CURRICULUM VITAE

NAME: Nevzat Güneri Gençer

DATE: September 19th, 2024

PRESENT POSITION:
Professor of Electrical and Electronics Engineering Department,
Middle East Technical University

Coordinator of **Bioelectromagnetism Research Group (METU-BERG)**
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Department of Electrical and Electronics Engineering, Middle East Technical University (METU), 06531 Balgat Ankara, TURKEY

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DATE AND PLACE OF BIRTH: May 28, 1963, **İstanbul, Turkey**

NATIONALITY: Turkish

Google Scholar: https://scholar.google.com.tr/citations?user=SM9kpZoAAAAJ

Scopus: https://www.scopus.com/authid/detail.uri?authorId=7003388562

ORCİD: https://orcid.org/0000-0002-4776-7968

Web of Science: https://publons.com/researcher/L-6976-2016

EDUCATION:

- Ph. D., 1993, Department of Electrical and Electronics Engineering, Ph. D., **Middle East Technical University**, Ankara, Turkey
  Thesis Title: **Electrical Impedance Tomography using Induced Currents**
  Thesis Advisor: **Prof. Dr. Y. Ziya İder**

- M. Sc., 1988, Department of Electrical and Electronics Engineering, M. Sc., **Middle East Technical University**, Ankara, Turkey
  Thesis Title: **Study of Algebraic Reconstruction Algorithms for Practical Applications of EIT**
  Thesis Advisor: **Prof. Dr. Y. Ziya İder**

- B. Sc., 1985, Department of Electrical and Electronics Engineering, B. Sc., **Boğaziçi University**, İstanbul, Turkey.

- High School, 1981, **Ankara Atatürk Anatolian High School**

POSTDOCTORAL RESEARCH

- 1994-1995, Neuromagnetism Laboratory, Physics Department, **New York University**, New York, USA.
  Project Title: **Electro-magnetic source imaging of the human brain using realistic head models**
  Advisor: **Prof. Dr. Samuel J. Williamson**

EXECUTIVE EDUCATION

- **Berkeley – Labsout Accelerator, UC Berkeley Executive Education,** Berkeley Innovation Acceleration Group, June 18-June 20, 2019.

APPOINTMENTS:

- Spring 2003 – **Professor**, Department of Electrical and Electronics Engineering, **Middle East Technical University**, Ankara

- Fall 1997 – 2003, **Associate Professor**, Department of Electrical and Electronics Engineering, **Middle East Technical University**, Ankara

- Fall 1996 – 1997, **Assistant Professor**, Department of Electrical and Electronics Engineering, **Middle East Technical University**, Ankara

- Spring 1996, **Instructor**, Department of Electrical and Electronics Engineering, **Middle East Technical University**, Ankara

- 1995-1996, **Research Assistant Professor**, Physics Department, **New York University**, New York

- 1994-1995 **Postdoctoral Research Assistant**, Physics Department, **New York University**, New York

- Fall 1993, **Instructor**, Department of Electrical and Electronics Engineering, **Middle East Technical University**, Ankara

- 1987-1993, **Research/Teaching Assistant**, Department of Electrical and Electronics, **Middle East Technical University**, Ankara

HONORS AND DISTINCTION

2023 **ISIF'23 Bronze medal**, **8th İstanbul International Inventions Fair** - ISIF'23, April 27th-May 1st , İstanbul, Turkey.

US 10,123,704 B2, EP3016579 B1
Gençer N. G., Carlak H. F., Beşikci C., **Multi-Frequency Current Applied Dual-Band Active Thermal Imaging and the System**.

2010 **James Edward Zimmerman Prize**,
In recognition of his contribution to advances in the field of SQUID technology, International Federation for Medical and Biological Engineering, **BIOMAG 2010**, Dubrovnik, Croatia.

