation of islets of langerhans via interfacial photopolymerization in order to provide immunoisolation. The focus of her research is to combine both experimental techniques with computational modeling in order to optimally develop biofunctional polymeric hydrogel membranes that can support viability and insulin secretion capability of islets. Such membranes can also be used as scaffolds to support cell growth and tissue formation for various clinical applications. One of the goals is to formulate computational models of hydrogel formation via interfacial polymerization that can predict the physical properties and the composition of biological signal incorporation within the membrane. These models are being used as a guide to optimize islet functionality and to provide immunoisolation so that the biological effect of ligand incorporation on islet function can be functionally tested in vitro.

#### SELECTED PUBLICATIONS

Seda Kizilel, Victor H. Perez-Luna, and Fouad Teymour "Poly (ethylene glycol) diacrylate on Eosin Functionalized Surfaces", *Langmuir*, 2004; 20(20): 8652-8658  
Seda Kizilel, Erin Sawardecker, Victor H. Perez-Luna, and Fouad Teymour, "Sequential Formation of Covalently Bonded Hydrogel Multilayers through Surface Initiated

Photopolymerization" *Biomaterials*, 2006; 27(8):1209-1215  
Seda Kizilel, Marc Garfinkel, Emmanuel Opara "The Bioartificial Pancreas: Progress and Challenges", *Diabetes Technology and Therapeutics*, 2005; 7(6):968-985  
Seda Kizilel, Fouad Teymour, and Victor H. Perez-Luna "Modeling of PEG Hydrogel Membrane for Biomedical Applications", *Macromolecular Reaction Engineering*, 2009, 3:271-287  
Seda Kizilel, Andrew Scavone, Xiang Liu, Jean Manuel Nothias, Diane Ostrega, J Michael Millis "Encapsulation of Pancreatic Islets within Nano-Thin Functional PEG coatings for Enhanced Insulin Secretion" accepted for publication in *Tissue Engineering*, Nov 10 2009

#### PATENTS

V. H. Perez-Luna, F. Teymour, and S. Kizilel. "Method for the formation of hydrogel multilayers through surface initiated photopolymerization", Pub. No / Pub. Date: 20060239986 / 26-Oct-2006  
S. Kizilel, J.L. Wyman, M. Mrksich, S. Nagel, M. Garfinkel, "Microencapsulation of Pancreatic Islets within a thin coat of Glucagon-like Peptide-1 Functionalized Poly(ethylene glycol)", Filing Date: 1/04/2006, (UCTech Reference Number UCHI 1371)  
Can Erkey, Seda Kizilel, Seda Giray. "PEG Hydrogel Encapsulated Hydrophobic Aerogels via Surface Initiated Photopolymerization" Invention disclosure filed on Jan 11 2010

#### PROFESSIONAL EXPERIENCE

##### Academic

2008-Present; Assistant Professor of Chemical and Biological Engineering, Koç University  
November 2004-November 2007; Postdoctoral Scholar, The University of Chicago Department of Surgery, Chemistry and Physics  
September 1998-August 1999; Teaching and Research





Assistant in Chemical Engineering Department, Lehigh University

September 1999-October 2004; Teaching and Research Assistant in Biomedical Engineering Department, Illinois Institute of Technology

February 1996-July 1998; Teaching and Research Assistant, Boğaziçi University

**HONORS and AWARDS**

Turkish Academy of Sciences (TÜBA) Supported "Loreal Young Women in Science Award", 2009

Charles Huggins Annual Research Conference, Best Laboratory Research Award, University of Chicago, Department of Surgery, May 13th, 2006

Pritzker Research Fellowship, Pritzker Institute of Biomedical Engineering, IIT (2000-2001, Summer 2002)

Regional Award of The Scientific and Technical Research Council of Turkey in branch of Math, June 1990

**MEMBER**

American Chemical Society

American Institute of Chemical Engineers

American Diabetes Association



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## S. SERDAR KOZAT

Assistant Professor of Electrical and Electronics Engineering

ADAPTIVE SIGNAL PROCESSING  
MACHINE LEARNING ALGORITHMS FOR SIGNAL PROCESSING  
SIGNAL PROCESSING ALGORITHMS FOR MATHEMATICAL FINANCE

UNIVERSAL PREDICTION  
ONLINE LEARNING

PhD. in Electrical and Computer Engineering, 2004;  
University of Illinois at Urbana-Champaign, M.S. in Electrical  
and Computer Engineering, 2001, University of Illinois at  
Urbana-Champaign; B.S. in Electrical Engineering, 1998,  
Bilkent University

Professor Kozat teaches adaptive signal processing, advance  
signal processing, machine learning, statistics  
His recent research focuses on the areas of adaptive  
signal processing, machine learning algorithms for signal  
processing, signal processing algorithms for mathematical  
finance, universal prediction, online learning.

### SELECTED PUBLICATIONS

Süleyman S. Kozat, Andrew C. Singer, Georg Zeitler,  
"Universal piecewise linear prediction via context trees," IEEE  
Transactions on Signal Processing, Page(s) 3730-3745,  
Jul 2007  
Andrew C. Singer, Süleyman S. Kozat, Meir Feder, "A  
Sequential Probability Approach to Universal Linear  
Least-Squares Prediction," IEEE Transactions on Information  
Theory, Volume: 48 Page(s): 2354 –2362 Aug 2002  
Süleyman S. Kozat, Andrew C. Singer, "Universal constant  
rebalanced portfolios with switching," Proceedings of  
ICASSP, Page(s) 1129-1132, April 2007  
Georg Zeitler, Andrew C. Singer, Süleyman S. Kozat,  
"Universal piecewise linear regression of individual  
sequences: lower bound," Proceedings of ICASSP, Page(s)  
841-844, April 2007  
Süleyman S. Kozat, Karthik Visweswariah, Ramesh Gopinath,  
"Efficient, Low Latency Adaptation for Speech Recognition,"  
Proceedings of ICASSP, Page(s) 777-780, April 2007

### PATENTS

P. A. Chou, D. Florencio, S. S. Kozat, "Forward Error Correction  
for Media Transmissions," filed 2007  
S. S. Kozat, R. Sarikaya, Y. Gao, "Optimal model selection and  
hypotheses combination for spoken dialog systems and

machine translation," filed 2007  
S. S. Kozat, R. Venkatesan, M. K. Mihcak, "Digital goods  
representation based on matrix invariants," invention report  
filed 2004

### PROFESSIONAL EXPERIENCE

#### Academic

Assistant Professor, Koç University, Electrical Engineering  
Department, 2007-present  
Research Assistant, University of Illinois at Urbana-  
Champaign, 1999-2004

#### Industry Experience

Full-time Research Staff Member, IBM, T.J. Watson Research  
Center, 2004-2007  
Software Developer, Microsoft Research, Redmond,  
2002-2004  
Research Intern, Microsoft Research, Redmond, May 2003  
Research Intern, Microsoft Research, Redmond, August 2003  
Research Intern, IBM, T.J. Watson Research Center, Yorktown,  
May 2000

### HONORS and AWARDS

2010 Turkish Academy of Sciences Award (TÜBA-GEBİP)

### MEMBER

IEEE



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## ALPTEKİN K P U

Assistant Professor of Computer Science

### CRYPTOGRAPHY SECURITY

Ph.D. in Computer Science, Brown University, 2010; M.Sc. in Computer Science, Brown University, 2007;  
B.S. in Computer Science, Bilkent University, 2004

Professor K p u teaches cryptography and security, data structures, algorithms. His recent research focuses on cryptography, security, privacy, cloud systems, game theory and mechanism design, peer-to-peer networks.

### SELECTED PUBLICATIONS

Chris Erway, Theodora Hinkle, Alptekin K p u, Anna Lysyanskaya, and Sarah Meiklejohn, "ZKPD: A Language-Based System for Efficient Zero-Knowledge Proofs and Electronic Cash", Usenix Security 2010  
Alptekin K p u and Anna Lysyanskaya, "Usable Optimistic Fair Exchange", CT-RSA 2010  
Alptekin K p u and Anna Lysyanskaya, "Optimistic Fair Exchange with Multiple Arbiters", PODC 2009 (brief announcement) and ESORICS 2010 (full paper)  
Chris Erway, Alptekin K p u, Charalampos Papamanthou and Roberto Tamassia, "Dynamic Provable Data Possession", CCS 2009. (patent pending)  
Mira Belenkiy, Melissa Chase, Chris Erway, John Jannotti, Alptekin K p u, Anna Lysyanskaya and Eric Rachlin, "Making P2P Accountable without Losing Privacy", WPES 2007. (PET Award 2008 runner-up)

### PATENTS

Patent pending on Secure and Private Password-Based Authentication, 2010  
Patent pending on Outsourced Secure Storage Systems, 2008

### PROFESSIONAL EXPERIENCE

#### Academic

2010- Present; Assistant Professor in Computer Engineering, Ko  University  
2004 – 2010; Research Assistant, Brown University  
2006, 2009, 2010; Teaching Assistant, Brown University

### PRIVACY CLOUD SYSTEMS

#### Industry Experience

2009; Research Intern, Microsoft Research, USA  
2007; Graduate Intern, Cisco Systems, USA

#### HONORS and AWARDS

Brown University Fellowship, Teaching Assistantship, Research Assistantship, 2004-2010  
Bilkent University Fellowship and Dean's List, 2000-2004  
Bilkent University Computer Science class 3rd rank, 2004  
Ranked 2nd at Turkish National GRE ("LES", with over 100,000 contestants), 2004  
Awarded "Special 76th Anniversary" prize by "T rkiye İŐ Bankası" for being 56th at Turkish National SAT (" SS", with over 1.5 million contestants), 2000

#### MEMBER

ACM (2008- present)  
IEEE (2008- present)  
IACR (2007- present)



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## İSMAİL LAZOĞLU

Associate Professor of Mechanical Engineering

**AUTOMATION AND MECHATRONICS  
MANUFACTURING PROCESSES AND SYSTEMS: MODELING,  
DESIGN, MONITORING, OPTIMIZATION AND CONTROL  
COMPUTER AIDED NUMERICAL CONTROL (CNC) SYSTEM AND  
MACHINE TOOLS**

**COMPUTER AIDED DESIGN AND MANUFACTURING  
(CAD/CAM)  
SYSTEM DYNAMICS AND CONTROL  
BIOMEDICAL ENGINEERING, BIOMECHANICS,  
BIOMANUFACTURING**

Ph.D. in Mechanical Engineering, Georgia Institute of Technology, 1997; MS in Mechanical Engineering, Georgia Institute of Technology, 1992; BS in Mechanical Engineering, İstanbul Technical University, 1989

Professor Lazoğlu teaches dynamics, introduction to mechanical engineering design (CAD), mechatronics, computer integrated manufacturing and automation. His recent research focuses on manufacturing; system modeling; design; optimization control; automation and mechatronics; computer aided numerical control (CNC) systems; computer aided design and manufacturing (CAD/CAM); system dynamics and control; Biomedical Engineering, BioMechanics and BioManufacturing.

### SELECTED PUBLICATIONS

Lazoğlu, I., Manav, A. C., Murtezaoglu, Y., "Tool Path Optimization for Free Form Surface Machining", Annals of CIRP, Vol. 58 / 1, pp. 101-104, 2009

Lazoğlu, I., Ulutan, D., Alaca, B. E., Engin, S., "An Enhanced Analytical Model for Residual Stress Prediction in Machining", CIRP Annals, Vol. 57, Issue:1, pp 81-84, 2008  
Erdim, H., Lazoğlu, I., Kaymakci, M., "Free-form Surface Machining and Comparing Feedrate Scheduling Strategies", Machining Science and Technology, An International Journal, Taylor & Francis Group, Vol. 11/1, pp.117-133, 2007

Lazoğlu, I., Kratz, H., Buyukhatipoglu, K., Klocke, F., "Forces and Temperatures in Hard Turning", Machining Science and Technology, An International Journal, Taylor & Francis Group, Vol.10, No:2, pp. 157-179, 2006

Erdim, H., Lazoğlu, I., Ozturk, B., "Feedrate Scheduling

Strategies for Free-Form Surfaces", International Journal of Machine Tools and Manufacture, Elsevier Science Ltd., Vol.46, pp.747-757, 2006

### GRANTS and CONSULTING

"Development of an Industrial 3D High Precision Laser Machining System" Funded by Ministry of Industry and Trade, and LazerMikron Ltd. Project No: 00470.STZ. 2009-2012

"5-Axes High Precision CNC Machining Process Modeling and Optimization". Supported by Mori Seiki Machine Tool Company, Esprit CAD/CAM Software DP Technology Corp. and Machine Tool Technology Research Foundation (MTTRF), 2009-2011

"Development of Pilot Battery Recycling System for Turkey", Funded by TÜBİTAK, İstanbul Metropolitan Municipality, Ministry of Environment. 2009-2012

"Modeling Machining of Advanced Aerospace Alloys". Funded by General Electric, 2009

