Prof. NEVZAT GÜNERİ GENÇER

Personal Information

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International Researcher IDs
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ScopusID: 7003388562
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Biography

Nevzat G. Gencer received a B.Sc. degree in Electrical and Electronics Engineering in 1985 from Boğaziçi University, Istanbul, Turkey, and the M.Sc. and Ph.D. degrees from Middle East Technical University (METU), Ankara, Turkey, in 1988 and 1993, respectively, all in electrical and electronics engineering. He was a Teaching Assistant and Instructor in the Electrical and Electronics Engineering Department, METU, from 1987 to 1994. He held a postdoctoral position in the Neuromagnetism Laboratory of the Physics Department at New York University, New York, during 1994-1995. Then he worked as a Research Assistant Professor in the same department. In 1996, he joined the Electrical and Electronics Engineering Department of METU as an Assistant Professor. His research interests are new medical imaging modalities, the mathematical and computational aspects of medical imaging, and the application of numerical electromagnetics to biomedical problems.

Education Information

Doctorate, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, Turkey 1988 - 1993
Postgraduate, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, Turkey 1986 - 1988
Undergraduate, Bogazici University, Faculty Of Engineering, Department Of Electrıcal And Electronıcs Engıneerıng, Turkey 1981 - 1985

Foreign Languages

English, C1 Advanced

Certificates, Courses and Trainings

Entrepreneurship, Berkeley-Labsout Accelerator, UC Berkeley Executive Education, 2019

Dissertations

Doctorate, ELECTRICAL IMPEDANCE TOMOGRAPHY USING INDUCED CURRENTS, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 1993
Postgraduate, STUDY OF ALGEBRAIC RECONSTRUCTION ALGORITHMS FOR PRACTICAL APPLICATIONS OF EII, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 1988

Research Areas

Biomedical Engineering, Electrical and Electronics Engineering, Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2003 - Continues
Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1997 - 2003
Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1996 - 1997
Lecturer PhD, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1993 - 1996
Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 1987 - 1993

Academic and Administrative Experience

Research Assistant Professor, New York University, Fizik Bölümü, Physics Department/Neuromagnetism Laboratory, 1995 - 1996
Postdoctoral Researcher, New York University, Physics Department, Physics Department/Neuromagnetism Laboratory, 1994 - 1995

Courses

Introduction to Medical Imaging, Undergraduate, 2020 - 2021
Bioelectricity and Biomagnetism, Doctorate, 2019 - 2020
Biomedical Signals, Instrumentation, and Measurements, Undergraduate, 2018 - 2019

Advising Theses

GENÇER N. G., Implementation of a fast simulation tool for the analysis of contrast mechanisms in HMMDI and enhancement of the SNR in the experimental set-up, Doctorate, Ü.İRGİN(Student), 2021
Gençer N. G., Top C. B., Three dimensional finite difference time domain simulations on harmonic motion microwave Doppler imaging method using realistic tissue models, Postgraduate, F.TATAR(Student), 2019
Gençer N., Temperature estimation using magnetic nanoparticles: a simulation study., Postgraduate, G.Onuker(Student), 2019
GENÇER N. G., Experimental studies for lfeit with magnetic field measurements, Postgraduate, A.ÖNDER(Student), 2018
GENÇER N. G., Data acquisition system for Lorentz force electrical impedance tomography using magnetic field