2010 **IV. Health Industry Employers' Association of Turkey (SEIS) National Medical Device Project Award Winner**, **Low-cost, efficient brain computer interface design and prototype development**, Nevzat G. Gençer, H. Balkar Erdoğan, Berna Akıncı, Erman Acar, Ali Bülent Uşaklı.

2008 Co-author of an article listed in the short-list of the **Alfred Nightingale Award 2008, Medical & Biological Engineering & Comput**. (Ataseven Y, Akalin-Acar Z, Acar CE, Gencer NG, **Parallel implementation of the accelerated BEM approach for EMSI of the human brain**, Med. Biol. Eng. Comp. 46:671-679, 2008.

2003 **Research Incentive Award, Turkish Scientific and Technical Research Council (TUBITAK).**

2000 **1999 Academic Achievement Award of the Middle East Technical University (METU).**

1999 **Research Incentive Award, Prof. Dr. Mustafa N. Parlar Education and Research Foundation.**

1998 **Nominated by the Electrical Engineering Department and the Dean of Engineering Faculty** for the **Research Incentive Award of Turkish Scientific and Technical Research Council**.

1997 **Associate Professorship, Institute of Higher Education.**

1996 **Research Assistant Support** provided under the **Research Assistant Support Program of Natural Sciences Institute of METU**.

1994 **Turkish Scientific Research Council Postdoctoral fellowship program support.**

1988 **Erol Gelenbe One of the best M. Sc. Thesis Award** in Electrical and Electronic Engineering Department of METU.

AWARDS RECEIVED BY SUPERVISED GRADUATE STUDENTS

2017 Co-author of the conference paper that receives **Best Student Paper Award**, ISMICT 2017 International Symposium on Medical Information and Communication Technology, Lisbon, Portugal, February 6-8th, 2017.
Ümit İrgin, Can Barış Top, Azadeh Kamali Tafreshi, and Nevzat G. Gençer, **Received Signal in Harmonic Motion Microwave Doppler Imaging as a Function of Tumor Position in a 3D Scheme**

2016 M. Sc. Thesis Supervisor of **Damla Alptekin**,
2016 Graduate Research Workshop Award Winner, METU Department of Electrical and Electronics Engineering.

2014 Ph. D. Thesis Supervisor of **Can Barış Top**,
2012-2013 Academic Year, **Serhat Özyar Young Scientist of the Year Award.**

2013 Ph. D Thesis Supervisor of **Can Barış Top**
2012-2013 Academic Year**, Thesis of the Year Award, Mustafa N. Parlar Education and Research Foundation.**

2010 M. Sc. Thesis Supervisor of **Hasan Balkar Erdoğan**,
2008-2009 Academic Year, **METU Best Thesis Award Winner, METU Graduate School of Natural and Applied Sciences.**

2007 M. Sc. Thesis Supervisor of **Koray Ö. Özkan**, Middle East Technical University, **Thesis of the Year Award, Mustafa N. Parlar Education and Research Foundation.**

2005 Ph. D. Thesis Supervisor of **Zeynep Akalın**, Middle East Technical University, **Serhat Özyar Young Scientist of the Year Award.**

2004 Ph. D. Thesis Supervisor of **Zeynep Akalın**, Middle East Technical University, **Thesis of the Year Award, Mustafa N. Parlar Education and Research Foundation**.

2002 M. Sc. Thesis Supervisor of **Başak Ülker Karbeyaz**, Middle East Technical University,
Thesis of the Year Award, Mustafa N. Parlar Education and Research Foundation.

2001 **3rd place in the 2001 IEEE EMBS Student Paper Competition**
Başak Ülker Karbeyaz, Nevzat G. Gencer, **Implementation of a Data Acquisition System for contactless conductivity imaging**, 23rd Annual International Conference of IEEE/ EMBS, October 2001, Istanbul, Turkey.

EDUCATIONAL SERVICE:

Teaching Experience

- **Undergraduate courses:**

  - **Biomedical Signals, Instrumentation and Measurement**, METU EEE, Spring Semester
    - 30-40 students per semester,
    - Course Developer,
    - Lecturer (every three years),
    - Developed exams and Homeworks, and Term projects
    - Revised the syllabus,
    - Coordinated grading and labs.