"Modeling Milling of Advanced Engineering Material Ti6Al4V". Funded by General Electric, 2009

"Modeling Turning of Advanced Engineering Materials: Ti6Al4V and Inconel 718". Funded by General Electric, 2009

"Mechanics and Thermal Analysis of Advanced Engineering Materials: Ti6Al4V and Inconel 718". Funded by General Electric, 2008

"Development of a Novel Dynamic Human Spinal Implant System". Funded by V.K.V. American Hospital-İstanbul, 2009-2010

"Automation of Computer Aided Automotive Door Design Process", Funded by Tofaş-Fiat A.S., 2008-2010

"Analysis and Optimization of New Automotive Engine Boring Process", Funded by Renault, 2008



“Design, Analysis and Prototype Production of the First Implantable Miniature Heart Pump as the Left Ventricular Assist Device in Turkey”. In collaboration with Yeditepe University Hospital. TÜBİTAK Project No: 106M309. 2007-2010

“An Investigation on the Impact Fatigue Characteristics of Compressor Valve Leaves” Funded by Ministry of Industry and Trade, and Arçelik A.Ş. Project No: 2.STZ.2006- 2007-2010

“Development of a High Precision Parallel Kinematics Robot for Micro Machining” In collaboration with Yeditepe University Funded by TÜBİTAK Project No: 105M213, 2006 -2009

“Rapid Prototyping, Modeling and Optimization of Computer Controlled High Speed Production Processes”, Funded by the Young Scientists Career Development Program of the Scientific and Technical Research Council of Turkey (TÜBİTAK Project No: 104M287)

“Residual Stress Analysis in Jet Engine Manufacturing” –In collaboration with Pratt & Whitney-Canada. 2006-2010

“Feedrate Scheduling For 3D Complex Free-Form Surface Machining”, In collaboration with ModuleWorks GmbH from Germany, 2005-2011

“Thermal Analysis of CNC Machining Processes with Infra-red Camera” – Funded by the Scientific and Technical Research Council of Turkey. TÜBİTAK Project No: 101M043, 2003-2006

“Modeling Mechanics and Dynamics of Drilling Process”- Developing process models for improving productivity and hole quality in the manufacturing of refrigerator compressor pistons. Funded by Arçelik A.Ş. ,2003-2006

### **PROFESSIONAL EXPERIENCE**

#### **Academic**

December 2007-Present, Associate Professor of Mechanical Engineering, Koç University

September 2000-December 2007, Assistant Professor, Koç University

March 1999-July 2000, Post-Doctoral Fellow, University of British Columbia

January 1997-March 1999, Post-Doctoral Research Associate, University of Illinois at Urbana-Champaign

September 1992-January 1997, Graduate Research & Teaching Assistant, Georgia Institute of Technology

### **HONORS and AWARDS**

Associate Member of the International Academy for Production Engineering (College International pour la Recherche en Productique - CIRP)

Machine Tool Technologies Research Foundation (MTTRF) Award of Year 2009

The research titled as “Development of the First Turkish Miniature and Implantable Centrifugal Heart Pump Support System: Heart Turcica-2” received “The Second Best Oral Presentation Award” from the Turkish Society of Cardiovascular Surgery in 2006

The co-author of the paper in the Japan Society of Mechanical Engineers - International Conference on Leading Edge Manufacturing 2005. “The Outstanding Young Researcher Award” given to his graduate student Huseyin Erdim

The Werner von Siemens Excellence Award in 2004

The Career Program Award of the Scientific and Technical Research Council of Turkey (TÜBİTAK) in 2004

Research Scholarship for Foreign Scientists from the “Deutscher Akademischer Austauschdienst” (DAAD) in 2002

Selected as ‘the Outstanding Reviewer’ by the American Society of Mechanical Engineers, 2001

Received the scholarship from the Ministry of Education to continue Masters and Ph.D. studies in overseas countries by ranking 1st in the nationwide exam given to the mechanical engineers in 1989

Finished as 2nd of Class’89 in the Faculty of Mechanical Engineering at İstanbul Technical University

#### **MEMBER**

Co-Founder and Administrative Board Member of the Society for Artificial Organs and Support Systems (TUYOD)



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## METİN MURADOĞLU

Associate Professor of Mechanical Engineering

### FLUID MECHANICS

#### TURBULENT REACTING FLOW

#### MULTIPHASE FLOWS

Ph.D. in Aerospace Engineering, Cornell University, 2000;  
MS in Aerospace Engineering, Cornell University, 1997; BS  
in Aeronautical Engineering, İstanbul Technical University,  
1992

Professor Muradoğlu teaches fluid mechanics, thermodynamics, computational fluid dynamics (CFD), advanced fluid mechanics, Calculus and applied mathematics. His recent research focuses on the areas of multiphase flows in bio/microfluid systems: numerical simulations of multiphase flows with applications in bio/microfluid flows, fluid-biomembrane interactions in incompressible flow fields and bubbly flows in microchannels, turbulence modeling: probability density function (PDF) modeling of turbulent flows, Large Eddy Simulations (LES), turbulent combustion and turbulence-combustion interactions, computational fluid dynamics (CFD): modeling and computation of compressible and incompressible flows about complex geometries including transonic flows with shock waves, time-accurate (unsteady) computations of compressible and incompressible flows using a pseudo-time stepping method, scientific computing: finite volume (FV) method, Lagrangian particle method, Monte Carlo method, hybrid FV/particle method, in-situ adaptive tabulation (ISAT) method for efficient computation of combustion with detailed chemistry, FV/front tracking method for computations of multiphase flows, convergence acceleration techniques for time-marching algorithm such as preconditioning method, local time stepping method and multigrid method.

#### SELECTED PUBLICATIONS

M. Muradoğlu, P. Jenny, S. B. Pope and D. A. Caughey, "A Consistent Hybrid Finite-Volume/Particle Method for the PDF Equations of Turbulent Reacting Flow", *Journal of Computational Physics*, V.154, pp.342-371 (1999)  
M. Muradoğlu, S.B. Pope and D.A. Caughey, "A Hybrid

### MICRO/BIOFLUIDICS

#### COMPUTATIONAL FLUID DYNAMICS AND SCIENTIFIC COMPUTING

Method for the PDF Equations of Turbulent Reactive flows: Consistency Conditions and Correction Algorithms", *Journal of Computational Physics*, v.172, pp.841-878 (2001)  
M. Muradoğlu and H.A. Stone, "Mixing in a Drop Moving through a Serpentine Channel: A Computational study", *Physics of Fluids*, 17, 073305, (2005)  
M. Muradoğlu and H.A. Stone, "Motion of Large Bubbles in Curved Channels", *J. Fluid Mech.*, v.570, pp.455-466, (2007)  
M. Muradoğlu and G. Tryggvason, "A Front-Tracking Method for Computation of Interfacial Flows with Soluble Surfactants", *Journal of Computational Physics*, v.227 (4), pp.2238-2262 (2008)

#### EDITORIAL BOARDS

Reviewer for *Journal of Computational Physics*, *Journal of Fluid Mechanics*, *Combustion Theory and Modeling*, *Journal of Physics A: Mathematical and General*, *ASME Journal Applied Mechanics*, *International Journal of Multiphase Flows*, *Energy & Fuels*

#### PROFESSIONAL EXPERIENCE

##### Academic

December 2007-present, Associate Professor of Mechanical Engineering, Koç University  
September 2001-December 2007, Assistant Professor, Koç University  
February 2000-August 2001, Postdoctoral Research Associate, Cornell University  
August 1998-January 2000, Graduate Research Assistant, Cornell University  
August 1997-May 1998, Graduate Teaching Assistant, Cornell University  
July 1993-August 1994, Graduate Research Assistant, İstanbul Technical University

##### Visiting Academic Positions

July 2007-Aug 2007, July 2006-Sept 2006, July 2005-Sept 2005, July 2004-August 2004, Visiting Scholar, Harvard University

##### Industry Experience

May-August 1998, DOE/AGTSR Industrial Internship



Program, Rolls-Royce Allison Engine Company,  
Indianapolis

**HONORS and AWARDS**

TÜBİTAK Incentive Award (2010)

Distinguished Young Scientist Award, Turkish Academy of  
Sciences (TÜBA) (2009)

Distinguished Young Scientist Award, Fevzi Akkaya  
Research Fund for Scientific Activities  
(FABED) (2009)

Distinguished Young Scientist Award, Mustafa Parlar  
Foundation, Middle East Technical University, (2009).

Associate Professor by Inter University Council, (2006)

Harvard University-Koç University exchange scholar  
fellowship (2004)

Jayesh Prize for Outstanding Fall Semester Student Talk:  
The Stability, Transition and Turbulence Seminar (STTS),  
Cornell University (1998)

Clemson Internship Award, DOE/AGTSR (1998)

**MEMBER**

Board member of Turkish Chapter of American Institute of  
Mechanical Engineering (ASME)

Member of American Physical Society (APS)

Member of the Society for Applied and Industrial  
Mathematics (SIAM)



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## CEYDA OĞUZ

Associate Professor of Industrial Engineering

COMPUTATIONAL BIOLOGY AND BIOINFORMATICS  
COMPUTATIONAL COMPLEXITY  
DESIGN OF ALGORITHMS  
LOGISTICS

METAHEURISTICS  
MATHEMATICAL PROGRAMMING  
THEORY OF MACHINE SCHEDULING

Ph.D. in Industrial Engineering, Bilkent University, 1993;  
M.S. in Industrial Engineering, Bilkent University, 1988; B.S.  
in Industrial Engineering, Middle East Technical University,  
1986

Professor Oğuz teaches logistics, operations and  
facilities design, project management, scheduling,  
heuristic methods. Her recent research focuses on the  
areas of computational biology and bioinformatics,  
logistics, and scheduling via analysis of computational  
complexity, design of algorithms and metaheuristics, and  
mathematical programming.

### SELECTED PUBLICATIONS

C. Oğuz, F. S. Salman and Z. Bilginturk Yalcin, "Order  
Acceptance and Scheduling Decisions in Make-to-  
Order Systems", forthcoming in International Journal of  
Production Economics, 2010  
W. K. Yeung, C. Oğuz and T. C. E. Cheng, "Two-machine  
Flow Shop Scheduling with Common Due Window to  
Minimize Weighted Number of Early and Tardy Jobs", Naval  
Research Logistics, Vol.56, pp:593-599, 2009  
P. Hansen, C. Oğuz and N. Mladenovic, "Variable  
Neighborhood Search for Minimum Cost Berth Allocation",  
European Journal of Operational Research, Vol.191, No.3,  
pp:636-649, 2008  
J. Blazewicz, C. Oğuz, A. Swiercz and J. Weglarz, "DNA  
Sequencing by Hybridization via Genetic Search",  
Operations Research, Vol.54, pp:1185-1192, 2006  
P. Brucker, S. Knust and C. Oğuz, "Scheduling Chains with  
Identical Jobs and Constant Delays on a Single Machine",  
Mathematical Methods of Operations Research, Vol.63,  
No.1, pp:63-75, 2006  
C. Oğuz and M.F. Ercan, "A Genetic Algorithm for Hybrid  
Flow-shop Scheduling with Multiprocessor Tasks", Journal  
of Scheduling, Vol.8, No.4, pp:323-351, 2005

Y. Zinder, V.H. Do and C. Oğuz, "Computational Complexity  
of Some Scheduling Problems with Multiprocessor Tasks",  
Discrete Optimization, Vol.2, No.4, pp:391-408, 2005

### GRANTS and CONSULTING

15 international and national grants secured during 1993-  
2009 period

### PROFESSIONAL EXPERIENCE

#### Academic

September'04-Present: Associate Professor of Industrial  
Engineering, Koç University  
September'03-August'04: Associate Professor of Logistics,  
The Hong Kong Polytechnic University  
February'00-August'03: Associate Professor, Department of  
Management, The Hong Kong Polytechnic University  
September'94-January'00: Assistant Professor, Department  
of Management, The Hong Kong Polytechnic University

#### Visiting Academic Positions

June'08, September'05, June'04, July'03: Visiting  
Researcher, Institute of Computing Science, Poznan  
University of Technology  
May'04: Visiting Researcher, Institute of Engineering  
Cybernetics, Wroclaw University of Technology  
June'03: Visiting Researcher, LAMIH (Production Systems),  
University of Valenciennes  
August'02: Visiting Researcher, School of Mathematical  
Sciences, Queensland University of Technology  
June'02: Visiting Researcher, Department of Mathematics/  
Computer Science, University of Osnabruck  
August'00: Visiting Researcher, Department of Industrial  
Engineering, Middle East Technical University  
July'94-August'94: Visiting Scholar, Department of  
Industrial Engineering, Bilkent University  
May'93-June'94: Visiting Scholar, Department of  
Management, Hong Kong Polytechnic

### HONORS and AWARDS

Visiting Scholarship, Hong Kong Polytechnic, 1993-1994;





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Selected by the National OR Society of Turkey for EURO Summer Institute VI, 1989; Research Assistantship, Bilkent University, 1986-1993

**MEMBER**

EWG CBBM : EURO Working Group on the Operational Research in Computational Biology, Bioinformatics and Medicine

EU/ME: The European Chapter on Metaheuristics Institute for Operations Research and the Management Sciences (INFORMS)

The Operations Research Society of Turkey

The Operational Research Society of Hong Kong

The Institute of Industrial Engineers (IIE)



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## E. LERZAN ÖRMECİ

Associate Professor of Industrial Engineering

### STOCHASTIC MODELS AND PROCESSES SERVICE SYSTEMS

Ph.D. in Operations Research, Case Western Reserve University, 1998; M.S. in Industrial Engineering, Middle East Technical University, 1993; B.S. in Industrial Engineering, Middle East Technical University, 1990

Professor Örmeci teaches stochastic models and their applications, service operations analysis, applied statistics, probability and statistical methods. Her recent research focuses on the areas of application of Markov decision processes on real systems such as call centers, supply chains and marketing applications; analysis of telecommunication systems using queuing theory; statistical analysis and estimation of random processes.

