

# Curriculum Vitae

Burak Acar, PhD.

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## Personal Information

Nationality: Turkish

Date of Birth: October 24, 1972

Place of Birth: İzmir, Turkey

## Education

- 1996 - 2000 Bilkent University , Electrical and Electronics Engineering Department , Ankara, Turkey (Ph.D. in Electrical and Electronics Engineering)
- 1994 - 1996 Bilkent University, Electrical and Electronics Engineering Department Ankara, Turkey (M.Sc. in Electrical and Electronics Engineering)
- 1990 - 1994 Bilkent University, Electrical and Electronics Engineering Department, Ankara, Turkey (B.Sc. in Electrical and Electronics Engineering)
- 1983 – 1990 İzmir Özel Türk Koleji, İzmir, Turkey (High school education)

## Work Experience

- 2009 - Associate professor at Department of Electrical and Electronics Engineering, Boğaziçi University, İstanbul, Turkey
- 2012 - 2013 DFG Mercator Visiting Professor, TU Munich, Faculty of Informatics, CAMP-AR, Garching b. Munich, Germany
- 2003 - 2009 Assistant professor at Department of Electrical and Electronics Engineering, Boğaziçi University, İstanbul, Turkey
- 2000 - 2003 Post-doc research scholar in Radiological Sciences Laboratory, Department of Radiology (Lucas MRS Imaging Center, 3D Medical Imaging Laboratory), Stanford University, California, USA. (Conducted research on CAD in Virtual Colonoscopy and Diffusion Tensor MR Imaging)
- 1998 - 1999 Dept. of Cardiac and Vascular Sciences (*formerly Cardiological Sciences Dept.*), University of London, St. George's Hospital Medical School, London, UK. (Worked as a research fellow, on HRV analysis, QT dispersion analysis and T-wave morphology analysis.)
- 1994 -2000 Electrical & Electronics Engineering Dept., Bilkent University Ankara, Turkey. (Worked as research and teaching assistant.)

## Administrative Positions

- 2015 - Member of Boğaziçi University, Housing Committee, İstanbul, Turkey
- 2013 - Member of Boğaziçi University, Faculty of Engineering, Steering Committee (Fakülte Kurulu), İstanbul, Turkey
- 2010 - 2012 Member of Boğaziçi University, Directorate of Social Facilities, Steering Committee, İstanbul, Turkey
- 2009 - 2012 Member of Boğaziçi University, Faculty of Engineering, Steering Committee (Fakülte Kurulu), İstanbul, Turkey
- 2007 - 2008 Vice-chair of Department of Electrical and Electronics Engineering, Boğaziçi University, İstanbul, Turkey

## Ph.D. Thesis

New Techniques For Ventricular Repolarization and Heart Rate Variability Analyses  
Bilkent University, EE Dept., Ankara, Turkey. March 2000  
Supervisor : Prof. Dr. Hayrettin Köymen (Bilkent University, Ankara, Turkey)

## M.Sc. Thesis

Online Exercise ECG Signal Orthogonalization Based on Singular Value Decomposition  
Bilkent University, EE Dept., Ankara, Turkey. September 1996  
Supervisor : Prof. Dr. Hayrettin Köymen (Bilkent University, Ankara, Turkey)

## Research interests

### Data Analytics

- Machine learning in big data
- Privacy
- Industrial systems monitoring & diagnostics

### Signal & Image Processing & Analysis

- Tracking, segmentation, representation
- Computer aided detection & diagnosis (esp. in medicine)
- Content based search and retrieval
- Predictive compression

### Brain Research

- Diffusion MRI tractography
- Functional MRI
- Connectiomics / Network analysis
- Neuro-degenerative disease models

### Simulations and HCIs

- Medical ultrasound simulation systems
- Vision and sensor based human computer interfaces

## Professional memberships

- Senior Member of IEEE
- Member of the Chamber of Electrical and Electronics Eng., Turkey
- Member of EURASIP
- Member (Observer) of ETIP Smart Networks for Energy Transition (SNET) WG4

## Projects/Grants

### BRAINet Project Series

Composite Network Modeling of Neurological/Psychiatric Disorders and Application to Alzheimer's Disease (TUBITAK-ARDEB 1003 Programme – 114E053): Principal Investigator (COMPLETED)

FSnet – Structure Guided Functional Brain Network (Bogazici University Research Funds, BAP – 15A02M5): Principal Investigator (ONGOING)