measurements, Postgraduate, K.KABOUTARI(Student), 2017
GENÇER N. G., Wireless power transfer with bidirectional telemetry for active implantable medical devices, Postgraduate, O.AVAN(Student), 2017
GENÇER N. G., PHP applications, K-wave simulations and experimental studies for medical ultrasound, Postgraduate, U.BARAN(Student), 2017
GENÇER N. G., Theoretical limits and safety considerations for magneto-acousto electrical tomography, Postgraduate, E.GHALICHI(Student), 2017
GENÇER N. G., A study on a low phase noise charge pump phase-locked loop at 2.8 GHz, Postgraduate, M.KEYKHALİ(Student), 2016
GENÇER N. G., A Study on a low phase noise charge pump phase-locked loop at 2.8 GHZ, Postgraduate, M.Keykhali(Student), 2016
GENÇER N. G., Design and realization of a hybrid medical imaging system: Harmonic motion microwave doppler imaging, Doctorate, A.KAMALI(Student), 2016
GENÇER N. G., Design And Implementation Of A Communication System For Implantable Medical Devices, Postgraduate, Y.ÜRKMEZTÜRK(Student), 2016
GENÇER N. G., Design and implementation of magnetic field sensors for biomedical applications /, Postgraduate, U.Can(Student), 2015
GENÇER N. G., ALATAN L., Dual band microstrip implantable antenna design for biomedical applications, Postgraduate, D.ALPTEKİN(Student), 2015
GENÇER N. G., Application of image enhancement algorithms to improve the visibility and classification of microcalcifications in mammograms, Postgraduate, C.AKBAY(Student), 2015
GENÇER N. G., 2D simulation studies and initial experimental results for hall effect imaging /, Postgraduate, M.Soner(Student), 2014
GENÇER N. G., AKAR G., A mass detection algorithm for mammogram images /, Postgraduate, M.YEŞİLKAYA(Student), 2014
GENÇER N. G., 2D simulation studies and initial experimental results for Hall effect imaging, Postgraduate, M.SONER(Student), 2014
GENÇER N. G., 2D simulations based on the general time dependent reciprocal relation and initial experiments for LFEIT /, Postgraduate, M.KARADAŞ(Student), 2014
GENÇER N. G., Investigating the multi-frequency performance of electro-thermal imaging: An experimental study, Postgraduate, G.ÖZDEMİR(Student), 2013
GENÇER N. G., Harmonic motion microwave doppler imaging method, Doctorate, C.BARIŞ(Student), 2013
GENÇER N. G., 3D MULTI-FREQUENCY CONDUCTIVITY IMAGING VIA CONTACTLESS MEASUREMENTS, Doctorate, K.ÖZDAL(Student), 2013
GENÇER N. G., Electrical impedance tomography using Lorentz fields, Doctorate, R.ZENGİN(Student), 2012
GENÇER N. G., Medical electro-thermal imaging, Doctorate, H.Feza(Student), 2012
GENÇER N. G., Electrical impedance tomography using lorentz fields, Doctorate, R.ZENGİN(Student), 2012
GENÇER N. G., Classification of motor imagery tasks in EEG signal and its application to a brain-computer interface for controlling assistive environmental devices, Postgraduate, E.ACAR(Student), 2011
GENÇER N. G., Realization of a cue based motor imagery brain computer interface with its potential application to a wheelchair, Postgraduate, B.Akıncı(Student), 2010
GENÇER N. G., A design and implementation of P300 based brain-computer interface, Postgraduate, H.BALKAR(Student), 2009
GENÇER N. G., Imaging electrical conductivity distribution of the human head using evoked fields and potentials, Postgraduate, M.Yurtkölesi(Student), 2008
GENÇER N. G., Java applets for simulation of magnetic resonance imaging, Postgraduate, Ç.Altın(Student), 2008
GENÇER N. G., Solving the forward problem of electrical source imaging by applying the reciprocal approach and the finite difference method, Postgraduate, S.TAHA(Student), 2007
GENÇER N. G., Multi-frequency contactless electrical impedance imaging using realistic head models: Single coil simulations, Postgraduate, D.GÜRSOY(Student), 2007
GENÇER N. G., Multi-frequency electrical conductivity imaging, Postgraduate, K.ÖZDAL(Student), 2006

GENÇER N. G., Multi-frequency electrical conductivity imaging via contactless measurements, Postgraduate, K.Özdal(Student), 2006
GENÇER N. G., Real time image processing for medical infrared imaging, Postgraduate, C.KIZILÖZ(Student), 2005
GENÇER N. G., BAYKAL B., Extraction of auditory evoked potentials from ongoing EEG, Doctorate, S.AYDIN(Student), 2005
GENÇER N. G., An improved data acquisition system for contactless conductivity imaging, Postgraduate, İ.EVRİM(Student), 2005
GENÇER N. G., Parallel implementation of the boundary element method for electromagnetic source imaging of the human brain, Postgraduate, Y.Ataseven(Student), 2005
GENÇER N. G., Electro-magnetic source imaging using realistic head models, Doctorate, Z.Akalın(Student), 2005
GENÇER N. G., Real time image processing for medical infrared inaging, Postgraduate, C.Kızılöz(Student), 2005
GENÇER N. G., X-ray physics and computerized tomography simulation using Java and Flash, Postgraduate, A.SERKAN(Student), 2003
GENÇER N. G., Parallelization of the forward and inverse problems of electro-magnetic source imaging of the human brain, Doctorate, C.ERKİN(Student), 2003
Gençer N., Experimental studies on development of a new imaging system for contactless subsurface conductivity imaging of biological tissues, Postgraduate, T.Ahmad(Student), 2001
GENÇER N. G., Development of a compression algorithm suitable for exercise ECG data, Postgraduate, K.UYAR(Student), 2001
GENÇER N. G., Electrical conductivity imaging via contactless measurements: An experimental study, Postgraduate, B.ÜLKER(Student), 2001
GENÇER N. G., Noise cancellation techniques applied to EEG using single or more sweeps, Postgraduate, B.Yenigün(Student), 2000
GENÇER N. G., Noise concellation techniques applied to EEG using single or mare sweeps, Postgraduate, B.YENİGÜN(Student), 2000
GENÇER N. G., Electical conductivity imaging via contactless measurement : Forward and inverse problem simülations, Postgraduate, M.NEJAT(Student), 1998
GENÇER N. G., Forward problem solution of electro-magnetic source imaging of the human brain using a new boundary element method formulation with realistic head model., Postgraduate, İ.OĞUZ(Student), 1998
GENÇER N. G., Electrical conductivity imaging via contactless measurements: Forward and inverse problem simulations., Postgraduate, M.Nejat(Student), 1998
GENÇER N. G., Forward problem solution of EMSI of the human brain using a new FEM formulation with realistic head model, Postgraduate, M.KEMAL(Student), 1998

Jury Memberships

Award, Serhat Özyar Young Scientist of the Year, Orta Doğu Teknik Üniversitesi, April, 2021
Award, 18. Serhat Özyar Yılın Genç Bilim İnsanı Ödülü, Orta Doğu Teknik Üniversitesi, April, 2020
Award, Serhat Özyar Young Scientist of the Year Award, ODTÜ Öğretim Elemanları Derneği, April, 2019