#### SELECTED PUBLICATIONS

Örmeci, E. L., Burnetas A. N. and Emmons H., "Admission Policies for a Two Class Loss System with Random Rewards", IIE Transactions, Vol 34, 813-822, 2002

Örmeci, E. L., "Dynamic admission control in a call center with one shared and two dedicated service facilities", IEEE Transactions on Automatic Control, Vol. 49, 1157-1161, 2004

Örmeci, E. L. and Burnetas A. N., "Dynamic admission control for loss systems with batch arrivals", Advances App. Prob., Vol. 37, 915-937, 2005

Çil E. B., Örmeci E. L., Karaesmen F., "Effects of System Parameters on the Optimal Policy Structure in a Class of Queueing Control Problems", Queueing Systems, vol 61, 273-304, 2009

Örmeci, E. L., and Akşin O. Z., "Revenue Management Through Dynamic Cross-Selling in Call Centers," to appear, Production and Operations Management, 2009

#### EDITORIAL BOARDS

##### Refereed for journals

4OR, Applied Mathematical Modelling, Asia-Pacific Journal of Operational Research, European Journal of Operational

Research, Health Care Management Science, IEEE Transaction on Automatic Control, International Journal of Systems Science, Management Science, Manufacturing and Service Operations Management, Mathematical Methods of Operations Research, Naval Research Logistics, OMEGA, Operations Research, OR Spectrum, Queueing Systems, Stochastic Models, Turkish Journal of Biochemistry

#### GRANTS and CONSULTING

TÜBİTAK, 2006-2008: Workforce Planning for Call Centers; Principal Investigator: E. L. Örmeci; Investigators: D. Aksen, A. Erdem (Boğaziçi Üniversitesi), F. S. S. Salman, S. Savaş KÜMPEM, 2004-2006: Flexibility Design and Optimization in Service Systems; Co-Principal Investigators: O. Z. Akşin, F. Karaesmen, E. L. Örmeci

KÜMPEM, 2004-2005: Cross-Selling in Call Centers: Accounting for Customer Reactions; Co-Principal Investigators: O. Z. Akşin, E. D. Güneş, E. L. Örmeci

#### PROFESSIONAL EXPERIENCE

##### Academic

June 2009 - present, Associate Professor of Industrial Engineering Koç University

Jan 2001 – June 2009, Assistant Professor of Industrial Engineering, Koç University

1999-2001, Research Fellow, Technical University of Eindhoven

Fall 2000, Instructor, Erasmus University

1993-1998, Teaching Assistant, Case Western Reserve University

Summer 1996, Research Assistant, Case Western Reserve University

1990-1993, Teaching Assistant, Middle East Technical University

##### Visiting Academic Positions

Feb 2010 – Feb 2011, Sabbatical, University of Pennsylvania



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### **Industry Experience**

Summer 1997, System Analyst, Cleveland Clinic Foundation

Summer 1995, System Analyst, Case Western Reserve University

### **HONORS and AWARDS**

Doçent title from YÖK, 2005

### **MEMBER**

The Institute for Operations Research and Management  
Science

Society for Industrial and Applied Mathematics

Turkish Operational Research Society

INFORMS Doctoral Colloquium (New Orleans, November  
1995)



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## SÜLEYMAN ÖZEKİCİ

Professor of Industrial Engineering

### OPERATIONS RESEARCH MANAGEMENT SCIENCE FINANCIAL ENGINEERING

Ph.D. in Industrial Engineering and Management Sciences, Northwestern University, 1979; M.S. in Industrial Engineering and Management Sciences, Northwestern University, 1976; B.S. in Mechanical Engineering, Boğaziçi University, 1975

Professor Özekici teaches stochastic models, modeling and simulation, financial engineering, advanced stochastic processes, stochastic models in financial engineering. His recent research focuses on the areas of portfolio management in stochastic markets, complex OR/MS/IE models in random environments, reliability and component testing of mission-based systems, replacement policies for parallel production units, intrinsic aging in reliability and maintenance models, inventory management in random environments.

### SELECTED PUBLICATIONS

Çanakoğlu, E. and Özekici, S., Portfolio Selection in Stochastic Markets with HARA Utility Functions, *European Journal of Operational Research* 201, 520--536, 2010  
Çanakoğlu, E. and Özekici, S., Portfolio Selection in Stochastic Markets with Exponential Utility Functions, *Annals of Operations Research* 166, 281--297, 2009  
Fezyioğlu, O., Altinel, İ.K. and Özekici, S., Optimal Component Test Plans for Phased-Mission Systems, *European Journal of Operational Research* 185, 255--265, 2008  
Çelikyurt, U. and Özekici, S., Multiperiod Portfolio Optimization Models in Stochastic Markets Using the Mean-Variance Approach, *European Journal of Operational Research* 179, 186--202, 2007  
Sak, H., Özekici, S. and Boduroglu, İ., Parallel Computing in Asian Option Pricing, *Parallel Computing* 33, 92--108, 2007  
Özekici, S. and Soyer, R., Semi-Markov Modulated Poisson Processes: Probabilistic and Statistical Analysis, *Mathematical Methods of Operations Research* 64, 125--144, 2006

### RELIABILITY AND MAINTENANCE STOCHASTIC PROCESSES APPLIED PROBABILITY AND STATISTICS

Erdem, A.S., Fadiloglu, M.M. and Özekici, S., An EOQ Model with Multiple Suppliers and Random Capacity, *Naval Research Logistics* 53, 101--114, 2006

### EDITORIAL BOARDS

Editor-in-chief of *Transactions on Operational Research* (2004 - Present)

Associate editor of *Applied Stochastic Models in Business and Industry* (2009 - Present)

### GRANTS and CONSULTING

Görev Tabanlı Bileşen Sınamı (Mission-Based Component Testing) (2006 - 2009) Turkish Scientific and Technological Research Council (TÜBİTAK) Grant 106M044 (Principal Investigator)

Financial Markets in Random Economic Environments (2001 - 2002) Boğaziçi University Research Fund Grant 01HA302 (Principal Investigator)

Software Failure Modelling and Testing (1997 - 2000) Boğaziçi University Research Fund Grant 97HA303 (Principal Investigator)

Testing of Software with an Operational Profile (1996 - 2000) National Science Foundation (NSF) International Collaboration Grant INT-9602081 (Coprincipal Investigator with Professor Refik Soyer of the George Washington University)

Optimal Inspection of Deteriorating Systems Subject to Catastrophic Failure (1985 - 1987). NATO Collaborative Research Grant RG85/0768 (Coprincipal Investigator with Professor Stanley R. Pliska of the University of Illinois at Chicago)

### PROFESSIONAL EXPERIENCE

#### Academic

Director of Graduate School of Sciences and Engineering, (September 2006 - 2009), Koç University  
Professor of Industrial Engineering (2002 - Present), Koç University, Department of Industrial Engineering  
Professor of Industrial Engineering (1990 - 2002), Boğaziçi University, Department of Industrial Engineering



Associate Professor (1985 - 1989), Boğaziçi University,  
Department of Industrial Engineering

Assistant Professor (1979 - 1980, 1981 - 1984), Boğaziçi  
University, Department of Industrial Engineering

#### **Visiting Academic Positions**

Visiting Professor (1999 - 2001), The George Washington  
University, Department of Engineering Management and  
Systems Engineering, and the Department of Management  
Science

Senior Fellow (1991 - 1993), National University of  
Singapore, Faculty of Business Administration, Department  
of Decision Sciences

Visiting Assistant Professor (1984 - 1985), Northwestern  
University, Kellogg Graduate School of Management,  
Department of Managerial Economics and Decision  
Sciences

#### **HONORS and AWARDS**

Boğaziçi University Foundation Achievement Award in  
Scientific Research (1999)

Boğaziçi University Foundation Award (1998)

Turkish Scientific and Technological Research Council  
(TÜBİTAK) Award (1990)

The Franz Edelman Management Science Achievement  
Finalist Award (1988)

#### **MEMBER**

Omega Rho International Honor Society; International  
Statistical Institute (ISI)

Institute for Operations Research and Management  
Sciences (INFORMS)

Bernoulli Society for Mathematical Statistics and  
Probability (BS)

International Society for Bayesian Analysis (ISBA)

Operations Research Society of Turkey

Turkish Statistics Society



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## ÖZNUR ÖZKASAP

Associate Professor of Computer Engineering

**DISTRIBUTED COMPUTING SYSTEMS**  
**PEER-TO-PEER SYSTEMS**  
**BIOLOGICALLY-INSPIRED DISTRIBUTED ALGORITHMS**  
**RELIABLE MULTICAST PROTOCOLS**

**NETWORK TRANSPORT PROTOCOLS**  
**COMPUTER NETWORKS**  
**PARALLEL COMPUTING**  
**DISTRIBUTED REAL-TIME SYSTEMS**

Ph.D. in Computer Engineering, Ege University, 2000; M.S. in Computer Engineering, Ege University, 1994; B.S. in Computer Engineering, Ege University, 1992

Professor Özkasap teaches distributed computing systems, computer networks, operating systems, advanced programming, computer and network security. Her recent research focuses on the areas of distributed computing systems, peer-to-peer services, reliable multicast protocols, biologically-inspired distributed algorithms, mobile ad hoc and computer networks.

### SELECTED PUBLICATIONS

Ö. Özkasap, Z. Genç and E. Atsan (2009), Epidemic-based Reliable and Adaptive Multicast for Mobile Ad hoc Networks, *Computer Networks Journal*, 53, 1409-1430  
Ö. Özkasap, M. Çağlar, E.Ş. Yazıcı, S. Küçükçifci (2010), An Analytical Framework for Self-Organizing Peer-to-Peer Anti-Entropy Algorithms, *Performance Evaluation Journal*, 67(3), 141-159  
Ö. Özkasap, M. Çağlar, E. Cem, E. Ahi, E. Iskender (2009), Stepwise Fair-Share Buffering for Gossip-Based Peer-to-Peer Data Dissemination, *Computer Networks Journal*, 53 (13), 2259-2274  
Ö. Özkasap, M. Çağlar, A. Alagöz (2009), Principles and Performance Analysis of SeCond: A System for Epidemic Peer-to-Peer Content Distribution, *Journal of Network and Computer Applications*, 32, 666-683  
M.C. Filibeli, Ö. Özkasap, and M.R. Civanlar (2007), Embedded Web Server Based Home Appliance Networks, *Journal of Network and Computer Applications*, 30/2, 499-514, April  
Ö. Özkasap, M. Çağlar (2006), Traffic Characterization of Transport Level Reliable Multicasting: Comparison of Epidemic and Feedback Controlled Loss Recovery, *Computer Networks Journal*, 50, 1193-1218

M.R. Civanlar, Ö. Özkasap, and T. Çelebi (2005), Peer-to-Peer Multipoint Videoconferencing on the Internet, *Signal Processing: Image Communication Journal*, 20/8, 743-754  
Ö. Özkasap (2004), Performance Study of a Probabilistic Multicast Transport Protocol, *Performance Evaluation Journal*, 57/2, 177-198  
Ö. Özkasap, R. van Renesse, K.P. Birman, Z. Xiao (1999), Efficient Buffering in Reliable Multicast Protocols, *Lecture Notes in Computer Science*, 1736, 188-203  
K.P. Birman, M. Hayden, Ö. Özkasap, Z. Xiao, M. Budiu, Y. Minsky (1999), Bimodal Multicast, *ACM Transactions on Computer Systems*, 17/2, 41-88