CancerFind – Spectroscopic Method and Prototype Development for a Low Cost, Portable Early Stage (Breast) Cancer Detection via Marker Metabolytes (Bogazici University Research Funds, BAP – 16A02P5): Co-Principal Investigator (ONGOING)

KEYSTONE: Semantic Keyword-based Search on Structured Data Sources (COST Action IC1302) (ONGOING)

MUSE - Medical Ultrasound Simulator for Education (TUBITAK-TEYDEB 1505 Programme – 5130002): Principal Investigator (COMPLETED)

CaReRa: Content Based Similar Case Retrieval in Radiology (TUBITAK-ARDEB 1001 Programme – 110E264): Principal Investigator (COMPLETED)

In Vivo Analysis of Human Muscle Mechanics Using MRI (TUBITAK-ARDEB 1001 Programme – 111E084): Investigator (COMPLETED)

CBIR4Liver: Content Analysis for Liver Cases (Bogazici University Research Funds, BAP - 5324) : Principal Investigator (COMPLETED)

SIMILAR Network of Excellence within EU's 6th Framework Programme, WP 10 Medical Applications (FP6-507609): Partner (COMPLETED)

DTIsuite: DT-MRI Analysis and Visualization Platform (Bogazici University Research Funds, BAP - 07A203) : Principal Investigator (COMPLETED)

SK/DTIcad: CAD Algorithms for Virtual Colonoscopy and DTI (Bogazici University Research Funds, BAP - 05M106): Principal Investigator (COMPLETED)

DRESS: Diagnostic Radiology Expert Systems (TUBITAK-ARDEB KARIYER Programme – 104E035): Principal Investigator (COMPLETED)

Virtual Colonoscopy Project, Stanford University, The Clark Center, 3D lab., USA : Scientific Consultant (2004-2008)

## Industrial Relations

2017-	Academic director of Bogazici University - BOSCH joint Digital Manufacturing & Industry 4.0 certification programme (SHAPE THE CHANGE)
2016-	Academic director of Bogazici University - SIEMENS joint Innovation Management & Innovation Leadership Certification Programme (IMLEAP)
2014-2016	Consultant on “Non-destructive Optics Based Food Analysis”, IDEA A.S., Istanbul, Turkey
2015	Consultant on “Data Analytics for Banking Operations”, KuveytTurk, A.S., Istanbul, Turkey
2013-2015	PI on “TVeye: Gesture Control for TV Sets”, Arcelik A.S., Istanbul, Turkey
2012-2015	PI on “MUSE: Medical Ultrasound Simulation for Education”, Net Simulasyon Cihazları. Ltd. Sti. Istanbul, Turkey
2008-2012	PI on “Digital Video Processing and 3D TV”, Arcelik A.S., Istanbul, Turkey
2011-2012	Consultant on “Stereo Video Quality Assessment”, Digiturk A.S., Istanbul, Turkey
2009-2011	PI on “viRAD: Virtual Radiology Department (integrated PACS, teleradiology and diagnostic tools) project”, SOLVEKA Ltd Sti, Ankara, Turkey

## Journal publications

Marvasti N.B., Yörük E., Acar B. “Computer-Aided Medical Image Annotation: Preliminary Results with Liver Lesions in CT”, *Submitted to IEEE J. Biomedical and Health Informatics*

Karakuzu A., Pamuk U., Ozturk C., Acar B. and Yucesoy C.A. “Magnetic resonance and diffusion tensor imaging analyses indicate heterogeneous strains along human medial gastrocnemius fascicles caused by submaximal plantar-flexion activity”, *Journal of Biomechanics*, **57**, 69-78 (May 2017)

Pamuk U., Karakuzu A., Ozturk C., Acar B. and Yucesoy C.A., “Combined Magnetic Resonance And Diffusion Tensor Imaging Analyses Provide A Powerful Tool For In Vivo Assessment Of Deformation Along Human Muscle Fibers”, *Journal of the Mechanical Behavior of Biomedical Materials*, **63**, 207-219 (Oct. 2016)

Kokciyan N., Turkay R., Uskudarli S., Yolum P., Bakır B., Acar B., “Semantic Description of Liver CT Images: An Ontological Approach”, *Biomedical and Health*

*Informatics, IEEE Journal of*, **18(4)**, 1363-1369 (2014)  
DOI: 10.1109/JBHI.2014.2298880