Published journal articles indexed by SCI, SSCI, and AHCI

I. **On the utilization of the adjoint method in microwave tomography**
Soydan D. A., Top C. B., GENÇER N. G.
International Journal for Numerical Methods in Biomedical Engineering, vol.40, no.6, 2024 (SCI-Expanded)
II. **Induced Current Electro-Thermal Imaging for Breast Tumor Detection: A Numerical and Experimental Study**
Tanrıverdi V., GENÇER N. G.
Annals of Biomedical Engineering, vol.52, no.4, pp.1078-1090, 2024 (SCI-Expanded)

III. **Data acquisition system for MAET with magnetic field measurements**
Kaboutari K., Tetik A. O., Ghalichi E., Gozu M. S., Zengin R., GENÇER N. G.
PHYSICS IN MEDICINE AND BIOLOGY, vol.64, no.11, 2019 (SCI-Expanded)

IV. **Numerical implementation of magneto-acousto-electrical tomography (MAET) using a linear phased array transducer**
GÖZÜ M. S., ZENGİN R., GENÇER N. G.
PHYSICS IN MEDICINE AND BIOLOGY, vol.63, no.3, 2018 (SCI-Expanded)

V. **Theoretical limits to sensitivity and resolution in magneto-acousto-electrical tomography**
GHALICHI E., GENÇER N. G.
PHYSICS IN MEDICINE AND BIOLOGY, vol.62, no.20, pp.8025-8040, 2017 (SCI-Expanded)

VI. **Two-dimensional multi-frequency imaging of a tumor inclusion in a homogeneous breast phantom using the harmonic motion Doppler imaging method**
TAFRESHI A. K., TOP C. B., GENÇER N. G.
PHYSICS IN MEDICINE AND BIOLOGY, vol.62, no.12, pp.4852-4869, 2017 (SCI-Expanded)

VII. **Microwave Sensing of Acoustically Induced Local Harmonic Motion: Experimental and Simulation Studies on Breast Tumor Detection**
top C. B., TAFRESHI A. K., GENÇER N. G.
IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, vol.64, no.11, pp.3974-3986, 2016 (SCI-Expanded)

VIII. **Lorentz force electrical impedance tomography using magnetic field measurements**
ZENGİN R., GENÇER N. G.
PHYSICS IN MEDICINE AND BIOLOGY, vol.61, no.16, pp.5887-5905, 2016 (SCI-Expanded)

IX. **Theoretical assessment of electro-thermal imaging: A new technique for medical diagnosis**
Carlak H. F., GENÇER N. G., BEŞİKCİ C.
INFRARED PHYSICS & TECHNOLOGY, vol.76, pp.227-234, 2016 (SCI-Expanded)

X. **Harmonic Motion Microwave Doppler Imaging: A Simulation Study Using a Simple Breast Model**
Top C. B., GENÇER N. G.
IEEE TRANSACTIONS ON MEDICAL IMAGING, vol.33, no.2, pp.290-300, 2014 (SCI-Expanded)

XI. **Simulation of the Scattered Field From a Vibrating Tumor Inside the Tissue Using 3D-FDTD Method**
Top C. B., GENÇER N. G.
IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS, vol.23, no.6, pp.273-275, 2013 (SCI-Expanded)

XII. **EEG/MEG source imaging: Methods, challenges, and open issues**
WENDEL K., VÄISÄNEN O., MALMİVUO J., GENÇER N. G., VANRUMSTE B., DURKA P., MAGJAREVİC R., SUPEK S., PASCU M. L., FONTENELLE H., et al.
Computational Intelligence and Neuroscience, vol.2009, 2009 (SCI-Expanded)

XIII. **Low-Frequency Magnetic Subsurface Imaging: Reconstructing Conductivity Images of Biological Tissues via Magnetic Measurements**
Oezkan K. O., GENÇER N. G.
IEEE TRANSACTIONS ON MEDICAL IMAGING, vol.28, no.4, pp.564-570, 2009 (SCI-Expanded)

XIV. **Parallel implementation of the accelerated BEM approach for EMSI of the human brain**
ATASEVEN Y., Akalin-Acar Z., Acar C. E., GENÇER N. G.
MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol.46, no.7, pp.671-679, 2008 (SCI-Expanded)

XV. **USB-based 256-channel electroencephalographic data acquisition system for electrical source imaging of the human brain**
Usakli A. B., Gencer N. G.
INSTRUMENTATION SCIENCE & TECHNOLOGY, vol.35, no.3, pp.255-273, 2007 (SCI-Expanded)

XVI. **Use of the isolated problem approach for multi-compartment BEM models of electro-magnetic source imaging**
Gencer N. G., Akalin-Acar Z.
PHYSICS IN MEDICINE AND BIOLOGY, vol.50, no.13, pp.3007-3022, 2005 (SCI-Expanded)

XVII. **An advanced boundary element method (BEM) implementation for the forward problem of**

electromagnetic source imaging
Akahn-Acar Z., Gencer N. G.
PHYSICS IN MEDICINE AND BIOLOGY, vol.49, no.21, pp.5011-5028, 2004 (SCI-Expanded)

XVIII. **Sensitivity of EEG and MEG measurements to tissue conductivity**
Gencer N. G., Acar C.
PHYSICS IN MEDICINE AND BIOLOGY, vol.49, no.5, pp.701-717, 2004 (SCI-Expanded)