### EDITORIAL BOARDS

#### International Program Committee Member

IEEE Local Computer Networks (LCN), 2003, Germany  
ACM Networked Group Communication (NGC), 2003, Germany  
IASTED International Conference on Parallel and Distributed Computing and Systems, 2003-2007, USA  
High Performance Computing & Simulation Conference (HPCS), 2005, 2008, 2009  
Bionetics: Bioinspired Models of Networked, Information and Computer Systems, 2006, Italy  
Dynamics on and of Complex Networks, Workshop of European Conf. on Complex Systems, 2007, Dresden  
International Symposium on Computer and Information Sciences (ISCIS), 2007, Ankara  
CollaborateCom: Collaborative Computing: Networking, Applications and Worksharing, 2007, New York  
International Conference on Emerging Network Intelligence (EMERGING), 2009, 2010  
eChallenges e-2009 Conference, 2009, İstanbul  
International Symposium on Computer and Information Sciences (ISCIS), 2010, London  
IEEE International Conference on Peer-to-Peer Computing (IEEE P2P), 2010, Delft



## Referee

IEEE TPDS (Transactions on Parallel and Distributed Systems), IEEE JSAC (Journal on Selected Areas in Communications), ACM TOCS (Transactions on Computer Systems), Ad Hoc Networks Journal, Journal of Network and Computer Applications, The International Journal of Time-Critical Computing Systems: Real-Time Systems, Computer Communications Journal, ACTA International Journal of Computers and Applications Information Sciences Journal, Signal Processing: Image Communication Journal, Turkish Journal of Electrical Engineering & Computer Science

## GRANTS and CONSULTING

EU/FP7 STREP Project, DIOMEDES: DIstribution Of Multi-view Entertainment using content aware DELivery Systems, project partner (with Prof. M. Tekalp), 2010-ongoing TÜBİTAK-EU COST IC0804 Action, Research Project, Energy Efficiency in Peer-to-Peer Network Services, pending proposal, principal investigator  
Research Council of Norway, ICT programme, SCAM (Safer Children Internet Access: Multimodal Digital Media Analysis), pending proposal, project partner  
TÜBİTAK-CAREER Project, Peer-to-Peer Algorithms and Applications for Distributed Computing Systems, 104E064, 2005-2009, principal investigator  
İstanbul Metropolitan Municipality, Projem İstanbul, M-İstanbul: Mobile İstanbul Networked Information Services Development and Optimization, 2008-2009, principal investigator  
TÜBİTAK-EU COST279 Action, Research Project, Design and Traffic Analysis of Multicast Protocols for Multiservice Networks, 102E028, 2003-2005, co-investigator (with Prof. M. Çağlar)  
TÜBİTAK Research Project, Wireless Packet Data Communication Systems Supporting Multicast Services, 101E010, 2001-2003, researcher  
Ege University Research Project, Scalable Reliable Multicast Protocols, 2000, principal investigator  
Cornell University Research Project, Horus/Ensemble projects, 1998-1999, researcher

## PROFESSIONAL EXPERIENCE

### Academic

Koç University, Department of Computer Engineering, Associate Professor, 06/2009 - present  
Koç University, Department of Computer Engineering,

Assistant Professor, 09/2000 - 06/2009

Cornell University, Department of Computer Science, Graduate Research Assistant, 08/ 1997-08/1999  
Ege University, Computer Engineering Department, Teaching & Research Assistant, 12/1992-09/2000

### Visiting Academic Positions

Cornell University, Department of Computer Science, Visiting PhD student, 08/1997-08/1999

### Industry Experience

Vestel Data Processing Center, Project Member, 02-07/1992  
Turkish Airlines (TAL) Data Processing Center, Software Applications Intern, 08-09/1991

### HONORS and AWARDS

Promoted to the rank of Associate Professor, Koç University, June 2009

Google conference grant and travel award (one of three winners worldwide) for SIGCOMM 2009

ACM Recommender Systems Conference 2008, Strands Call for Recommender Start-Ups Project Competition, Member of Board of Advisers of the 3rd place winner team: İletken, Koç University

Microsoft Imagine Cup Turkey 2007, Software Design Competition, Project adviser of the 3rd place winner team: I.GET(), Koç University

Associate Professorship in Computer Science and Engineering, Turkish Inter-university Council, Oct 2006  
TÜBİTAK -CAREER Award, 2004

Listed in Marquis Who's Who in the World, 2005-2009 Editions

TÜBİTAK/NATO-A2 Ph.D. Research Scholarship Abroad: 1997- 1998

Graduate Research Assistantship: Dept. of Computer Science, Cornell University, 1997- 1999  
ranked 3rd of the department in graduation, Computer Engineering, Ege University, 1992

### MEMBER

IEEE Society

ACM Society

Turkish Informatics Society

IEEE Turkey Section

EuroSys: The European Professional Society on Computer Systems

N2 Women: Networking Networking Women



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## F. SİBEL SALMAN

Assistant Professor of Industrial Engineering

### OPERATIONS RESEARCH DISCRETE OPTIMIZATION

Ph.D. in Operations Research, 2000, Carnegie Mellon University; M.Sc. in Industrial Administration, 1997, Carnegie Mellon University; M.Sc. in Industrial Engineering, 1994, Bilkent University; B.Sc. in Industrial Engineering, 1992, Bilkent University

Professor Salman teaches mathematical programming, linear programming, integer programming, optimization methods and applications, network models, approximation algorithms, heuristics, scheduling, production planning and control, information systems, operations management, management science. Her recent research focuses on the areas of methodologies: discrete optimization, approximation algorithms, stochastic programming application areas: Network design in telecommunication and logistics, facility location problems, production scheduling problems, resource allocation for risk reduction, disaster logistics

### SELECTED PUBLICATIONS

C. Oguz, F. S. Salman, and Z. B. Yalcin, "Order Acceptance and Scheduling Decisions in Make-to-order Systems", *International Journal of Production Economics*, 2010, available online, doi: 10.1016/j.ijpe.2010.02.002

S. Peeta, F. S. Salman, D. Gunec, and K. Viswanath, "Pre-disaster Investment Decisions for Strengthening a Highway Network", *Computers and Operations Research*, 2009, available online, doi:10.1016/j.cor.2009.12.006

E. Yuçel, F. Karaesmen, F. S. Salman, and M. Turkay, "Optimizing Product Assortment Under Customer-driven Demand Substitution", *European Journal of Operational Research*, 199:3, 759-768, 2009

F. S. Salman, R. Ravi and J. Hooker, "Solving the Local Access Network Design Problem", *INFORMS J. on Computing*, 20:2, 243-254, 2008

B. Saglam, F. S. Salman, S. Sayin, and M. Turkay, "A Mixed-Integer Programming Approach to the Clustering Problem with an Application in Customer Segmentation", *European*

### NETWORK OPTIMIZATION

*Journal of Operational Research*, 173:3, 866-879, 2006

R. Hassin, R. Ravi and F. S. Salman, "Approximation Algorithms for a Capacitated Network Design Problem", *Algorithmica*, 38 (3): 417-431, December 2003

F. S. Salman, J. Kalagnanam, S. Murthy and A. Davenport, "Cooperative Strategies for Solving the Bicriteria Sparse Multiple Knapsack Problem", *Journal of Heuristics*, 8(2): 215-239; March 2002

F. S. Salman, J. Cheriyan, R. Ravi and S. Subramanian, "Approximating the Single-sink Link-Installation Problem in Network Design", *SIAM J. Optimization*, 11:3, 595-610, 2000

### GRANTS and CONSULTING

NATO Collaborative Linkage Grant, 2007-2009: Locating Disaster Response Facilities for Effective Distribution of Emergency Supplies, Principle Investigators: F. S. Salman, R. Hassin, R. Ravi

TÜBİTAK CAREER AWARD (105M316), 2006 - 2011: Stochastic Network Optimization Methods with Applications in Disaster Management, Investigator: F. S. Salman

TÜBİTAK Research Project, 2006-2008: Call Center Workforce Planning; Co-investigators: L. Ormeci, D. Aksen, A. Erdem, F. S. Salman, S. Savas

İstanbul Metropolitan Municipality, 2006-2007: Post-disaster Logistics Planning for the City of İstanbul; Co-investigators: Dilek Gunec, F. S. Salman İstanbul Metropolitan Municipality, 2006-2007: Automatic Video Processing for Traffic Data Generation, Co-Investigators: Murat Tekalp, F. S. Salman

KÜMPEM, 2004-2006: Vendor Selection under Product Assortment and Inventory Considerations; Co-Principal Investigators: F. Karaesmen, F. S. Salman, M. Türkay

### PROFESSIONAL EXPERIENCE

#### Academic

9/03-present, Assistant Professor of Industrial Engineering, Koç University

8/00-8/03, Assistant Professor of Industrial Engineering,





Krannert School of Management, Purdue University  
9/92-7/95, Research Assistant, Department of Industrial  
Engineering, Bilkent University

**Industry Experience**

6/98, 7/97-9/97, Summer Intern – IBM, T.J. Watson Research  
Center

**HONORS and AWARDS**

2002 First Prize, Third Annual INFORMS Case Competition

8/97-7/99 IBM Corporate Fellowship for doctoral study

8/96-7/97 Doctoral Fellowship, William Larimer Mellon  
Foundation, GSIA, CMU

8/95-8/96 Fulbright Scholarship for doctoral study

9/92-7/95 Fellowship for graduate study, Bilkent University

9/88-6/92 Fellowship for undergraduate study, Bilkent  
University

**MEMBER**

Institute for Operations Research and the Management  
Sciences (INFORMS)

Institute of Industrial Engineers (IIE)

IEEE

YAD

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## MEHMET SAYAR

Assistant Professor of Mechanical Engineering

SOFT CONDENSED MATTER  
POLYMER PHYSICS  
COMPUTATIONAL MATERIALS SCIENCE

PHYSICS OF BIOPOLYMERS  
PHYSICS OF POLYELECTROLYTES

Ph.D. in the Department of Materials Science and Engineering at Northwestern University, 2003; M.Sc. in the Department of Materials Science and Engineering at University of Illinois Urbana/Champaign, 1999; B.Sc. in the Department of Civil Engineering at Boğaziçi University, 1996

Professor Sayar teaches computational science and engineering, statistics, intermolecular and surface forces, finite element method. His recent research focuses on the areas of soft condensed matter, polymer physics, computational materials science, physics of biopolymers, physics of polyelectrolytes.

### SELECTED PUBLICATIONS

Engin O., Sayar M. & Erman B. The introduction of hydrogen bond and hydrophobicity effects into the rotational isomeric states model for conformational analysis of unfolded peptides, *Phys. Biol.* 6, 016001 (2009)

Sayar M. & Holm C. Finite Size Polyelectrolyte Bundles at Thermodynamic Equilibrium, *Europhys. Lett.* 77, 16001 (2007)

Sayar M. & Stupp, S. I. Assembly of 1D Supramolecular Objects: From Monomers to Networks *Phys. Rev. E* 72, 011803 (2005)

Sayar M., de la Cruz M. O., & Stupp S.I. Polar Order in Nanostructured Organic Materials, *Europhys. Lett.* 61, 334-340 (2003)

Sayar M. & Stupp S.I. Self-organization of rod-coil molecules into nanoaggregates: A coarse grained model *Macromolecules* 34, 7135-7139 (2001)

Sayar M., Solis F. J., de la Cruz M.~O., & Stupp S. I. Competing interactions among supramolecular structures on surfaces *Macromolecules* 33, 7226-7228 (2000)

### GRANTS and CONSULTING

03/2010-03/2012 Partner Program with Max-Planck Institute for Polymer Research, Mainz, Germany

11/2009-10/2012 TÜBİTAK 1001 Project: A coarse-grained

model of DNA and the investigation of the equilibrium plasmid structures as a function of temperature  
01/2007-12/2009 TÜBİTAK Career Award  
03/2006-03/2009 Partner Program with Max-Planck Institute for Polymer Research, Mainz, Germany

### PROFESSIONAL EXPERIENCE

#### Academic

09/2005-present Assistant Professor in the Department of Mechanical Engineering, Koç University  
03/2003-08/2005 Postdoctoral Study at Max-Planck Institute for Polymer Research

### HONORS and AWARDS

01/2004-08/2005 Marie Curie Intra European Fellowship for Postdoctoral Research  
09/2001-03/2003 Nanoscale Science and Engineering Center Graduate Fellow at Northwestern University  
09/1997-03/1999 Fulbright Scholarship for M. Sc. studies in USA  
09/1992-06/1996 Honor student, Boğaziçi University, Faculty of Engineering  
09/1991-06/1996 Hacı Ömer Sabancı Foundation Award  
09/1992-02/1996 Boğaziçi University Alumni Association Award



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asennar@ku.edu.tr • <http://home.ku.edu.tr/~asennar/>

## ALPHAN SENNAROĞLU

Professor of Physics and Electrical-Electronics Engineering  
Dean of College of Sciences  
Director of KUPRC



### LASERS

#### SOLID-STATE LASERS

#### FEMTOSECOND LASERS

Ph.D. in Electrical Engineering, Cornell University, 1994;  
MS in Electrical Engineering, Cornell University, 1990; BS in  
Electrical Engineering, Cornell University, 1988

Professor Sennaroğlu teaches photonics and lasers,  
photonic materials and devices, electromagnetism, classical  
electrodynamics, fascinating nature of light, classical  
mechanics, quantum physics, experimental physics,  
quantum mechanics, and introduction to engineering. His  
recent research focuses on the development of infrared  
solid-state lasers, femtosecond lasers, spectroscopy of  
quantum dots, doped polymers, and glasses.