Gürol ÖC, Sankur B, Acar B, Güney M, “Efficient Estimation of Disparity Statistics and their Use as a Predictor for Perceived 3D Video Scene Quality”, *EURASIP Journal on Image and Video Processing*, **53**, (2013), DOI:10.1186/1687-5281-2013-53

Yoldemir B., Acar B., Firat Z., Kilickesmez O., “SMT: A Reliability Based Interactive DTI Tractography Algorithm”, *IEEE Transactions on Medical Imaging*, **31(10)**, 1929-1940 (2012), DOI:10.1109/TMI.2012.2210052

Akgul, C.B., D.L. Rubin, S. Napel, C.F. Beaulieu, H. Greenspan, B. Acar, “Content Based Image Retrieval in Radiology: Current Status and Future Directions”, *Journal of Digital Imaging*, **24(2)**, 209-222 (2011) DOI: 10.1007/s10278-010-9290-9

Konukoglu E., B. Acar, D.S. Paik, C.F. Beaulieu, J. Rosenberg and S. Napel, “Polyp Enhancing Level Set Evolution of Colon Wall: Method and Pilot Study,” *IEEE Transactions on Medical Imaging*, **26(12)**, 1649-1656 (2007)

Konukoglu E. and B. Acar, “HDF: Heat Diffusion Fields for Polyp Detection in CT Colonography,” *Signal Processing*, **87(10)**, 2407-2416 (2007)

Li, P., S. Napel, B. Acar, D.S. Paik, R.B. Jeffrey, Jr. and C.F. Beaulieu, “Registration of Central Paths and Colonic Polyps between Supine and Prone Scans in CT Colonography,” *Medical Physics*, **31(10)**, 2912-2923 (2004)

Paik, D.S., C.F. Beaulieu, G.D. Rubin, B. Acar, R.B. Jeffrey, Jr., J. Yee, J. Dey and S. Napel, “Surface Normal Overlap: A Computer-Aided Detection Algorithm With Application to Colonic Polyps and Lung Nodules in Helical CT,” *IEEE Transactions on Medical Imaging*, **23(6)**, 661-675 (2004)

Liu, C., R. Bammer, B. Acar, and M.E. Moseley, “Characterizing Non-Gaussian Diffusion by Using Generalized Diffusion Tensors,” *Magnetic Resonance in Medicine*, **51(5)**, 924-937 (2004)

Bammer, R., M. Markl, A. Barnett, B. Acar, M.T. Alley, N.J. Pelc, G.H. Glover and M.E. Moseley, “Analysis and generalized correction of the effect of spatial gradient field distortions in diffusion-weighted imaging,” *Magnetic Resonance in Medicine*, **50**, 560-569 (2003)

Bammer, R., B. Acar and M.E. Moseley, “In vivo MR Tractography Using Diffusion Imaging,” *European J. of Radiology*, **45(3)**, 223-234 (2003)

Acar, B., C.F. Beaulieu, S.B. Gokturk, C. Tomasi, D.S. Paik, R.B. Jeffrey, Jr., J. Yee and S. Napel, “Edge Displacement Field Based-Classification for Improved Detection of Polyps in CT Colonography,” *IEEE Transactions on Medical Imaging*, **21(12)**, 1461-1467 (2002)

Gokturk, S.B., C. Tomasi, B. Acar, C.F. Beaulieu, D.S. Paik, R.B. Jeffrey, Jr., J. Yee and S. Napel, “A statistical 3D pattern processing method for computer aided detection of polyps in CT colonography,” *IEEE Transactions on Medical Imaging*, **20(12)**, 1251-1260 (2001)

Malik, M., B. Acar, Y. Gang, Y.G. Yap, K. Hnatkova and A.J. Camm, “QT dispersion does not represent electrocardiographic interlead heterogeneity of ventricular repolarization,” *Journal Of Cardiovascular Electrophysiology*, **11(8)**, 835-843 (2000)

Zabel, M., B. Acar, T. Klingenheben, M.R. Franz, S.H. Hohnloser and M. Malik, "Analysis of 12-lead T-wave morphology for risk stratification after myocardial infarction," *Circulation*, **102(11)**, 1252-1257 (2000)

Acar, B., I. Savelieva, H. Hemingway and M. Malik, "Automatic Ectopic Beat Elimination In Short-term Heart Rate Variability Measurement," *Computer Methods And Programs In Biomedicine*, **63(2)**, 123-131 (2000)