XIX. **Electrical conductivity Imaging via contactless measurements: An experimental study**
KARBEYAZ B. Ü., Gencer N. G.
IEEE TRANSACTIONS ON MEDICAL IMAGING, vol.22, no.5, pp.627-635, 2003 (SCI-Expanded)

XX. **Implementation of a data acquisition system for contactless conductivity imaging**
Ulker B., Gencer N.
IEEE ENGINEERING IN MEDICINE AND BIOLOGY MAGAZINE, vol.21, no.5, pp.152-155, 2002 (SCI-Expanded)

XXI. **Forward problem solution of electromagnetic source imaging using a new BEM formulation with high-order elements**
Gencer N. G., TANZER I. O.
PHYSICS IN MEDICINE AND BIOLOGY, vol.44, no.9, pp.2275-2287, 1999 (SCI-Expanded)

XXII. **Electrical conductivity imaging via contactless measurements**
Gencer N. G., TEK M.
IEEE TRANSACTIONS ON MEDICAL IMAGING, vol.18, no.7, pp.617-627, 1999 (SCI-Expanded)

XXIII. **Forward problem solution for electrical conductivity imaging via contactless measurements**
Gencer N. G., TEK M. N.
PHYSICS IN MEDICINE AND BIOLOGY, vol.44, no.4, pp.927-940, 1999 (SCI-Expanded)

XXIV. **Differential characterization of neural sources with the bimodal truncated SVD pseudo-inverse for EEG and MEG measurements**
Gencer N. G., WİLLİAMSON S. J.
IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, vol.45, no.7, pp.827-838, 1998 (SCI-Expanded)

XXV. **Magnetic source images of human brain functions**
GENÇER N. G., Williamson S.
BEHAVIOR RESEARCH METHODS INSTRUMENTS & COMPUTERS, vol.29, no.1, pp.78-83, 1997 (SSCI)

XXVI. **Electrical impedance tomography: Induced-current imaging achieved with a multiple coil system**
Gencer N. G., İDER Y. Z., Williamson S.
IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, vol.43, no.2, pp.139-149, 1996 (SCI-Expanded)

XXVII. **ELECTRICAL-IMPEDANCE TOMOGRAPHY USING INDUCED CURRENTS**
GENCER N. G., KUZUOGLU M., IDER Y.
IEEE TRANSACTIONS ON MEDICAL IMAGING, vol.13, no.2, pp.338-350, 1994 (SCI-Expanded)

XXVIII. **A COMPARATIVE-STUDY OF SEVERAL EXCITING MAGNETIC-FIELDS FOR INDUCED CURRENT EIT**
GENCER N., IDER Y.
PHYSIOLOGICAL MEASUREMENT, vol.15, 1994 (SCI-Expanded)

XXIX. **ELECTRICAL-IMPEDANCE TOMOGRAPHY USING INDUCED AND INJECTED CURRENTS**
GENCER N., IDER Y., KUZUOGLU M.
CLINICAL PHYSICS AND PHYSIOLOGICAL MEASUREMENT, vol.13, pp.95-99, 1992 (SCI-Expanded)

XXX. **DETERMINATION OF THE BOUNDARY OF AN OBJECT INSERTED INTO A WATER-FILLED CYLINDER**
IDER Y., NAKIBOGLU B., KUZUOGLU M., GENCER N.
CLINICAL PHYSICS AND PHYSIOLOGICAL MEASUREMENT, vol.13, pp.151-154, 1992 (SCI-Expanded)

XXXI. **ELECTRICAL-IMPEDANCE TOMOGRAPHY OF TRANSLATIONALLY UNIFORM CYLINDRICAL OBJECTS WITH GENERAL CROSS-SECTIONAL BOUNDARIES**
IDER Y., GENCER N., ATALAR E., TOSUN H.
IEEE TRANSACTIONS ON MEDICAL IMAGING, vol.9, no.1, pp.49-59, 1990 (SCI-Expanded)

Articles Published in Other Journals

I. **The Effect of Contrasts in Electrical and Mechanical Properties between Breast Tissues on Harmonic Motion Microwave Doppler Imaging Signal**
Irgin U., Top C. B., GENÇER N. G.
IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, vol.5, pp.362-370, 2021 (ESCI)

II. **Optimal reference electrode selection for electric source imaging**
Gençer N. G., Williamson S., GUEZİEC A., HUMMEL R.
Electroencephalography and Clinical Neurophysiology, vol.99, no.2, pp.163-173, 1996 (Scopus)

Books & Book Chapters

I. **Forward Problem Solution of Magnetic Source Imaging**
GENÇER N. G., ACAR C. E., TANZER İ. O.
in: Magnetic Source Imaging of the Human Brain, Zhong-Lin Lu, Lloyd Kaufman, Editor, Psychology Press, 2003

Refereed Congress / Symposium Publications in Proceedings

I. **Induced Current Electro-Thermal Imaging in A Realistic Breast Model: A Numerical Study Gerçekçi Bir Meme Modelinde Akım İndüklemeli Elektro-Termal Görüntüleme: Sayısal Bir Çalışma**
Tanrıverdi V., GENÇER N. G.
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024