### SELECTED PUBLICATIONS

M. N. Cizmeciyan, H. Cankaya, A. Kurt, and A. Sennaroğlu,  
'Kerr-lens mode-locked femtosecond Cr<sup>2+</sup>:ZnSe laser at  
2420 nm,' *Opt. Lett.*, 34, 3056-3058 (2009)  
U. Demirbas, A. Sennaroğlu, F. X. Kärtner, and J. G.  
Fujimoto, 'Comparative investigation of diode pumping for  
continuous-wave and mode-locked Cr<sup>3+</sup>:LiCAF lasers,' *J.  
Opt. Soc. Am. B*, 26, 64-79 (2009)  
H. Kalaycioglu, H. Cankaya, G. Ozen, L. Ovecoglu, and  
A. Sennaroğlu, 'Lasing at 1065 nm in bulk Nd<sup>3+</sup>-doped  
telluride-tungstate glass,' *Opt. Commun.*, 281, 6056-6060  
(2008)  
S. Celebi, A. K. Erdamar, A. Sennaroğlu, A. Kurt, and H. Y.  
Acar, 'Synthesis and characterization of poly(acrylic acid)  
stabilized CdS quantum dots,' *J. Phys. Chem. B*, 111, 12668-  
12675 (2007)  
A. Sennaroğlu, A. Kiraz, M. A. Dundar, A. Kurt, and A. L.  
Demirel, 'Raman lasing near 630 nm from stationary  
glycerol-water microdroplets on a superhydrophobic surface,'  
*Opt. Lett.*, 32, 2197-2199 (2007)  
U. Demirbas and A. Sennaroğlu, 'Intracavity-pumped  
Cr<sup>2+</sup>:ZnSe laser with ultrabroad tuning range between 1880  
and 3100 nm,' *Opt. Lett.*, 31, 2293-2295 (2006)

### GLASS LASERS

#### ULTRAFAST AND NONLINEAR OPTICS

#### SPECTROSCOPY

A. Sennaroğlu, I. Kabalci, A. Kurt, U. Demirbas, and G. Ozen,  
'Spectroscopic properties of Tm<sup>3+</sup>:TeO<sub>2</sub>-PbF<sub>2</sub> glasses,' *J.  
Lumin.*, 116, 79-86 (2006)

A. Sennaroğlu, A. M. Kowalevicz, E. P. Ippen, and J. G.  
Fujimoto, 'Compact femtosecond lasers based on novel  
multi-pass cavities,' *IEEE J. Quantum Electron.* 40, 519-528  
(2004)

A. Sennaroğlu, "Broadly Tunable Cr<sup>4+</sup>-doped Solid-State  
Lasers in the Near Infrared and Visible," *Prog. Quantum  
Electr.* 26, 287-352 (2002)

### BOOKS

Solid-State Lasers and Applications, Alphan Sennaroğlu, Ed.,  
CRC Press (Taylor and Francis Group), 2006, (ISBN:0-8493-  
3589-2)

Solid-State Lasers and Amplifiers II, Alphan Sennaroğlu,  
James G. Fujimoto, and Jonathan A. C. Terry, Eds.,  
Proceedings of SPIE, Volume: 6190, SPIE Press, Bellingham  
(2006), (ISBN: 0-8194-6246-2)

Solid-State Lasers and Amplifiers, Alphan Sennaroğlu,  
Clifford R. Pollock, and James G. Fujimoto, Eds., Proceedings  
of SPIE, Volume: 5460, SPIE Press, Bellingham (2004), (ISBN:  
0-8194-5382-X)

### EDITORIAL BOARDS

Technical Committee Member, Advanced Solid-State  
Photonics, Denver CO, February 2009

Technical Committee Member, Advanced Solid-State  
Photonics, Nara Japan, February 2008

Technical Committee Member, Ultrafast Optics, CLEO 2007

Technical Committee Member, Ultrafast Optics, CLEO 2006

Technical Committee Member, Ultrafast Optics, CLEO 2005

Technical Committee Member, Ultrafast Optics, CLEO-  
Europe 2005

Technical Committee Member, Europhoton Conference on  
Solid-State and Fiber Lasers (2004)

Member of the Organizing Committee, Turkish Workshop on  
Photonics (1999-2009)



### GRANTS and CONSULTING

'Development of a high-energy, pulsed Cr<sup>2+</sup>:ZnSe laser amplifier at 2400 nm,' (TÜBİTAK, Project TBAG 108T028, 2008-2011)  
'Development of a room-temperature Fe:ZnSe laser,' (TÜBİTAK, 2006)  
'Development of Compact High-Energy Femtosecond Lasers,' (TÜBİTAK-NSF, with Massachusetts Institute of Technology, 2005-2007)  
'Infrared Micro-optics' under the Network of Excellence on Micro-optics,' (European 6th Framework Program, 2004-2008)  
'Development of tunable Cr:ZnSe lasers' (Vrije University Brussels, 2004-2006)  
'Investigation of eye-safe laser systems,' (Aselsan, Inc., 2004-2006)  
"Synthesis and Spectroscopic Characterization of Infrared Solid-State Laser Materials"(TÜBİTAK Project Code TBAG 2030, 2001-2004)  
m solid-state $\mu$ (3) "Development of a 2.5- laser source" (TÜBİTAK-NSF, with Cornell University 1999-2000)  
"Spectroscopic Characterization of New Solid-State Visible Laser Sources Based on Upconversion Processes" (Fiat Foundation, 1998-1999)  
"Design of a diode-pumped Nd:vanadate laser" (TÜBİTAK Project Code TBAG 1543, 1996-1998)

### PROFESSIONAL EXPERIENCE

#### Academic

Dean of College of Sciences, 2010-present  
Director of KUPRC, 2010-present  
Professor of Physics and Electrical-Electronics Engineering, Koç University, November 2004-present  
Associate Professor of Physics and Electrical-Electronics Engineering, Koç University, 1999-2004  
Assistant Professor, Koç University, 1994-1999

#### Visiting Academic Positions

Research Laboratory of Electronics, Massachusetts Institute of Technology, (2002-2003 and 2009-2010 academic years, and summers of 2005-2008)  
Coherent Technologies, Inc., Lafayette, CO (August 2000)  
Cornell University, (August 1999, August 2000)  
Ben Gurion University, (September 1998)

### HONORS and AWARDS

Associate Member, Turkish Academy of Sciences

(2005-present)

2002 ICTP/ICO (International Commission for Optics) Award  
İTÜ (Istanbul Technical University) Foundation 2001 Technology Award  
Werner-von-Siemens Excellence Award (Koç University, 2001)  
2001 TÜBA (Turkish Academy of Sciences) Distinguished Young Scientist Award  
1998 TÜBİTAK Young Scientist Award  
Cornell Materials Science Center graduate research assistantship (1989-1994)  
Sage Fellow (1988-1989 academic year)  
Sibley Award of Electrical Engineering: (1988)  
AMIDEAST Scholar (full undergraduate scholarship, 1984-1988)

### MEMBER

Senior Member, Institute of Electrical and Electronics Engineers (IEEE)  
Member, Optical Society of America (OSA), International Society for Optical Engineering (SPIE).  
Founding Chair of IEEE LEOS (Lasers and Electro-Optics Society) Turkish Chapter (1999-2003)  
Vice chair, Optics Committee of Turkey (2001-2003)  
Member, Eta Kappa Nu, Tau Beta Pi



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## T. METİN SEZGİN

Assistant Professor of Computer Engineering

MULTIMODAL HUMAN-COMPUTER INTERFACES  
AFFECTIVE COMPUTING AND AFFECTIVE INTERFACES  
PEN-BASED COMPUTING  
COMPUTER GRAPHICS AND ANIMATION

INTELLIGENT DRIVER MONITORING SYSTEMS  
STATISTICAL TECHNIQUES IN MEDICINE  
MACHINE LEARNING AND COMPUTER VISION APPLICATIONS  
ARTIFICIAL INTELLIGENCE

PhD in Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2006; MS in Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 2001; BS summa cum laude with Honors in Computer Science, Syracuse University, 1999

Professor Sezgin's teaching interests are intelligent user interfaces, multimodal interfaces, machine learning, graphical models. His research interests are multimodal human-computer interfaces, affective computing and affective interfaces, pen-based computing, computer graphics and animation, intelligent driver monitoring systems, statistical techniques in medicine, machine learning and computer vision applications. His research aims enabling people to interact with computers in a more natural fashion by combining techniques from computer vision, machine learning, computer graphics, human-computer interaction and psychology. His past research has concentrated on recognition technologies for intelligent pen-based human-computer interfaces, and automated emotion recognition for active driver monitoring in automobiles.

### SELECTED PUBLICATIONS

- T. M. Sezgin and R. Davis. Sketch Interpretation Using Multiscale Models of Temporal Patterns. *IEEE Computer Graphics & Applications Journal*, Volume: 27, Issue: 1, pp: 28-37. (2007)
- T. M. Sezgin and P. Robinson, Affective Video Data Collection Using an Automobile Simulator. *Second International Conference on Affective Computing and Intelligent Interaction*, Lisbon, Portugal, September 12-14, (2007)
- F. Sezgin and T. M. Sezgin. On the Statistical Analysis of Feigenbaum Constants. *Journal of the Franklin Institute*,

vol. 343, pp. 756-758 (2006)

T. M. Sezgin and R. Davis. HMM-Based Efficient Sketch Recognition. In *Proceedings of the International Conference on Intelligent User Interfaces (IUI'05)*, San Diego, CA. (2005)

H. A. Blair, F. Dushin, D. W. Jakel, A. J. Rivera and T. M. Sezgin. Continuous Models of Computation for Logic Programs. Book chapter in *The Logic Programming Paradigm: A 25-Year Perspective*, Springer Series. in *Artificial Intelligence* (1999) (Book chapter)

### EDITORIAL BOARDS

#### Program Committee

Sketch Based Interfaces and Modeling (SBIM 2007, 2008, 2009), International Conference on Autonomic and Autonomous Systems, VL/HCC Workshop 2008, AISB 2009 Symposium on Affective Bodily Expression, IUI Workshop on Sketch Recognition (2009), International Workshop on Human Behavior Understanding (2010)

#### Reviewer

ACM Pattern Recognition Journal, The Computer Journal, Human Computer-Interaction Journal (HCI), Physics Letters A, International Conference on Multimedia & Exp, ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, User Interface Software and Technology Conference (UIST), MIT Student Oxygen Workshop (SOW)  
Program Chair: MIT Student Oxygen Workshop (SOW)

### GRANTS and CONSULTING

TOYOTA Motor Corporation ITC; Havelsan A.Ş.  
DARPA/BAE/SIFT Deep Green.  
DARPA/SAIC Deep Green. (PI T. Hammond)

### PROFESSIONAL EXPERIENCE

#### Academic

01 2009 – present, Assistant Professor of Computer Engineering, Koç University  
08/2006-01/2009, Research Associate, University of



## T. METİN SEZGİN

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Cambridge, Computer Laboratory  
01/2000-06/2006, Research Assistant, Massachusetts  
Institute of Technology  
01/1998-05/1998, Teaching Assistant, Syracuse University,  
Syracuse

### **HONORS and AWARDS**

Warren Semon Prize for Outstanding Achievement in  
Computer Science, Syracuse University (1999)  
Earl H. Devoe Prize for Outstanding Undergraduate  
Research, Syracuse University (1999)  
Syracuse University 1998-1999 Remembrance Scholar  
Second place in the Martin and Phyllis Berman  
Competition for innovative Computer Programs in 1998  
Third Place in the Martin and Phyllis Berman Competition  
for innovative Computer Programs in 1997

### **MEMBER**

Association for the Advancement of Artificial Intelligence  
(AAAI)  
Association for Computing Machinery (ACM)  
NY  $\beta$  chapter of Tau Beta Pi Honor Society  
Phi Kappa Phi Honor Society



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## E. MURAT SÖZER

Associate Professor of Mechanical Engineering

**MANUFACTURING OF COMPOSITE MATERIALS  
PROCESS MODELING  
RESIN TRANSFER MOLDING (RTM) PROCESS  
VACUUM INFUSION (VI) PROCESS  
STRATEGIC CONTROL IN COMPOSITES MANUFACTURING  
CHARACTERIZATION OF FABRIC PERMEABILITY AND**

**COMPACTION  
NONLINEAR UNSTEADY FREE-SURFACE FLOWS  
VORTEX SHEET METHOD  
DRAG AND LIFT FORCES ON MOVING SUBMERGED SLENDER  
BODIES**

Ph.D. in Mechanical Engineering, University of Delaware, 1995; M.S. in Mechanical Engineering, Middle East Technical University, 1989; B.S. in Mechanical Engineering, Middle East Technical University, 1989

Professor Sözer teaches mechanics and mechanical properties of materials, manufacturing processes and systems, numerical methods, and manufacturing of advanced engineering materials. His recent research focuses on the areas of manufacturing of composite materials, resin transfer molding (RTM) process, vacuum infusion (VI), free-surface flows and vortex sheet method.