  - **Introduction to Medical Imaging**, METU EEE, Fall Semester
    - 30-40 students per semester,
    - Course Developer,
    - Lecturer (every three years),
    - Developed exams, Homeworks, and Term Projects
    - Revised the syllabus,
    - Coordinated grading.

  - **Semiconductor Devices and Modeling**, METU EEE, Spring Semester
    - Taught by 4-5 faculty members,
    - 250-300 students per semester,
    - 50-60 students in each group (section),
    - Lecturer (since 1996),
    - Contributed to exams and grading.

- **Analog Electronics**, METU EEE, Fall Semester
  - Taught by 4-5 faculty members,
  - 250-300 students per semester,
  - 50-60 students in each group (section),
  - Lecturer (since 1996),
  - Contributed to exams and grading.

- **Graduate courses:**

  - **Advanced Topics in Medical Imaging**, METU EEE, Spring Semester
    - 5-15 students per semester,
    - Course Developer,
    - Lecturer (every three years),
    - Developed exams and Term Projects
    - Revised the syllabus

  - **Bioelectricity and Biomagnetism**, METU EEE, Fall Semester
    - 5-15 students per semester,
    - Course Developer,
    - Lecturer (every three years),
    - Developed exams and Term Projects,
    - Revised the syllabus

  - **Physiological Control System Analysis**, METU EEE, Spring Semester
    - 5-15 students per semester,
    - Course Developer,
    - Lecturer (every three years),
    - Developed exams and Term Projects
    - Revised the syllabus

  - **Therapeutical and Prosthetic Devices**, METU EEE, Fall Semester
    - 5-15 students per semester,
    - Course Developer,
    - Lecturer (every three years),
    - Developed exams and Term Projects
    - Revised the syllabus

  - **Introduction to Biomedical Engineering**, METU, **Biomedical Engineering**, Spring Semester
    - Bioelectrical Tract Topic: **Biomedical Instrumentation**
    - 5-15 students per semester,
    - Lecturer (3 hours/semester),
    - Contributed to exams and grading.

Graduate Students supervised:

Ph. D Thesis:

Volkan Tanrıverdi, Induced Current Medical Electro-Thermal Imaging, January 2024.

Ümit İrgin, **Implementation of a Fast Simulation Tool for the Analysis of Contrast Mechanisms in HMMDI and Enhancement of the SNR in the Experimental Set-up,** September 2021.

Azadeh Kamali Tafreshi, **Design and Realization of a Hybrid Medical Imaging System: Harmonic Motion Microwave Doppler Imaging**, February 2016

Can Barış Top, **Harmonic Motion Microwave Doppler Imaging Method**, September 2013.

Koray Özdal Özkan, **3D Multi-Frequency Conductivity Imaging via Contactless Measurements**, January 2013.

Feza Carlak, **Medical Electro-Thermal Imaging, February**, February 2012.

Reyhan Zengin, **Electrical Impedance Tomography using Lorentz Fields**, September 2013.

A. Bülent Uşaklı, **256-channel Electroencephalographic Data Acquisition System for Electrical Source Imaging**, Gazi University, Institute of Science and Technology, December 2006.

Serap Aydın, **Extraction of Auditory Evoked Potentials from Ongoing EEG**, September 2005

Zeynep Akalın Acar, **Electro-magnetic Source Imaging using Realistic Head Models**, June 2005.

Can Erkin Acar, **Parallelization of the Forward and Inverse Problems of Electro-Magnetic Source Imaging of the Human Brain**, April 2003.

M. Sc. Thesis:

Gamze Onuker, **Temperature Estimation using Magnetic Nanoparticles**, December 2019.

Fikret Tatar, **Three Dimensional Finite Difference Time Domain Simulations on Harmonic Motion Microwave Doppler Imaging Method using Realistic Tissue Model**, September 2019.