Acar, B. and H. Köymen, "SVD Based Online Exercise ECG Signal Orthogonalization," *IEEE Transactions On Biomedical Engineering*, **46(3)**, 311-321 (1999)

Acar, B., G. Yi, K. Hnatkova and M. Malik, "Spatial, Temporal And Wavefront Direction Characteristics Of 12-Lead T Wave Morphology," *Medical & Biological Engineering & Computing*, **37(5)**, 574-584 (1999)

Acar, B., "New approaches to T-wave analysis from surface ECG," *Cardiac ElectroPhysiology Review (CEPR)*, **3(4)**, 319-323 (1999) CEPR has been merged into Journal of Interventional Cardiac Electrophysiology

### Book Chapters/Sections & Other

CB Akgul, B. Acar , "Future PACS for decision support: content-based case retrieval", *International Hospital*, Vol 38, March/April 2012

Acar, B., Yoruk, E., "DT-MRI Connectivity and/or Tractography?: Two New Algorithms", *Tensors in Image Processing and Computer Vision*, Aja-Fernández, S.; de Luis García, R.; Tao, D.; Li, X. (Eds.), Series: Advances in Pattern Recognition, ISBN: 978-1-84882-298-6, Springer, 2009.

Brun, A., Martin-Fernandez, M., Acar, B., Munoz-Moreno, E., Cammoun, L., Sigfridsson, A., Sosa-Cabrera, D., Svensson, B., Herberthson, M., Knutsson, H., "Similar Tensor Arrays – A Framework for Storage of Tensor Array Data" *Tensors in Image Processing and Computer Vision*, Aja-Fernández, S.; de Luis García, R.; Tao, D.; Li, X. (Eds.), Series: Advances in Pattern Recognition, ISBN: 978-1-84882-298-6, Springer, 2009.

Cammoun, L., Castano-Morana, C.A., Munoz-Moreno, E., Sosa-Cabrera, D., Acar, B., Rodriguez-Florido, M.A., Brun, A., Knutsson, H., Thiran, J.P., "A Review of Tensors and Tensor Signal Processing" *Tensors in Image Processing and Computer Vision*, Aja-Fernández, S.; de Luis García, R.; Tao, D.; Li, X. (Eds.), Series: Advances in Pattern Recognition, ISBN: 978-1-84882-298-6, Springer, 2009.

### Patents

Methods of characterizing ventricular operations and applications thereof  
Malik, M., Acar B., Batchvarov V.N.. US Patent Office: US6438409 20/08/2002  
(Licensed by Medtronic)

Methods of characterizing ventricular operations and applications thereof  
Acar B., Batchvarov V.N., Malik, M.. European Patent Office: EP1038498 27/09/2000  
(Licensed by Medtronic)

Characterization and Correction of Spatial Gradient Field Nonuniformities.  
Bammer R., Markl M., Acar B., Pelc N., Moseley M.E. US Patent Office: US6969991  
17/06/2004 (Licensed by GE)

Method for matching and registering medical image data.

Acar, B., Beaulieu, C.F., Paik, D.S., Napel, S.A., Jeffrey, R.B.Jr.. US Patent Office: US7224827 29/05/2007

Method for detecting and classifying a structure of interest in medical images.

Acar, B., Beaulieu, C.F., Gokturk, S.B., Tomasi, C., Paik, D.S., Jeffrey, R.B.Jr., Napel, S.A. US Patent Office: US7272251 18/09/2007

Three-dimensional pattern recognition method to detect shapes in medical images

Gokturk, S.B., Tomasi, C., Acar, B., Beaulieu, C.F., Napel, S.A., Paik, D.S. US Patent Office: US7346209 18/03/2008

Heat diffusion based detection of structures of interest in medical images.