II. **MAET with Magnetic Field Measurements Using Circular and Figure-of-Eight Coils**
Tetik A. Ö., Gençer N. G.
IEEE Biomedical Circuits and Systems (BIOCAS) 2023 Conference, Toronto, Canada, 19 - 21 October 2023

III. **Numerical Studies for Magneto-Acousto-Electrical Tomography with Magnetic Field MeasurementUsing Barker-Coded Excitation**
Gözü M. S., Gençer N. G.
IEEE Biomedical Circuits and Systems (BIOCAS) 2023 Conference, Toronto, Canada, 19 - 21 October 2023

IV. **Doğrusal Frekans Modülasyonlu Uyarma Kullanılarak Manyetik Alan Ölçümlü Manyeto-Akusto-Elektriksel Tomografi için Sayısal Çalışmalar**
GÖZÜ M. S., TETİK A. Ö., GENÇER N. G.
2022 Medical Technologies Congress (TIPTEKNO), Antalya, Turkey, 31 October 2022, vol.1, pp.181-184

V. **Yüksek Q Faktörlü Bobinin Transfer Fonksiyonunun Manyetik Alan Ölçümlü Manyeto-Akusto-Elektriksel Tomografi Sinyalleri Üzerindeki Etkisini Giderme**
TETİK A. Ö., GÖZÜ M. S., GENÇER N. G.
2022 Medical Technologies Congress (TIPTEKNO), Antalya, Turkey, 31 October 2022, vol.1, pp.185-188

VI. **Phantom and Solenoid Coil Development for Induced Current Electro-Thermal Imaging Akim Induklemeli Electro-Termal Göruntuleme Için Fantom ve Selenoid Bobin Yapimi**
Tanriverdi V., GENÇER N. G.
2021 Medical Technologies Congress, TIPTEKNO 2021, Antalya, Turkey, 4 - 06 November 2021

VII. **Induced Current Thermal Imaging in Breast Cancer Detection**
Tanriverdi V., GENÇER N. G.
29th IEEE Conference on Signal Processing and Communications Applications (SIU), ELECTR NETWORK, 9 - 11 June 2021

VIII. **An Improved Receiver for Harmonic Motion Microwave Doppler Imaging**
Soydan D. A., Irgin U., Top C. B., Gençer N. G.
14th European Conference on Antennas and Propagation, EuCAP 2020, Copenhagen, Denmark, 15 - 20 March

2020

IX. **Enhancing the sensitivity of harmonic motion microwave doppler imaging using main signal cancellation circuit**
Irgin Ü., Top C. B., Soydan D. A., GENÇER N. G.
12th European Conference on Antennas and Propagation, EuCAP 2018, London, United Kingdom, 9 - 13 April 2018, vol.2018

X. **Heat Analysis in Magneto-Acousto Electrical Impedance Tomograhy**
Ghalichi E., ZENGİN R., GENÇER N. G.
18TH INTERNATIONAL CONFERENCE ON BIOMEDICAL APPLICATIONS OFELECTRICALIMPEDANCE TOMOGRAPHY, 21 - 24 June 2017

XI. **An Experimental Study for Magneto-Acousto Electrical Impedance Tomography using Magnetic Field Measurement**
KABOUTORİ K., TETİK A. Ö., Ghalichi E., GÖZÜ M. S., ZENGİN R., GENÇER N. G.
18TH INTERNATIONAL CONFERENCE ON BIOMEDICAL APPLICATIONS OFELECTRICALIMPEDANCE TOMOGRAPHY, 21 - 24 June 2017

XII. **An Analytical Solution for ForwardProblem of Magneto Acousto Electrical Tomography**
GHALICHI E., GENÇER N. G.
BIOEM2016, Ghent, Belgium, 07 June 2016 - 10 June 2017

XIII. **A Numerical Analysis of Magneto-Acousto Electrical Tomography with a Simplified Breast Model**
ZENGİN R., GENÇER N. G.
The 13th IASTED International Conference onBiomedical Engineering, 20 - 21 February 2017

XIV. **Received Signal in Harmonic Motion Microwave Doppler Imaging as a Function of Tumor Position in a 3D Scheme**
IRGIN U., TOP C. B., TAFRESHI A. K., GENÇER N. G.
11th International Symposium on Medical Information and Communication Technology (ISMICT), Lisbon, Portugal, 6 - 08 February 2017, pp.86-90

XV. **A numerical study on the resolution limit ofMagneto Acousto Electrical Tomography using Magnetic Field Measurements**
ZENGİN R., GENÇER N. G.
BIOEM2016, Ghent, Belgium, 7 - 10 June 2016

XVI. **Realization of Harmonic Motion Microwave Doppler Imaging Method**
KHAMALI TAFRESHI A., GENÇER N. G.
BIOEM2016, Ghent, Belgium, 7 - 10 June 2016

XVII. **Dual Band PIFA Design For Biomedical Applications**
ALPTEKİN D., ALATAN L., GENÇER N. G.
EUCAP 2016, DAVOS, Switzerland, 10 - 15 April 2016, pp.3987-3990

XVIII. **Application of High Resolution Magnetic Resonance Imaging Methods for Spinal Cord Tissue Segmentation**
Durlu C., Erdogan H. B., Kucukdeveci O. F., GENÇER N. G.
20th National Biomedical Engineering Meeting (BIYOMUT), İzmir, Turkey, 3 - 05 November 2016