A. Önder Tetik, **Experimental Studies for LFEIT with Magnetic Field Measurements**, September 2018.

Onur Avan, **Wireless Power Transfer with Bidirectional Telemetry for Active Implantable Medical Devices**, October 2017.

Elyar Ghalichi, **Theoretical Limits and Safety Considerations for Magneto-Acousto Electrical Tomography**, February 2017.

Keivan Kaboutari, **Data Acquisition System for Lorentz Force Electrical Impedance Tomography Using Magnetic Field Measurements**, February 2017.

Utku Baran Kulga, **PHP Applications, K-Wave Simulation and Experimental Studies for Medical Ultrasound**, February 2017.

Yiğit Ürkmeztürk, Design and Implementation of a Communication System for Implantable Medical Devices, February 2016.

Mahsa Keykhali, **A Study on a Low Phase Noise Charge Pump Phase-Locked Loop at 2.8 GHz**, February 2016.

Cansu Akbay, **Application of Image Enhancement Algorithms to Improve the Visibility and Classification of Micro calcifications in Mammograms**, January 2015.

Ulaş Can İnan, **Design and Implementation of Magnetic Field Sensors for Biomedical Applications**, February 2015

Damla Alptekin, **Dual Band Microstrip Implantable Antenna Design for Biomedical Application**, August 2015.

Mürsel Karadaş, **2D Simulations Based on the General Time Dependent Reciprocal Relation and Initial Experiments for LFEIT**, September 2014.

M. Soner Gözü, **2D Simulation Studies and Initial Experimental Results for Hall Effect Imaging**, September 2014.

Galip Özdemir, **Investigating the multi-frequency performance of Electro-thermal imaging: An experimental study**, September 2013.

Erman Acar, **Classification of motor imagery tasks in EEG signal and its application to a brain-computer interface for controlling assistive environmental devices**, February 2011.

Berna Akıncı, **Realization of a cue based motor imagery brain computer interface with its potential application to a wheelchair**, September 2010.

Balkar Erdoğan, **A design and implementation of P300 based brain-computer interface**, September 2009.

Çağdaş Altın, **Java applets for simulation of magnetic resonance imaging**, December 2008.

Mustafa Yurtkölesi, **Imaging electrical conductivity distribution of the human head using evoked fields and potentials**, September 2008

Doğa Gürsoy, **Multi-frequency contactless electrical impedance imaging using realistic head models: Single coil simulations**, January 2007.

S. Taha Ahi, **Solving the forward problem of electrical source imaging by applying the reciprocal approach and the finite difference method**, September 2007.

Koray Özdal Özkan, **Multi-frequency electrical conductivity imaging via contactless measurements**, January 2006.

Cemil Kızılöz, **Real time image processing for medical infrared imaging**, December 2005.

Yoldaş Ataseven, **Parallel implementation of the boundary element method for electromagnetic source imaging of the human brain**, September 2005.

İlyas Evrim Çolak, **An improved data acquisition system for contactless conductivity imaging**, April 2005.

Dilan Görür, **Automated Detection of Sleep Spindles**, January 2003.

Ayhan Serkan Şık, **X-ray physics and computerized tomography simulation using Java and Flash**, December 2003.

Başak Ülker Karbeyaz, Electrical conductivity imaging via contactless measurements: an experimental study, December 2001.

Tafseer Ahmad, **Experimental studies on development of a new imaging system for contactless subsurface conductivity imaging of biological tissues,** August 2001.

Koray Uyar, **Development of a Compression Algorithm Suitable for Exercise ECG data**, April 2001

Burak Yenigün, **Noise Cancellation Techniques Applied to EEG Using Single or More Sweeps,** September 2000.

M. Kemal Özdemir, **Forward problem solution of EMSI of the human brain using a new FEM Formulation with realistic head model**, July 1998.

Nejat Tek, **Electrical conductivity imaging via contactless measurements: Forward and inverse problem simulations** July 1998.