Acar, B., Konukoglu, E., Beaulieu, C.F., Napel, S.A., Paik, D.S. US Patent Office: US7729739 01/06/2010

### **Selected Conference Publications**

Karakuzu A, Pamuk U, Ozturk C, Acar B, Yucesoy CA, “Combined Diffusion Tensor and Magnetic Resonance Imaging for in vivo Assessment of Human Muscle Function” In *Congress of the European College of Sport Science, 2016*

Tuzer M., Yazici A., Acar B., Boyman M. “A Multiray Approach To Phased Array US Simulation From CT Images”. In *Proceedings of CARS 2015, Barcelona, Spain. International Journal of Computer Assisted Radiology and Surgery, vol. S1, p. 215, 2015*

Pamuk, U., Karakuzu, A., Akyazi, P., Acar, B., Öztürk, C., Yücesoy, C.A., “MRI analyses indicate non-uniform human muscle tissue deformations and confirm theoretically anticipated sarcomere length heterogeneity, in vivo”, BIYOMUT 2014, Istanbul, Turkey

Arpak, A, Pamuk, U, Ozturk, C., Acar, B., Yucesoy, C.A., “Technical Development for Diffusion Tensor Analysis and Fiber Tracking in Lower Leg Muscles”, BIYOMUT 2012, Istanbul, Turkey

Derman, E., Yaman, A., Acar, B., Yücesoy, C.A., “Kas Deformasyon Analizi İçin Birleşik Rijit-Elastik Çakıştırma”, BIYOMUT 2012, Istanbul, Turkey

Marvasti N.B., Akgül C.B., Acar B., Kökciyan N., Üsküdarlı S., Yolum P., Turkey R., Bakir B. “Clinical Experience Sharing by Similar Case Retrieval”. In *Proceedings of Ist ACM MM Workshop on Multimedia Indexing and Information Retrieval for Healthcare (ACM MM'13)*

Kokciyan N., Turkey R., MD, Uskudarli S., Yolum P., Acar B., PhD; Bakir B., MD. “ONLIRA - A Semantic Knowledge Representation of Liver CT Images”. In *Proceedings of RSNA 2013, Chicago, IL, USA (Supplement of Radiology)*

Kokciyan, N, Turkey, R, Uskudarli, S., Yolum, P, Bakir, B, Acar, B. “CARERA – Karaciğer Vakalarında Klinik Deneyim Paylaşım Platformu” *Türkiye Radyoloji Kongresi (TURKRAD) 2013, Antalya, Turkey*

Marvasti, NB, Acar, B. “Assessment of MRF Based Joint Scale Selection and Segmentation for 3D Liver Vessel Segmentation”. *Proc. Sinyal İşleme ve Uygulamaları Kurultayı (SIU), Kıbrıs, 2013*

Gurol, OC, Ozturk, S, Acar, B, Sankur, B, Guney, M. “Sparse Disparity Map Estimation On Stereo Images”, *Proc. Sinyal İşleme ve Uygulamaları Kurultayı (SIU), Fethiye, Turkey, 2012*

Çabuk, A.D., E. Alpay and B. Acar, "Detecting Tubular Structures Via Direct Vector Field Singularity Characterization," *Proc. 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2010)*, Buenos Aires, Argentina, IEEE, 2010.

Berkiten, S. and B. Acar, "A Pointwise Correspondence Based DT-MRI Fiber Similarity Measure," *Proc. 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2010)*, Buenos Aires, Argentina, IEEE, 2010.

Bozkaya, U. and B. Acar, "SMT: Split/Merge Fiber Tractography for MR-DTI," *Proc. Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, Brisbane, Australia, Lecture Notes in Computer Science, Vol. 4792, 153-160, Springer, 2007

Yağcı, E. and B. Acar, "A Stereo Tracking System For Arbitrary Slicing Of Volumetric Radiological Data," *Proc. Sinyal Isleme ve Uygulamaları Kurultayı (SIU)*, Eskisehir, Turkey, 2007

Konukoglu, E., B. Acar, D.S. Paik, C.F. Beaulieu, and S. Napel, "Polyp Enhancement Scheme for Improved Detection of Colonic Polyps in CT Colonography," *Proc. Radiological Society of North America (RSNA) Annual Meeting*, Chicago, USA, RSNA, 2005 (abstract)

Yörük, E., B. Acar and R. Bammer, "A Physical Model for MR-DTI Based Connectivity Map Computation," *Proc. Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, Palm Springs, CA, USA, Lecture Notes in Computer Science, Vol. 3749, 213-220, Springer, 2005

Yörük, E. and B. Acar, "Structure Preserving Regularization Of DT-MRI Vector Fields by Nonlinear Anisotropic Diffusion Filtering," *Proc. European Signal Processing Conference (EUSIPCO)*, Antalya, Turkey, Eurasip, 2005

Konukoglu, E., B. Acar, D.S. Paik, C.F. Beaulieu and S. Napel, "Heat Diffusion Based Detection Of Colonic Polyps In CT Colonography," *Proc. European Signal Processing Conference (EUSIPCO)*, Antalya, Turkey, Eurasip, 2005 (3<sup>rd</sup> Place In EUSIPCO 2005 Student Paper Contest)

Acar, B., R. Bammer and M.E. Moseley, "Comparative Assessment Of DT-MRI Fiber Tractography Algorithms," *Proc. International Society of Magnetic Resonance in Medicine (ISMRM) Meeting*, p. 2164, Toronto, Canada, 2003.