XIX. **Design and Assembly of a Static Magnetic Field Generator for Lorentz Field Electrical Impedance Tomography**
Tetik A. O., Ghalichi E., Kaboutari K., GENÇER N. G.
20th National Biomedical Engineering Meeting (BIYOMUT), İzmir, Turkey, 3 - 05 November 2016

XX. **Numerical analysis of spinal cord stimulation with triple leads with guarded cathode**
DURLU C., ZENGİN R., GENÇER N. G., Kucukdeveci F.
2015 19th National Biomedical Engineering Meeting (BIYOMUT), Istanbul, Turkey, Turkey, 5 - 06 November 2015

XXI. **Low phase noise phase locked loop frequency synthesizer design for breast cancer detection**
KEYKHALİ M., GENÇER N. G.
2015 19th National Biomedical Engineering Meeting (BIYOMUT), Istanbul, Turkey, Turkey, 5 - 06 November 2015

XXII. **2D Simulations Based on General Time-Dependent Reciprocal Relation for LFEIT**

KARADAŞ M., GENÇER N. G.
37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Milan, Italy, 25 - 29 August 2015, pp.1556-1559

XXIII. **CAD for detection of microcalcification and classification in mammograms**
AKBAY C., GENÇER N. G., GENÇER G.
2014 18th National Biomedical Engineering Meeting, Istanbul, Turkey, Turkey, 16 - 17 October 2014

XXIV. **Numerical studies for Hall Effect Imaging using linear phased array transducer**
Gözü M. S., ZENGİN R., GENÇER N. G.
2014 18th National Biomedical Engineering Meeting, Istanbul, Turkey, Turkey, 16 - 17 October 2014

XXV. **A dual band antenna design for implantable medical devices**
ALPTEKİN D., GENÇER N. G., KUCUKDEVECİ F.
2014 18th National Biomedical Engineering Meeting, Istanbul, Turkey, Turkey, 16 - 17 October 2014

XXVI. **Data Acquisition System for Harmonic Motion Microwave Doppler Imaging**
Tafreshi A. K., Karadas M., Top C. B., GENÇER N. G.
36th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society (EMBC), Illinois, United States Of America, 26 - 30 August 2014, pp.2873-2876

XXVII. **Harmonic Motion Microwave Doppler Imaging method for breast tumor detection**
Top C. B., Tafreshi A. K., GENÇER N. G.
2014 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Chicago, IL, 26 - 30 August 2014

XXVIII. **Medical Thermal Imaging of Electrically Stimulated Woman Breast: a simulation study**
Carlak H. F., Gençer N. G., Beşikci C.
33rd Annual International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society (EMBS), Massachusetts, United States Of America, 30 August - 03 September 2011, pp.4905-4908

XXIX. **Thermal images of electrically stimulated breast: A simulation study**
Carlak H. F., GENÇER N. G., BEŞİKCİ C.
12th Mediterranean Conference on Medical and Biological Engineering and Computing, MEDICON 2010, Chalkidiki, Greece, 27 - 30 May 2010, vol.29, pp.244-247

XXX. **A realization of a P300 based brain-computer interface system P300 tabanli bir beyin-bilgisayar arayüzü sisteminin oluşturulmasi**
Erdoğan B., GENÇER N. G.
2010 15th National Biomedical Engineering Meeting, BIYOMUT2010, Antalya, Turkey, 21 - 24 April 2010

XXXI. **Online cue-based discrimination of left / right hand movement imagination Çevrimiçi ipucu-bazli sol / sağ el hareket düşüncesinin ayriştirilmasi**
Akinci B., GENÇER N. G.
2010 15th National Biomedical Engineering Meeting, BIYOMUT2010, Antalya, Turkey, 21 - 24 April 2010

XXXII. **Simulations of electrically stimulated thermal imaging using a 3D breast model Akim uygulamali termal görüntüleme yöntemi için üç boyutlu meme modeli ile benzetimler**
Carlak H. F., GENÇER N. G., BEŞİKCİ C.
2010 15th National Biomedical Engineering Meeting, BIYOMUT2010, Antalya, Turkey, 21 - 24 April 2010

XXXIII. **Analytical solution for contactless electrical impedance measurement Dokunmasiz yolla elektriksel iletkenlik ölçümleri için analitik formülasyon**
Top C. B., GENÇER N. G.
2010 15th National Biomedical Engineering Meeting, BIYOMUT2010, Antalya, Turkey, 21 - 24 April 2010

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Zengin R., GENÇER N. G.
2010 15th National Biomedical Engineering Meeting, BIYOMUT2010, Antalya, Turkey, 21 - 24 April 2010

XXXV. **Contactless Electrical Conductivity Imaging Simulations Using FDFD Method**
GENÇER N. G., Gencer N. G.
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.435-438

XXXVI. **Application of Wiener Deconvolution Model in P300 Spelling Paradigm**
Erdogan B., GENÇER N. G.
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.41-44

XXXVII. **Electrically Stimulated Breast Model's Thermal Imaging Simulations**
CARLAK H. F., GENÇER N. G.
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.179-182

XXXVIII. **Electrical Conductivity Imaging via Contactless Measurements: Data Acquisition Systems Developed in METU Brain Research Laboratories**
Ozkan K. O., GENÇER N. G.
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.175-178