### SELECTED PUBLICATIONS

Yenilmez B., Sözer E. M., "Compaction of E-glass Fabric Preforms in the Vacuum Infusion Process, A: Characterization Experiments", *Composites Part A: Applied Science and Manufacturing*, 40(4), 499-510, (2009)  
Yenilmez B., Sözer E. M., "A Grid of Dielectric Sensors to Monitor Mold Filling and Resin Cure in Resin Transfer Molding", *Composites Part A: Applied Science and Manufacturing*, 40(4), 476-489, (2009)  
Yenilmez B., Senan M., Sözer E. M., "Variation of part thickness and compaction pressure in vacuum infusion process", *Composites Science and Technology*, 69(11-12), 1710-1719, (2009)  
Tuncol G., Danisman M., Kaynar A. ve Sözer E. M., "Constraints on monitoring resin flow in the resin transfer molding (RTM) process by using thermocouple sensors", *Composites Part A: Applied Science and Manufacturing*, 38(5), 1363-1386, (2007)  
Advani, S.G., and Sözer, E. M., *Process Modeling in Composites Manufacturing*, Marcel Dekker, Inc., New

York, Print ISBN: 0-8247-0860-1, E-ISBN: 0824743431, Print Published: 08/28/2002

### GRANTS and CONSULTING

Sözer, E. M., "Automated Manufacture of Composite Materials by Solving the Issues of RTM Process," Grant #: MAG-104M290, Scientific and Technical Research Council of Turkey (TÜBİTAK), MAG Career Project, April 2005 – April 2008

Sözer, E. M., "Control of Resin Transfer Molding (RTM) Composite Manufacturing Process with Mold Filling Simulations," Grant #: MİSAG 192 Scientific and Technical Research Council of Turkey (TÜBİTAK), August 2001 – February 2003

### PATENTS

Joint Patent: S. K. Kolavennu, A. Mathur, S. Parthasarathy, W. Fosler-Graber, H. D. Pham, S. Advani, K. Steiner, R. Don, S. Bickerton, and M. Sözer, "Improvements in Resin Transfer Molding," U.S. Patent Application Serial Number: 09/715,635

### PROFESSIONAL EXPERIENCE

#### Academic

Associate Professor, Koç University, Mechanical Engineering Dept., (June 2009 – present)  
Assistant Professor, Koç University, Mechanical Engineering Dept., (September 2000 – June 2009)

#### Visiting Academic Positions

Mechanical Engineering Dept., University of Delaware (July 1995 - December 1995)

#### Industry Experience

Technical Editor and Post-Doctoral Fellow, University of Delaware and Prentice-Hall Publishers, January 1996 – June 1997  
Design Engineer, Aselsan Military Electronics Inc., (July



## E. MURAT SÖZER

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1986-August 1989)

### **HONORS and AWARDS**

Top (The Outstanding) Technical Paper Award: Given by the Composites Manufacturing Association (CMA) of the Society of Manufacturing Engineers (SME) in recognition of outstanding contribution to the composites manufacturing body of knowledge for the technical paper. Composites Manufacturing and Tooling 2000 Conference and Tabletop Exhibits, pages 167-190, Newport Beach, California, February 23-25, 2000

Excellence in Teaching Award: Given by the Committee on Student and Faculty Honors, University of Delaware (one of only two teaching assistant recipients), (May 1994); Competitive and Tuition Fellowship by Graduate Office, University of Delaware (September 1992 - May 1993)





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## SERDAR TAŞIRAN

Assistant Professor of Computer Engineering

**SOFTWARE ENGINEERING: SOFTWARE RELIABILITY,  
PROGRAM ANALYSIS, SOFTWARE VERIFICATION  
CONCURRENT SYSTEMS: MULTI-THREADED SOFTWARE,**

**MULTI-PROCESSOR HARDWARE  
DESIGN AUTOMATION TOOLS FOR HARDWARE AND  
SOFTWARE SYSTEMS**

Ph.D. in Electrical Engineering and Computer Sciences, University of California, 1998; M.S. in Electrical Engineering and Computer Sciences, University of California, 1995; B.S. in Electrical Engineering, Bilkent University, 1991

Professor Taşiran teaches software engineering, algorithms and computational complexity, design methodologies and tools for software/hardware systems, object-oriented programming with Java. His recent research focuses on the areas of software engineering: software reliability, program analysis, foundations of software engineering; software verification: validation and bug detection tools and techniques; concurrent systems: multi-threaded software, multi-processor hardware; design automation tools for hardware and software systems: synthesis, verification, performance analysis and optimization; information visualization.

### SELECTED PUBLICATIONS

T. Elmas, S. Qadeer, and S. Taşiran A Calculus of Atomic Actions. In Proc. ACM SIGPLAN-SIGACT 2009 Symposium on Principles of Programming Languages. POPL '09 Savannah, Georgia, January 21-23 2009. Also in ACM SIGPLAN Notices, Volume 44, Issue 1, January 2009

T. Elmas, S. Qadeer, and S. Taşiran Goldilocks: A Race- and Transaction-Aware Java Runtime In Proc. ACM SIGPLAN 2007 Conf. on Programming Language Design and Implementation, PLDI '07. June 10-13, 2007. Also in ACM SIGPLAN Notices, Volume 42, Issue 6, June 2007

Selected for publication in the Communications of the ACM Research Highlights

T. Elmas, S. Taşiran, S. Qadeer VYRD: VerifYing Concurrent Programs by Runtime Refinement-Violation Detection ACM SIGPLAN 2005 Conf. on Programming Language Design and Implementation, PLDI '05. June 12-15, 2005, Also in ACM SIGPLAN Notices, Volume 40, Issue 6, June 2005

S. Taşiran, Y. Yu, and B. Batson Linking Simulation with Formal Verification at a Higher Level IEEE Design and Test of Computers, Special Issue on Exploring Synergies for Design Verification, Nov-Dec 2004

S. Taşiran, Y. Yu, and B. Batson Using a Formal Specification and a Model Checker to Monitor and Direct Simulation: Verifying the Multiprocessing Hardware of the Alpha 21364 Microprocessor. Proc. IEEE 40th Design Automation Conference, DAC '03, Anaheim, CA, June 2003

### EDITORIAL BOARDS

Guest Editor, Special Issue of the Journal of Logic and Computation (Oxford Journals) on Runtime Verification

### GRANTS and CONSULTING

Microsoft Research Europe PhD Scholarship 2010  
Young Investigator Award (KARİYER Award No. 104E058) by the Scientific and Technical Research Council of Turkey (TÜBİTAK)

During 2003-2009, research support from Microsoft Research, Redmond in the form of yearly unrestricted gifts, two salaried PhD student internships with support for travel and accommodations and financial support for several Visiting Researcher appointments

### PROFESSIONAL EXPERIENCE

#### Academic

January 2003 – present, Assistant Professor of Computer Engineering, Koç University  
June 2001, Instructor, Sabancı University  
August 1992-December 1998, Graduate Student Researcher, University of California  
Spring 1997, Course Consultant, University of California and National Technological University  
August 1991-May 1992, Research Assistant, University of Illinois, Urbana-Champaign

#### Visiting Academic Positions

Massachusetts Institute of Technology, Research Laboratory of Electronics (August 2005)



## SERDAR TAŞIRAN

---

Swiss Federal Institute of Technology (EPFL) Lausanne  
(July-August 2003)

### **Industry Experience**

June-August 2007, June 2005, Aug.-Sep. 2004, Aug.-Sep. 2003, Visiting Researcher, Microsoft Research, Redmond, Mountain View

May 2002 – January 2003, Research Scientist, Hewlett-Packard Laboratories, Palo Alto

October 2000 – May 2002, Research Scientist, Systems Research Center, Compaq, Palo Alto

December 1998 – October 2000, Post-Doctoral Researcher, Gigascale Silicon Research Center, Berkeley

June – August 1995, June 1996, Member of Technical Staff, Bell Laboratories, Lucent Technologies, Murray Hill

### **HONORS and AWARDS**

2004-2007: Research gifts from the Software Productivity Tools and Software Reliability Research Groups, Microsoft Research, Redmond

Outstanding Young Researcher Award (TÜBA-GEBİP) by the Turkish Academy of Sciences

1993-1998: Funding for graduate study from the Semiconductor Research Corporation

1992: Eugene C. Gee and Mona Fay Gee Scholarship for graduate study at UC Berkeley

1991: One of the four NATO Honorary Doctoral Scholars in Electrical Engineering selected by the Scientific and Technical Research Council of Turkey

1991: Ranked first in the graduating class of the Department of Electrical and Electronics Engineering at Bilkent University

1987-1991: Undergraduate merit scholarships from Bilkent University, the Turkish Council for Scientific and Technical Research, and the Sabanci Foundation

### **MEMBER**

IEEE

ACM



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## A. MURAT TEKALP

Professor of Electrical and Electronics Engineering  
Dean of College of Engineering



### SIGNAL, IMAGE AND VIDEO PROCESSING

Ph.D. in Electrical, Computer and Systems Engineering, Rensselaer Polytechnic Institute, 1984; M.S. in Electrical, Computer and Systems Engineering, Rensselaer Polytechnic Institute, 1982; B.S. in Electrical Engineering and B.S. in Mathematics, Boğaziçi University, 1980

Professor Tekalp teaches signals and systems, digital signal processing, image and video processing. His recent research focuses on the areas of video coding and streaming, multi-view and 3D video processing, 3DTV, video restoration and super-resolution, video and motion analysis, sports video analysis, multi-modal signal processing for human-computer interaction.

#### SELECTED PUBLICATIONS

- E. Sargin, Y. Yemez, E. Erzin, and A. M. Tekalp, "Analysis of head gesture and prosody patterns for prosody-driven head-gesture animation," *IEEE Trans. Patt. Anal. Mach. Intel.*, vol. 30, no. 8, pp. 1330-1345, Aug. 2008
- A. M. Tekalp, E. Kurutepe, and M. R. Civanlar, "3DTV over IP: End-to-end streaming of multi-view video," *IEEE Signal Processing Magazine*, vol. 24, no. 6, pp. 77-87, Nov. 2007
- E. Kurutepe, R. Civanlar, and A. M. Tekalp, "Client-driven selective streaming of multi-view video for interactive 3DTV," *IEEE Trans. on Circ. and Syst. for Video Tech.*, vol. 17, no. 11, pp. 1558-1565, Nov. 2007
- G. Bozdagi-Akar, A. M. Tekalp, C. Fehn, and R. Civanlar, "3DTV - A survey of transport methods," *IEEE Trans. on Circ. and Syst. for Video Technology*, vol. 17, no. 11, pp. 1622-1630, Nov. 2007
- E. Sargin, Y. Yemez, E. Erzin, and A. M. Tekalp, "Audio-visual synchronization and fusion using canonical correlation analysis," *IEEE Trans. Multimedia*, vol. 9, no. 7, pp. 1396-1403, Nov. 2007
- E. Akyol, A. M. Tekalp, and R. Civanlar, "A flexible multiple description coding framework for adaptive peer-to-peer video streaming," *IEEE Jour. Selected Topics in Signal Proc.*, vol. 1, no. 2, pp. 231-245, Aug. 2007
- T. Ozcelebi, A. M. Tekalp, and M. R. Civanlar, "Delay-

distortion optimization for content-adaptive video streaming," *IEEE Trans. Multimedia*, vol. 9, no. 4, pp. 826-836, June 2007

O. Harmanci and A. M. Tekalp, "Rate-distortion optimal video transport over IP allowing packets with bit errors," *IEEE Trans. Image Processing*, vol. 16, no. 5, pp. 1315-1326, May 2007

T. Ozcelebi, O. Sunay, A. M. Tekalp, and M. R. Civanlar, "Cross-layer optimized rate adaptation and scheduling for multiple-user wireless video streaming," *IEEE Jour. Select. Areas in Commun.*, vol. 25, no. 4, pp. 760-769, May 2007

O. Harmanci and A. M. Tekalp, "A stochastic framework for rate-distortion optimized video coding over error-prone networks," *IEEE Trans. Image Processing*, vol. 16, no. 3, pp. 684-697, March 2007

#### EDITORIAL BOARDS

Editor-in-Chief, *Signal Processing: Image Communication*, Elsevier, Editorial Board, *IEEE Signal Processing Magazine*, Associate Editor, *IEEE Trans. on Signal Processing*, Associate Editor, *IEEE Trans. Image Processing*

#### GRANTS and CONSULTING

DIOMEDES, FP7 STREP; SARACEN, FP7 STREP; COST2102; SIMILAR FP6 Network of Excellence; 3DTV FP6 Network of Excellence (Europe)