Acar, B., S. Napel, D.S. Paik, P. Li, J. Yee, C.F. Beaulieu and R.B. Jeffrey, Jr., "Registration of Supine and Prone CT Colonography Data: Method and Evaluation," *Proc. Radiological Society of North America (RSNA) Annual Meeting*, Chicago, USA, *Radiology*, Vol.221(P), p. 332, 2001 (abstract)

Acar, B., S. Napel, D.S. Paik, S.B. Gokturk, C. Tomasi and C.F. Beaulieu, "Using Optical Flow Fields For Polyp Detection In Virtual Colonoscopy," *Proc. Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, Utrecht, The Netherlands, Lecture Notes in Computer Science, Vol. 2208, 637-644, Springer-Verlag, 2001

Gokturk, S.B., C. Tomasi, B. Acar, D.S. Paik, C.F. Beaulieu and S. Napel, "A Learning Method For Automated Polyp Detection," *Proc. Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, Utrecht, The Netherlands, Lecture Notes in Computer Science, Vol. 2208, 85-93, Springer-Verlag, 2001

Hnatkova, K., S.J. Ryan, J. Bathen, B. Acar, V.N. Batchvarov, H.H. Hoium and M. Malik, "T-wave morphology differences between patients with and without arrhythmic complication of ischaemic heart disease," *Journal of Electrocardiology*, **34(SS)**, 113-117 (2001)

Batchvarov, V., P. Dilaveris, P. Farbom, A. Ghuran, B. Acar, K. Hnatkova, A.J. Camm and M. Malik, "New Descriptors of Homogeneity of the Propagation of Ventricular Repolarisation," *Cardiostim 2000 Congress in Cardiac Electrophysiology, PACE*, **23(11/2)**, 1968-1972 (2000)

Zabel, M, B. Acar, J.E.P. Waktare, T. Klingenheben, M.R. Franz, S.H. Hohnloser and M. Malik, "Twelve-lead T wave morphology analysis for risk stratification in post myocardial infarction patients," *Proc. American Heart Association Annual Meeting (AHA)*, Atlanta, USA, *Circulation*, Vol. 100(18/SS), p 2684, 1999 (abstract)

Acar, B., G. Yi and M. Malik, "Concept Of The T-Wave Morphology Dispersion," *Proc. Computers in Cardiology*, Hannover, Germany, IEEE, 1999

Malik, M., B. Acar, G. Yi and Y.G. Yap, "QT Dispersion In 12 Lead Electrocardiograms Does Not Express Heterogeneity Of The Repolarisation Signal," *Proc. Computers in Cardiology*, Hannover, Germany, IEEE, 1999 (Plenary Session)

Acar, B., G. Yi and M. Malik, "T Wave Morphology Dispersion: Experience In Hypertrophic Cardiomyopathy Patients," *Proc. NASPE - 20th Annual Scientific Sessions*, Toronto, Canada, *PACE*, Vol. 22(4) Part II, p. 886, 1999 (abstract)

Acar, B., and H. Köymen, "Online Exercise ECG Signal Orthogonalization," *Proc. Computers in Cardiology*, Indiana, USA, IEEE, 1996

## Invited Talks

B-AĞ Platformunda Yapısal - İşlevsel Beyin Ağ Analizi, *6. Ulusal Alzheimer Kongresi*, Mart 2016

Composite Networks: Joint Structural-Functional Modeling of Brain, *Dagstuhl Seminar on Multidisciplinary Approaches to Multivalued Data: Modeling, Visualization, Analysis*, April 2016

Clinical Experience Sharing, *Cognition-Guided Surgery Research Center, Karlsruhe, Germany*, April 2013

Beyin Haritalama: Görüntülerden Ağlara (Brain Mapping: From Images to Networks), *51. Ulusal Nöroloji Kongresi (51<sup>st</sup> National Neurology Congress)*, Belek, Antalya, 2015

## Awards/Scholarships

2012 DFG Mercator Visiting Professorship (TU Munich, Germany)  
2008 Turkish Academy of Sciences, Young Scientist Award (TUBA-GEBIP)  
2006 Excellence in Research Award, Bogazici University Foundation.