XXXIX. **Classification of 4-class Motor Imagery EEG Data with Common Sparse Spectral Spatial Pattern Method**
Akinci B., GENÇER N. G.
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.49-52

XL. **Prototype Hardware Design for Brain Computer Interface Applications**
Erdogan B., Akinci B., Acar E., Usakli A. B., GENÇER N. G.
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.481-483

XLI. **Forward Problem Solution for Contactless Electrical Conductivity Imaging with Realistic Head Model**
Zengin R., GENÇER N. G.
14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.183-184

XLII. **Development of realistic head models and forward problem solution in electro-magnetic source imaging**
GENÇER N. G.
14th World Congress of Psychophysiology the Olympics of the Brain, St Petersburg, Russia, 8 - 13 September 2008, vol.69, pp.160

XLIII. **Performance tests of a novel electroencephalographic data-acquisition system**
Usakli A. B., GENÇER N. G.
5th IASTED International Conference on Biomedical Engineering, Innsbruck, Austria, 14 - 16 February 2007, pp.253-257

XLIV. **Comparison of methods for extracting of evoked potentials**
Kilic S., Gencer N., Baykal B.
25th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society, Cancun, Mexico, 17 - 21 September 2003, vol.25, pp.2495-2498

XLV. **Use of the reciprocal problems in electro-magnetic source imaging of the human brain**
Gencer N., Acar C.
25th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society, Cancun, Mexico, 17 - 21 September 2003, vol.25, pp.2667-2670

XLVI. **An accelerated BEM formulation for the forward problem solution of ESI using realistic head models**
Akalm Z., Gencer N.
25th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society, Cancun, Mexico, 17 - 21 September 2003, vol.25, pp.2671-2674

XLVII. **Sensitivity of EEG and MEG to conductivity perturbations**
Acar C., Gencer N.
25th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society, Cancun, Mexico, 17 - 21 September 2003, vol.25, pp.2834-2837

XLVIII. **Development of a data acquisition system for electrical conductivity images of biological tissues via contactless measurements**
Ahmad T., Gencer N.
23rd Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society, İstanbul, Turkey, 25 - 28 October 2001, vol.23, pp.3380-3383

XLIX. **Implementation of a data acquisition system for contactless conductivity imaging**

ULKER B., Gencer N. G.
23rd Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society, İstanbul, Turkey, 25 - 28 October 2001, vol.23, pp.3376-3379

L. **Generalized inverse solution for bimodal electro-magnetic source images**
Gencer N., Williamson S.
10th International Conference on Biomagnetism, Santa Fe, Argentina, 01 January 1999, pp.217-220

LI. **A new 3D FEM formulation for the solution of potential fields in magnetic induction problems**
Tek M., Gencer N. G.
International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society, Illinois, United States Of America, 30 October - 02 November 1997, vol.19, pp.2470-2473

LII. **A new finite element formulation for the forward problem of electro-magnetic source imaging**
Ozdemir M., Gencer N.
International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society, Illinois, United States Of America, 30 October - 02 November 1997, vol.19, pp.2104-2107

LIII. **A new boundary element method formulation for the forward problem solution of electro-magnetic source imaging**
Tanzer I., Gencer N.
International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society, Illinois, United States Of America, 30 October - 02 November 1997, vol.19, pp.2100-2103

LIV. **ELECTRICAL-IMPEDANCE TOMOGRAPHY USING INDUCED CURRENTS - AN EXPERIMENTAL-STUDY**
GENCER N., IDER Y.
Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC 93), San-Francisco, Costa Rica, 30 October - 06 November 1993, pp.1794-1798

LV. **A NEW DESCENT ALGORITHM FOR ELECTRICAL-IMPEDANCE TOMOGRAPHY**
KUZUOGLU M., LEBLEBICIOGLU K., GENCER N. G., IDER Y.
14TH ANNUAL INTERNATIONAL CONF OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY, Paris, France, 29 October - 01 November 1992, vol.14, pp.1684-1685

LVI. **SENSITIVITY MATRIX ANALYSIS OF THE BACK-PROJECTION ALGORITHM IN ELECTRICAL-IMPEDANCE TOMOGRAPHY**
GENÇER N. G., KUZUOGLU M., IDER Y.
14TH ANNUAL INTERNATIONAL CONF OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY, Paris, France, 29 October - 01 November 1992, vol.14, pp.1682-1683

LVII. **SENSITIVITY ANALYSIS AND INVERSE PROBLEM SOLUTION OF ELECTRICAL-IMPEDANCE TOMOGRAPHY USING INDUCED CURRENTS**
GENÇER N. G., IDER Y., KUZUOGLU M.
1991 ANNUAL INTERNATIONAL CONF OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOC, Florida, United States Of America, 31 October - 03 November 1991, pp.7-8

LVIII. **AN ALGORITHM FOR COMPENSATING FOR 3D EFFECTS IN ELECTRICAL-IMPEDANCE TOMOGRAPHY**
IDER Y., GENCER N.
1989 ANNUAL INTERNATIONAL CONF OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOC : IMAGES OF THE TWENTY-FIRST CENTURY, Washington, United States Of America, 9 - 12 November 1989, vol.11, pp.465-466