İ. Oğuz Tanzer, **Forward problem solution of electro-magnetic source imaging of the human brain using a new boundary element method formulation with realistic head model**, July 1998.

Current PhD Students:

Damla Alptekin, **Development of image reconstruction algorithms for the harmonic motion microwave Doppler imaging**, METU EEE, **2016 -**

Elyar Ghalichi, **Analytical and numerical solutions for the forward problem of Magneto-Acousto-Electrical Tomography**, METU EEE, **2017 -**

Ahmet Ö. Tetik, **Design and realization of data acquisition system for multi frequency LFEIT inside strong magnetic field of an MR scanner**, METU EEE, **2018 -**

M. Soner Gözü, **Exploring the effects of ultrasound transducer configuration and excitation signal properties on the performance of Magneto-acousto-electrical tomography in magnetic resonance magnet**, METU EEE, **2019 -**

Balkar Erdoğan, **Development of a multifrequency Lorentz force electrical impedance tomography System**, METU EEE, **2019 -**

MAJOR RESARCH INTERESTS:

Mathematical, computational, and instrumentation aspects of **novel medical imaging methods** and **neurostimulation techniques**:

Medical Imaging Techniques:

- **Electrical Impedance Imaging Methods**
  - Applied/Induced Current Electrical Impedance Tomography
  - Electrical Impedance Imaging via contactless measurements, Magnetic Induction Tomography (MIT)
  - Lorentz Force Electrical Impedance Tomography (LFEIT)
- **Electro-Magnetic Source Imaging (EMSI) of the human brain**
- **Harmonic Motion Microwave Doppler Imaging**
- **Medical Electro-thermal Imaging using applied and induced currents**

Neurostimulation Techniques:

- **Novel implantable devices**
- **Magneto-acoustic stimulator systems**

SCIENTIFIC MEETING SERVICE:

- **Invited Speaker**, **Lorentz Alanlı Elektriksel İletkenlik Görüntüleme**, **NÖROM Seminer**, Gazi Üniversitesi, 29 Mart 2021.

- **Invited speaker, Lorentz Field Electrical Impedance Tomography with Magnetic Measurements**, **Graduate Student Seminars**, Bilkent University, Ankara, Turkey, November 18, 2020.

- **Invited Speaker, Innovative Medical Imaging Techniques, METU-SIAM Student Chapter Seminar Series**, Instıtute of Applied Mathematics, February 27 2018.

- **Member of Advisory Board (Elif Uysal Bıyıkoğlu, Nevzat G. Gençer)**, **GRADSTAR 2018, 5th Graduate Student Research Workshop,** Department of Electrical and Electronics Engineering, METU, 2018.

- **National Coordinator, COST Action BM 1309 (EMF-MED)**, European network for innovative uses of EMFs in biomedical applications, 2014-2018.

- **Member of Organizing Committee (Elif Uysal Bıyıkoğlu, Nevzat G. Gençer)**, **GRADSTAR 2017, 4th Graduate Student Research Workshop,** Department of Electrical and Electronics Engineering, METU, 2017.

- **National Coordinator, COST Action TD1301 (MiMed)**, Development of a European-based Collaborative Network to Accelerate Technological, Clinical and Commercialization Progress in the Area of Medical Microwave Imaging, 2013-2017.

- **Invited speaker**, **International Summer School and Workshop on Brain Dynamics,** Electro-Magnetic Source Imaging of the Human Brain, Turunç, Marmaris, Turkey, **J**uly 1-5, 2013.

- **National Coordinator, COST Action BM0601 (NEUROMATH)**, Advanced Methods for the Estimation of Human Brain Activity and Connectivity, 2007-2011.

- **Conference Chair**, **BIYOMUT 2008**, 13th Annual National Conference on Biomedical Engineering, Ankara, Turkey, 2008.

- **Invited speaker**, **Brain-Machine Workshop**, December 2000, Ankara, Turkey.