## Editorial Positions

EURASIP Journal on Advances in Signal Processing, Editorial Board Member

## Organizing / Program Committee Member

- MICCAI 2016, Athens, Satellite Events Chair



- MICCAI, ISPA, ICIP, ICASSP, ICPR, SIU, EUSIPCO, SIGMAP, CVPR (Workshop on Tensors in Image Processing and Computer), MICCAI Workshops on Medical Content-based Retrieval for Clinical Decision Support (MCBR-CDS 2011/2012) Vision Workshop 2013 & 2015, Program Committee Member
- imageCLEF, Liver CT Annotation Challenge 2014 & 2015, Co-organizer

## Reviewer for

### Journals:

- IEEE Transactions on Biomedical Engineering, IEEE
- IEEE Transactions on Medical Imaging, IEEE
- IEEE Journal of Biomedical and Health Informatics, IEEE
- Computerized Medical Imaging and Graphics
- Medical & Biological Engineering & Computing, Springer
- Digital Signal Processing, Elsevier
- Signal Processing, Elsevier
- Journal of Electronic Imaging, USA (SPIE and IS&T)
- Medical Physics, AAPM
- Medical Image Analysis, Elsevier
- Computers in Biology and Medicine, Elsevier
- Journal of Digital Imaging, Springer
- The Computer Journal, Oxford
- Pattern Recognition Letters, Elsevier
- Journal on Advances in Signal Processing, EURASIP
- Signal, Image and Video Processing, Elsevier
- International Journal of Computer Assisted Radiology and Surgery, Springer

### Funding Agencies:

- TUBITAK-ARDEB (The Scientific and Technological Research Council of Turkey – Academic Support)
- TUBITAK-TEYDEB (The Scientific and Technological Research Council of Turkey – Industrial Support)
- TTGV (Technology Development Foundation of Turkey)
- EUREKA's Eurostars Programme
- Innovation Fund Denmark (IFD)

## Courses Taught

EE373 (Signals & Systems) ; EE303 (Complex Variables and Applications)  
 EE475 (Digital Image Processing) ; EE574 (Image Analysis)  
 EE58H (Digital Video Processing) ; EE142 (Digital Design)  
 EE201 (Electrical Circuits I) ; EE202 (Electrical Circuits II)

## Supervised MS/PhD Theses

VAVframe: Volumetric Analysis and Visualization Framework (MS)  
 Erhan Durusut, CmpE, Boğaziçi University  
 April 2005

PELS: Polyp Enhancing Level-Sets (MS)  
 Ender Konukoglu, EE, Boğaziçi University  
 June 2005

SMT: Split/Merge Tractography (MS)  
 Ugur Bozkaya, Biomedical Eng. , Boğaziçi University  
 May 2006

3D Stylus: A Human Computer Interface For 3D Environment (MS)

Enver Yagci, System & Control Engineering, Bogazici University  
June 2007

Assessing DT-MRI Tractography Results via Sampling the Fiber Tract Space (MS)  
Ahmet Burak Yoldemir, EE, Boğaziçi University  
June 2011

Liver Segmentation in 3D CT Data (MS)  
Serkan Çimen, EE, Boğaziçi University  
September 2011

Skeletal Muscle Deformation Analysis Using Diffusion Tensor Magnetic Resonance  
Imaging (MS)  
Pınar Akyazi, EE, Boğaziçi University  
August 2013

Rigid & Elastic Composite Registration of 3D Leg T1-Weighted MR Images for Strain  
Analysis (MS)  
Ekberjan Derman, EE, Boğaziçi University  
August 2013

Ultrasound Simulations Using CT Images As Priors (MS)  
Mert Tuzer, Physics, Boğaziçi University  
July 2015

2D To 3D Video Conversion (MS)  
Aysun Coban, EE, Boğaziçi University  
July 2016

Seed-Based And Data-Driven Analyses Of Default Mode Network Connectivity  
Measures In Dementia (MS)  
Başak Kılıç, SCO, Boğaziçi University  
January 2017

## **Languages**

Turkish (Mother tongue) , English (fluent)