LIX. **A DUAL MODALITY IMAGING-SYSTEM FOR IMPEDANCE TOMOGRAPHY WITH ULTRASONICALLY DETERMINED BOUNDARIES**
IDER Y., DORKEN E., GENCER N., KOYMEN H.
1989 ANNUAL INTERNATIONAL CONF OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOC : IMAGES OF THE TWENTY-FIRST CENTURY, Washington, United States Of America, 9 - 12 November 1989, pp.283-284

Episodes in the Encyclopedia

I. **Wiley Encyclopedia of Biomedical Engineering**

GENÇER N. G.
Wiley, pp., 2006

Supported Projects

Ulusoy I., Halıcı U., Bayram B., Ankaralı M. M., Temizel A., Gençer N. G., Akar G., Ertekin Bolelli Ş., Turgut A. E., Son Ç. D., et al., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, NÖROM Nörobilim ve Nöroteknoloji Mükemmeliyet Merkezi, 2020 - 2023
GENÇER N. G., TUBITAK Project, MR Ortamında Çoklu Frekanslı Lorentz Alanları ve Manyetik Alan Ölçümleri ile Elektriksel Empedans Görüntülenmesi, 2019 - 2023
GENÇER N. G., TUBITAK Project, Harmonik Hareket Mikrodalga Doppler Görüntüleme Yöntemi İçin Sistem Duyarlılığı, Güvenliği ve Güvenilirliğini Artırma Çalışmaları, 2018 - 2022
GENÇER N. G., TÜBİTAK International Bilateral Joint Cooperation Program Project, Lorentz Alanları Ve Manyetik Alan Ölçümleri Ile Elektriksel Empedans Görüntülemesi , 2014 - 2017
Gençer N. G., TÜBİTAK - AB COST Project, Harmonik Hareket Mikrodalga Doppler Görüntüleme Yöntemi için Prototip Sistem Geliştirilmesi, 2014 - 2017
Gençer N. G., TUBITAK Project, Harmonik Hareket Mikrodalga Doppler Görüntüleme Prototip Sistem Geliştirmesi, 2014 - 2017
GENÇER N. G., TUBITAK Project, Vücut İçine Yerleştirilen Implantable Nörostimülasyon Nöromodülasyon Cihazları Tasarımı Ve Geliştirmesi, 2013 - 2017
GENÇER N. G., KABOUTARI K., GÖZÜ M. S., TETİK A. Ö., Project Supported by Higher Education Institutions, Lorentz Alanları Ve Manyetik Alan Ölçümleri Ile Elektriksel Empedans Görüntülemesi, 2016 - 2016
Gençer N. G., TUBITAK Project, Vücut İçine Yerleştirilen (Implantable) Nörostimülasyon/Nöromodülasyon Cihazları Tasarımı ve Geliştirmesi, 2013 - 2016
GENÇER N. G., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2015
GENÇER N. G., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014
GENÇER N. G., TUBITAK Project, Harmonik Hareket Mikrodalga Doppler Görüntüleme Yöntemi, 2012 - 2013
GENÇER N. G., TUBITAK Project, Akım İndükleme ve Manyetik Alan Ölçümleri ile Elektriksel Empedans Görüntülemesi, 2007 - 2010

Patent

Gençer N. G., Zengin R., MULTIFREQUENCY ELECTRİCAL IMPEDANCE IMAGING USING LORENTZ FIELDS, Patent, CHAPTER A Human Needs, The Invention Registration Number: EP3021757B1 , 2020
Gençer N. G., Carlak H. F., Besikci C., Method and System for Dual-band Active Thermal Imaging using Multi-frequency Currents, Patent, CHAPTER A Human Needs, The Invention Registration Number: US 10,123,704 B2 , Standard Registration, 2018
Gençer N. G., HYBRID MECHANICAL-ELECTROMAGNETIC IMAGING METHOD AND THE SYSTEM THEREOF, Patent, CHAPTER A Human Needs, The Invention Registration Number: EP 2 908 716 , Standard Registration, 2017

Scientific Refereeing

MATHEMATICAL BIOSCIENCES AND ENGINEERING, Journal Indexed in SCI-E, October 2019
IEEE ACCESS, SCI Journal, August 2019

Tasks In Event Organizations

Gençer N. G., Uysal Bıyıkoğlu E., GRAD STAR ver2.0, Workshop Organization, Ankara, Turkey, Ekim 2018

Scientific Research / Working Group Memberships

Odtü Biyoelektromagnetizma Araştırma Grubu (Metu Berg), Middle East Technical University, Turkey, https://blog.metu.edu.tr/ngencer/, 1997 - Continues

Metrics

Publication: 94
Citation (WoS): 667
Citation (Scopus): 914
H-Index (WoS): 13
H-Index (Scopus): 14

Invited Talks

Lorentz Field Electrical Impedance Tomography with Magnetic Field Measurements, Seminar, İhsan Doğramacı Bilkent Üniversitesi, Turkey, November 2020
Meme kanseri tanısında alternatif tıbbi görüntüleme teknikleri , Conference, Uluslararası katılımlı Radyoloji Kongresi TURKRAD 2019, Turkey, November 2019
NUMERICAL ANALYSIS AND COMPUTATIONAL FLUID DYNAMICS WORKSHOP IN HONOR OF MÜNEVVER TEZER-SEZGİN'S 67TH BIRTHDAY, Workshop, Orta Doğu Teknik Üniversitesi, Turkey, April 2019

Non Academic Experience

New York University Physics De
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