8 National Science Foundation Grants, and grants from Eastman Kodak, Xerox and Siemens Corporation (USA), TÜBİTAK grant (Turkey)

Consultant to Eastman Kodak Company, Xerox Corporation, Siemens Research, Sharp Labs. America (USA); Oxygen Technologies, ARGELA (Turkey)

#### PATENTS

"Method and system for object-oriented motion-based video description," (with Rajiv Mehrotra) US Patent No. 6,665,423, issued 12/16/2003

"Mesh node motion coding to enable object based functionalities within a motion compensated transform video coder," (with Peter van Beek and Atul Puri) US Patent No. 6,148,026, issued November 14, 2000



## A. MURAT TEKALP

"2-D mesh geometry and motion vector compression," (with Peter van Beek) US Pat No 6,047,088, issued April 4, 2000

"Object-based video processing using forward-tracking 2-D mesh layers," (with Peter van Beek) US Patent No. 5,936,671, August 10, 1999

"Method for object tracking and mosaicing in an image sequence using a two-dimensional mesh," (with C. Toklu and A. T. Erdem) US Patent No. 5,907,626, issued May 25, 1999

"Video compression system using a dense motion vector field and a triangular patch mesh overlay model," (with Y. Altunbasak, and G. Bozdagi) US Patent No. 5,654,771, issued August 5, 1997

### PROFESSIONAL EXPERIENCE

#### Academic

February '10-present, Dean of College of Engineering, Koç University

June '01-present, Professor Electrical and Electronics Engineering, Koç University

November '95-, Professor Electrical and Electronics Engineering, University of Rochester

May '90 - November 95, Associate Professor Electrical and Electronics Engineering, University of Rochester

July '87 - May '90, Assistant Professor electrical and Electronics Engineering University of Rochester

January '81-Dec. '84, Research/Teaching Assistant, Rensselaer Polytechnic Institute

February '78 - June '80, Boğaziçi University, Teaching Assistant

#### Industry Experience

June '87 - August '87, Senior Research Scientist, Eastman Kodak Company

December '84 - June '87, Research Scientist, Eastman Kodak Company

### HONORS and AWARDS

TÜBA, Full Member, 2007

TÜBİTAK Bilim Ödülü, 2004

IEEE Fellow, 2003

Fulbright Senior Scholar Award, 1999-2000 Academic year

Distinguished Lecturer, IEEE Signal Processing Society, 1999-2000

Listed in Marquis Who'sWho in America Science and Engineering, 4th and 5th Editions

Who's Who in the World, 17th Edition

National Science Foundation Research Initiation Award ('88)

Fellowship from Scientific and Technical Research Council of Turkey ('78)

### MEMBER

TÜBA

IEEE (S '80, M '85, Sr. '91, Fellow '03)

Member, Sigma Xi (M '83)

Member, ERC Advanced Grant Panel (2009-2013)

National Expert, Turkish ICT Delegation to European Commission, (2009- present)

TÜBİTAK EEEAG Executive Committee, (2004-present)

Past Chair, IEEE Signal Processing Society Technical

Committee on Image and Multi-Dimensional Signal

Processing (1996 - 98), Vice-Chair (1994 - 96), Member (1990 - 2000)

Member, IEEE Signal Processing Society Technical

Committee on Multimedia Signal Processing (1996 -2003)



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## METİN TÜRKAY

Associate Professor of Industrial Engineering

**MIXED-INTEGER PROGRAMMING THEORY AND  
ALGORITHMS LOGISTICS  
SUPPLY CHAIN MANAGEMENT  
SUSTAINABILITY**

**COMPUTATIONAL BIOLOGY  
SYSTEMS BIOLOGY  
STRUCTURE-BASED DRUG DESIGN**

Ph.D, Carnegie Mellon University, 1996, M.S., METU, 1992;  
B.S. METU, 1989

Professor Türkay teaches optimization models and algorithms, linear programming theory and algorithms, logistics and supply chain management, process and product design. His recent research focuses on the areas of multi-objective mixed-integer programming models and solution algorithms, planning and scheduling in logistics and supply chain management, inter-modal logistics, sustainable supply chain and logistics systems, systems biology, structure-based drug design.

### SELECTED PUBLICATIONS

Armutlu P., M. E. Ozdemir, S. Ozdas, I. H. Kavaklı and M. Türkay, "Discovery of Novel CYP17 Inhibitors for the Treatment of Prostate Cancer with Structure-Based Drug Design", *Letters in Drug Design and Discovery*, 6(5), 337-344 (2009)

Kaplan, U., M. Türkay, L. T. Biegler and B. Karasozen, "Modeling and Simulation of Metabolic Networks for Estimation of Biomass Accumulation Parameters", *Discrete Applied Mathematics*, 157(10), 2483-2493 (2009)

Yucel, E., F. Karaesmen, F. S. Salman and M. Türkay, "Optimizing Product Assortment Under Customer-driven Demand Substitution", *European Journal of Operational Research*, 199(2009), 759-768 (2009)

Mestan, E., M. Turkey and Y. Arkun, "Optimization of Operations in Supply Chain Systems Using Hybrid Systems Approach and Model Predictive Control", *Ind. Eng. Chem. Res.*, 45(19), 6493 - 6503 (2006)

Uney, F., and M. Türkay, "A Mixed-Integer Programming Approach to Multi-Class Data Classification Problem", *European Journal of Operational Research*, 173(3), 910-920 (2006)

Soylu, A., C. Oruc, M. Türkay, K. Fujita, and T. Asakura, "Synergy Analysis of Collaborative Supply Chain Management in Energy Systems using Multi-Period MILP", *European Journal of Operational Research*, 174(1), 387-403 (2006)

Türkay, M., C. Oruç, K. Fujita, and T. Asakura, "Multi-Company Collaborative Supply Chain Management with Economical and Environmental Considerations", *Comput. Chem. Engng.*, 28(6-7), 985-992 (2004)

### EDITORIAL BOARDS

*European Journal of Operational Research*, *Optimization*, *Discrete Applied Mathematics*, *AIChE Journal*, *Bioinformatics*, *Computers and Chemical Engineering*, *Industrial & Engineering Chemistry Research*, *Chemical Engineering Communications*, *Transactions on Operational Research (Turkey)*, *International Journal of Thermal Sciences*, *Automatica*, *Asia Pacific Management Review*, *Journal of Environmental Management*

### GRANTS and CONSULTING

Development of Technologies for Reuse and Disposal of Batteries, TÜBİTAK-TARAL Research Project, 01.08.2009-31.07.2011

Automotive Logistics in Marmara Region, OSD (Otomotiv Sanayii Derneği), 01.08.2007-31.07.2008

Modeling and Optimization of Sustainable Supply Chain and Logistics Systems, IBM, 01.08.2007-31.07.2012

Optimization with PDE Constraints, European Science Foundation (ESF) Scientific Networking, 01.01.2008-31.12.2012

Integration of Facility Location and Layout of Intermodal Transportation System with Scheduling, TÜBİTAK Research Project (106E208), 01.01.2007-31.03.2008

Development of Mixed-Integer Multi-Objective Optimization Methods and Application to Supply Chain Management Strategy in Energy Systems, TÜBİTAK CAREER



Project (104M322), 01.04.2005-01.04.2010  
Development of Modeling and Optimization Tools for Hybrid Systems, NSF-TÜBİTAK Joint Project (TBAG-U/114 (104T253), 01.04.2005-31.03.2008  
Global Optimization of Transferable Molecular Step Potential Functions, NSF-TÜBİTAK Joint Project (TBAG-U/99 (104T097), 01.09.2004-31.08.2006  
Optimization of Piecewise Linear Cost Functions using Generalized Disjunctive Programming, Koç University KÜMPEM Project, 07.11.2006-06.11.2007  
Development of Planning, Scheduling and Optimization Software for Discrete Manufacturing Industries, KoçSistem Software Development Co., 14.02.2005-31.03.2006.  
Vendor Selection under Product Assortment and Inventory Considerations, Koç University KÜMPEM Project  
Dates: 01.01.2005-31.12.2006  
Inter-company energy optimization project, Mitsubishi Chemical Corporation, Japan, 01.03.2002-28.02.2004  
Logistics systems modeling and optimization project, Mitsubishi Chemical Corporation, Japan, 01.03.2001-28.02.2002

**PATENTS**

Asakura, T., M. Türkay, Y. Masaiwa, H. Oonishi, and T. Takeshita, Optimization System for Production Planning, Japanese Patent Office, P2000-066886  
Asakura, T., M. Türkay, Y. Masaiwa, H. Oonishi, and T. Takeshita, Optimization System for Plant Maintenance Scheduling, Japanese Patent Office, P2000-066887

**PROFESSIONAL EXPERIENCE****Academic**

Koç University, Department of Industrial Engineering, Associate Professor, December 2007-present  
Koç University, Department of Industrial Engineering, Assistant Professor, September 2000-December 2007  
Rutgers University, Piscataway, NJ, USA, Lecturer/Assistant Professor, January 1997-July 1997

**Industry Experience**

Mitsubishi Chemical Corporation, Japan  
Principal Consultant, August 1997-July 2000

**HONORS and AWARDS**

IBM Faculty Award, 2009 (for the development of novel multi-group data classification approach)  
IBM SUR (Shared University Research) Award, 2007 (for the development of sustainable supply chain and logistics systems)  
Semi-Plenary Speaker, EURO XXII Meeting, Prague, Czech Republic, 2007, Seminar Title: Operations Research in Computational Biology, Bioinformatics and Medicine  
TÜBİTAK Encouragement Award, 2006 (for contributions to

mixed-integer programming)  
TÜBİTAK Career Award, 2005 (for the development of environmentally conscious supply chain management models in energy sector and multi-objective optimization algorithms)  
1997 AIChE/CAST Division Ted Peterson Award (sponsored by IBM Corporation, for the development of pioneering generalized disjunctive programming models and solution algorithms in the optimization of nonlinear process networks)  
18th CMU ChEGSA Symposium Award, 1996 (for excellence in oral presentation by a graduate student)  
Graduate Fellowship Award, Carnegie Mellon University, May 1993-December 1996  
Fulbright Scholarship Award, Carnegie Mellon University, July 1992-May 1993  
Sami Kırdar Scholarship, Middle East Technical University, January 1987-December 1989

**MEMBER**

CHAIR, EURO Working Group on Operational Research in Computational Biology, Bioinformatics and Medicine  
YAD (Yöneylem Araştırması Derneği) member since 2000  
ISCB (International Society for Computational Biology) member since 2003  
INFORMS (Institute for Operations Research and the Management Sciences) member since 1998  
AIChE (American Institute of Chemical Engineers) member since 1993



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## HAKAN ÜREY

Professor of Electrical and Electronics Engineering

### **MEMS AND NEMS (MICRO AND NANO ELECTRO-MECHANICAL-SYSTEMS)**

Ph.D. in Electrical Engineering, Georgia Institute of Technology, 1997; MS in Electrical Engineering, Georgia Institute of Technology, 1996; BS in Electrical Engineering, Middle East Technical University, 1992

Professor Ürey teaches circuit analysis, introduction to optics, introduction to micro-opto-electro-mechanical systems, and optical information processing. Professor Ürey's recent research focuses on the areas of MEMS scanners for display and imaging systems, biosensors, MEMS thermal infrared imaging camera development, MEMS spectrometers, electrostatic and electromagnetic actuators, optical sensors, MEMS metrology tools, 3D displays.

#### **SELECTED PUBLICATIONS**

8 edited books, 2 book chapters, 30 international journal papers, 18 US patents, more than 100 conference papers, more than 20 invited talks and seminars

#### **GRANTS and CONSULTING**

Microvision Inc.-USA; MEMS and FR4 based laser scanner development; (2001-present)  
HELIUM3D (EC 7th Framework STREP project); Multi-viewer 3D laser display development; (2008-2011)  
MEMFIS(EC 7th Framework STREP project); Ultra-Miniaturized MEMS Spectrometer development; (2008-2011)  
ASELSAN; Thermal imaging detector array with optical readout; (2005-present)  
Fraunhofer Institute-IPMS-Germany; MEMS spectrometers; (2007-2008)  
NSF-USA; Micro/Nano device characterization; (2005-2008)  
TÜBİTAK Projects; Biosensor; Electro-plated magnetic actuators; Endoscopic imaging probe; (2003-2006, 2006-2009)  
Network of Excellence in Micro-Optics (EU 6th Framework NoE)(2004-2008)

### **OPTICS AND PHOTONICS DISPLAYS**

3D TV Network of Excellence (EC 6th Framework NoE) (2004-2008)

MINOS Euronet (EC 6th Framework SSA)(2005-2008)

#### **PATENTS**

18 United States Patents issued more than 10 pending patents

#### **PROFESSIONAL EXPERIENCE**

##### **Academic**

October 2010 – present; Professor of Electrical and Electronics Engineering, Koç University  
September 2007- October 2010; Associate Professor of Electrical and Electronics Engineering, Koç University  
Sept.2001-September 2007; Assistant Professor of Electrical and Electronics Engineering, Koç University

##### **Industry Experience**

2001-present, Consultant, Microvision Inc.  
1998-2002 Last position: Principal System Engineer and Systems Group Lead, Microvision Inc.

##### **HONORS and AWARDS**

TÜBİTAK-Encouragement Award (2009)  
JCI (Junior Chamber Int.) Top Outstanding Young Person (TOYP) Award in Science and Technology (2008)  
TÜBA-GEBİP Outstanding Young Scientist Award, Turkish Academy of Sciences (TÜBA) (2007)  
Werner Von Siemens Excellence Award for outstanding research performance at Koç University (2006)  
Doçent title from the Higher Education Council (YÖK) (2004)

##### **MEMBER**

IEEE (Sr. Member)  
IEEE-LEOS  
OSA  
SPIE



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## YÜCEL YEMEZ

Associate Professor of Computer Engineering

3D CAPTURE, MODELING & TRANSMISSION  
CONTENT-BASED 3D RETRIEVAL  
3D DIGITIZATION OF CULTURAL HERITAGE  
COMPUTER VISION & GRAPHICS

IMAGE PROCESSING  
PATTERN RECOGNITION  
BIOMETRICS  
MULTIMODAL SIGNAL PROCESSING

Ph.D. in Electrical and Electronics Engineering, Boğaziçi University, 1997; M.S.E. in Electrical and Electronics Engineering, Boğaziçi University, 1992; B.Sc in Electrical and Electronics Engineering, Middle East Technical University, 1989

Professor Yemez teaches computer vision, computer graphics, discrete mathematics. His recent research focuses on the areas of 3D capture, modeling & transmission, shape correspondence and matching, content-based 3D retrieval, 3D digitization of cultural heritage, computer vision & graphics, image processing, pattern recognition, biometrics, multimodal signal processing.

### SELECTED PUBLICATIONS

C. B. Akgül, B. Sankur, Y. Yemez, F. Schmitt, "3D Model Retrieval using Probability Density-Based Shape Descriptors", IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 31, No. 6, pp. 1117-1133, June 2009

Y. Yemez and C.J. Wetherilt, "A volumetric fusion technique for surface reconstruction from silhouettes and range data," Computer Vision and Image Understanding, Vol. 105, No. 1, pp. 30-41, 2007

A. A. Alatan, Y. Yemez, U. Gündükbay, X. Zabulis, K. Müller, Ç. Erdem, C. Weigel and A. Smolic, Scene Representation Technologies for 3DTV - A Survey, IEEE Transactions on Circuits and Systems for Video Technology, Vol. 17, No. 11, pp. 1587-1605, 2007

M. E. Sargin, Y. Yemez, E. Erzin, and A. M. Tekalp, "Analysis of Head Gesture and Prosody Patterns for Prosody-Driven Head-Gesture Animation," IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 30, No. 8, pp. 1330-1345, August 2008

Y. Yemez and F. Schmitt, "Multilevel Representation and Transmission of Real Objects with Progressive Octree

Particles," IEEE Trans. on Visualization and Computer Graphics, Vol. 9, No. 4, pp. 551-569, October 2003

Y. Yemez and F. Schmitt, "3D reconstruction of real objects with high resolution shape and texture," Image and Vision Computing, Vol. 22, No. 13, pp. 1137-1153, 2004

### GRANTS and CONSULTING

SIMILAR, European FP6 Network of Excellence on 'Human-machine interfaces similar to human-human communication', 2004-2008

3DTV, European FP6 Network of Excellence on 'Integrated 3-D Television - Capture, Transmission and Display', 2004-2008

Programme of Integrated Actions (PIA), TÜBİTAK and French Embassy, Cooperation with ENST-Paris and Boğaziçi Un., 2004

DPT Projesi, 'Güvenli-Sürüş: Sinyal İşleme ve İletişim Teknolojileri Kullanılarak Araç, Sürüş ve Sürücü Güvenliğinin Arttırılması ve Kazaların Azaltılması', started in July 2005

TÜBİTAK-EEEAG, '3D reconstruction and Space-Time Surface Modeling of Time Varying Real Scenes', 2006-2009

AYGAZ-Dara okuma ve tüp deformasyon tespit sistemleri, 2006

COST Action 2102: Cross-Modal Analysis of Verbal and Non-verbal Communication (CAVeNC), started in August 2006

### PROFESSIONAL EXPERIENCE

#### Academic

2009-Present, Associate Professor of Computer Engineering, Koç University

2000-2009, Assistant Professor, Koç University

Oct.1999 – June 2000, Postdoctoral Researcher, ENST (Ecole Nationale Supérieure des Télécommunications)

Sept. 1997- Oct. 1999, Postdoctoral Fellow, ENST (Ecole Nationale Supérieure des Télécommunications)

1990-1997, Teaching Assistant, Boğaziçi University

### HONORS and AWARDS

Paper Award: M.E., Sargin, E. Erzin, Y. Yemez, A. M. Tekalp, A.





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T. Erdem, C. Erdem, M. Ozkan, "Prosody-Driven Head-Gesture Animation," IEEE Int. Conf. on Acoustics, Speech and Signal Processing, pp. II-677 - II-680, Honolulu, 2007

Paper Award: H. Dutagaci, B. Sankur, Y. Yemez, "3D Face Recognition," IEEE 14th Signal Processing and Communications Applications (SIU), Antalya, April 2006

Paper Award: Y. Yemez and F. Schmitt, "Modélisation Progressive Multiniveaux d'Objets 3D par particules," RFIA'2000, 12ème Congrès Francophone AFRIF-AFIA de Reconnaissance des Formes et Intelligence Artificielle, Paris, February 2000

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## EMİNE YILMAZ

Assistant Professor of Computer Engineering

### INFORMATION RETRIEVAL WEB SEARCH

PhD, Northeastern University, 2007; MSc, Northeastern University, 2004; BSc, Middle East Technical University, 2002

Professor Yilmaz teaches machine learning, data mining, artificial intelligence, algorithms, probability and statistics. Her recent research focuses on information retrieval, web search, and applications of machine learning, statistics and information theory.

### SELECTED PUBLICATIONS

On the Choice of Effectiveness Measures for Learning to Rank, Emine Yilmaz and Stephen Robertson, In Special Issue on Learning to Rank for Information Retrieval, Information Retrieval Journal, 2010

Document Selection Methodologies for Efficient and Effective Learning-to-Rank, Javed A. Aslam, Evangelos Kanoulas, Virgil Pavlu, Stefan Savev, Emine Yilmaz, In Proceedings of the 31th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, July 2009

A New Rank Correlation Coefficient for Information Retrieval, Emine Yilmaz, Javed A. Aslam and Stephen Robertson, In Proceedings of the 30th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, July 2008

Estimating Average Precision with Incomplete and Imperfect Information, Emine Yilmaz and Javed A. Aslam, In Proceedings of the 15th International Conference on Information and Knowledge Management (CIKM), October 2006, Invited to Appear In International Journal of Knowledge and Information Systems

A Statistical Method for System Evaluation Using Incomplete Judgments. Javed A. Aslam, Virgil Pavlu and Emine Yilmaz. In Proceedings of the 29th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, August 2006

### GRANTS and CONSULTING

Consulting several tracks in TREC, INEX and CLEF on evaluation (2007- )

### APPLICATIONS OF MACHINE LEARNING STATISTICS AND INFORMATION THEORY

### PROFESSIONAL EXPERIENCE

#### Academic

Assistant Professor at Koç University; Jan. 2011  
Associate researcher at Microsoft Research Cambridge; February 2008-Jan. 2011  
Research assistant at Northeastern University; 2003-2007  
Teaching assistant at Northeastern University; 2002-2003  
Research intern at Microsoft Research Cambridge; June 2006-September 2006

#### Industry Experience

Research engineer at AkNet; July 2002-December 2002  
Part-time researcher at Software Research and Development Center (SRDC); January 2002-July 2002  
Research intern at Hahn-Meitner Institut; July 2001 - September 2001

### HONORS and AWARDS

TREC (Text Retrieval Conference, National Institute of Standards and Technology) Terabyte and VID track adopts infAP, an evaluation measure proposed by Emine Yilmaz and Javed Aslam (July 2006)

Outstanding Researcher Award, Department of Computer and Information Science, Northeastern University (May 2006)

Selected for the Dean's Office honors/high honors list for all semesters in Middle East Technical University (September 1998 - June 2002)

IAESTE (The International Association for the Exchange of Students for Technical Experience) Scholarship (July 2001 - September 2001)

### MEMBER

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## DENİZ YÜRET

Assistant Professor of Computer Engineering  
Director of CIT

### NATURAL LANGUAGE PROCESSING MACHINE LEARNING

Ph.D. in Computer Science, Massachusetts Institute of Technology, 1998; M.Sc. in Computer Science, Massachusetts Institute of Technology, 1994; B.Sc. in Electrical Engineering, Massachusetts Institute of Technology, 1992

Professor Yüret teaches programming, probability, and machine learning. His recent research focuses on problems in computational linguistics including dependency parsing, word sense disambiguation, morphological analysis, statistical language modeling, and machine translation.

#### SELECTED PUBLICATIONS

Deniz Yüret and Mehmet Ali Yatbaz. The Noisy Channel Model for Unsupervised Word Sense Disambiguation. Computational Linguistics, MIT Press, 2010  
Ahmet Engin Ural, Deniz Yüret, Nihan Ketrez, Dilara Koçbas and Aylin Kuntay. Morphological cues vs. number of nominals in learning verb types in Turkish: Syntactic bootstrapping mechanism revisited. Language and Cognitive Processes, Psychology Press, 2009  
Mehmet Ali Yatbaz and Deniz Yüret. Unsupervised morphological disambiguation using statistical language models. In NIPS 2009 Workshop on Grammar Induction, Representation of Language and Language Learning, 2009  
Deniz Yüret and Ergun Bici. Modeling Morphologically Rich Languages Using Split Words and Unstructured Dependencies. In ACL-IJCNLP, 2009  
Roxana Girju, Preslav Nakov, Vivi Nastase, Stan Szpakowicz, Peter Turney and Deniz Yuret. Classification of Semantic Relations between Nominals. url Language Resources and Evaluation, Springer, 2009  
Deniz Yüret, Mehmet Ali Yatbaz and Ahmet Engin Ural. Discriminative vs. Generative Approaches in Semantic Role Labeling. In Conference on Computational Natural Language Learning (CoNLL), 2008

### ARTIFICIAL INTELLIGENCE

Deniz Yüret. Smoothing a Tera-word Language Model. In Proceedings of ACL-08: HLT, Short Papers, Association for Computational Linguistics, 2008  
Deniz Yüret. KU: Word Sense Disambiguation by Substitution. In SemEval-2007: 4th International Workshop on Semantic Evaluations, 2007  
Joakim Nivre, Johan Hall, Sandra Kübler, Ryan McDonald, Jens Nilsson, Sebastian Riedel and Deniz Yuret. The CoNLL 2007 Shared Task on Dependency Parsing. In Proc. of the CoNLL 2007 Shared Task. Joint Conf. on Empirical Methods in Natural Language Processing and Computational Natural Language Learning (EMNLP-CoNLL), 2007. [Parsing, Dependency]  
Ergun Biçici and Deniz Yüret. Locally Scaled Density Based Clustering. In ICANNGA 2007, Part I, LNCS 4431, Springer-Verlag, 2007  
Ersin Yurtsever, Deniz Yüret and Burak Erman. Quantum Mechanical Calculations of Tryptophan and Comparison with Conformations in Native Proteins. J. Phys. Chem. A, 2006

#### GRANTS and CONSULTING

TÜBİTAK 1001 (106T553): Modelling of the Transcriptional Regulatory Network of the Yeast (*Saccharomyces Cerevisiae*) and Investigation of its Dynamics  
TÜBİTAK 1001 (108E228): Word Sense Disambiguation and Semantic Relation Identification Using Statistical Language Models in Natural Language Processing  
TÜBİTAK 1002 (108E257): The Regression Model of Machine Translation and Competing Translation Models  
European Language Resources Association (ELDA/ KU/2009/01/TURKISH-CORPUS): Production of a morphologically tagged Turkish corpus  
Karakullukcu Consultancy: Production of a Turkish morphological analyzer and disambiguator for legal search applications  
**PATENTS**  
Method of utilizing implicit references to answer a query,



## DENİZ YÜRET

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Deniz Yüret, Oct , 2005, USPTO, (Affiliation: Inquiria, Inc.)

### PROFESSIONAL EXPERIENCE

#### Academic

2010–present, Director of CIT

2002-present, Assistant Professor of Computer Engineering, Koç University

1999-2000, PostDoc, MIT

#### Visiting Academic Positions

Summer 2005, MIT CSAIL

Summer 2008, MIT CSAIL

#### Industry Experience

2000-2002 Inquiria, Inc. Co-founder and Chief Scientist

### MEMBER

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