- **Invited speaker**, **Annual National Conference on EEG**, June 1999, Antalya, Turkey.

- **Invited speaker**, **Annual National Conference on EEG**, June 1998, Kayseri, Turkey.

- **Session Co-chair**, **IEEE-EMBS 19th Annual International Conference**, Chicago, October 1997.

- **Session Chair**, **7th Annual Conference of Electrical-Electronics and Computer Engineering**, September 1997

- **Session Co-chair, IEEE-EMBS 14th Annual International Conference**, Paris, October 1992.

FUNDED PROJECTS:

- **TUBITAK 119E126**, **Multi-frequency Lorentz Field Electrical Impedance Tomography with Magnetic Measurements in Magnetic Resonance Imaging Scanner**, November 2019, **160,000 USD (919,029 TL)**, 2019-2023 (continues).

- **TUBITAK 117E246, Improving sensitivity, safety and reliability of the Harmonic Motion Microwave Doppler Imaging System,** April 2018, **135,000 USD (550,950 TL)**, 2018-2022.

- **TUBITAK 114E184, Electrical Impedance Imaging using Lorentz Fields and Magnetic Field measurements,** December 2014, **160,000 USD (358,922 TL)**, 2014 -2017.

- **TUBITAK 114036, Harmonic Motion Microwave Doppler Imaging: Prototype System Design**, August 2014, 2014-2017, **170, 000 USD (369,635 TL).**

- **TUBITAK 113S471, Design and Development of Implantable Neurostimulation/ Neuromodulation Devices**, November 2013, **175, 000 USD (353,702 TL)**, 2013 – 2017.

- **TUBITAK 112E031, Harmonic Motion Microwave Doppler Imaging**, September 2012, **60,000 USD (111,950 TL)**, 2012-2013.

- **TUBITAK 106E170, Electrical Impedance Imaging using magnetic induction and magnetic measurements**, February 2007, **80,000 USD (396,334 TL)**, 2007-2010.

- **METU Research Fund Project, BAP-2004-03-01-03, Electro-magnetic source imaging of the human brain,** 2004**.**

- **METU Research Fund Project, BAP-2003-07-02-00-42, Development of a data acquisition system for electrical conductivity imaging via contactless measurements,** 2003**.**

- **METU Research Fund Project, BAP-2003-07-02-00-12, Electro-magnetic source imaging using realistic head models,** 2003**.**

- **METU Research Fund Project, BAP-2003-03-01-01, Development of 256-channel EEG system for Electro-Magnetic Source Imaging of the Human Brain**, May 2003-December 2003.

- **TUBITAK EEEAG-101E013, 2001, Development of a PC controlled data acquisition system for imaging electrical impedance of human body via contactless measurements**, 2001-2002.

- **METU Research Fund Project, No: AFP-98030102, Development of a MATLAB Interface for the signal processing algorithms used to discriminate evoked responses from background EEG,** 2001.

- **METU Research Fund Project, No: AFP-2001-03-01-02, Development of a Parallel Platform for the solution of the Forward Problem of Electro-Magnetic Source Imaging using FEM**, 2001.

- **METU Research Fund Project, No: AFP-98030102, Automatic Segmentation of MRI Brain Images,** 1998**.**

- **METU Research Fund Project, No: AFP-98030103, Development of a Parallel Platform for the Forward Problem of Electro-Magnetic Source Imaging**, 1998.

- **TUBITAK 196E007 (EEEAG-192), Imaging Brain Electrical Activity using Electrical and Magnetic Measurements**, 1996-1999**.**

- **METU Research Fund Project, No: AFP-96030101, Imaging Tissue Conductivity using Magnetic Induction,** 1996.

PARTICIPATED PROJECTS:

- **METU Research Fund Project, No: AFP-86030103,** 1986**.**
- **METU Research Fund Project, No: AFP-87030103,** 1987**.**
- **METU Research Fund Project, No: AFP-88030103,** 1988**.**
- **METU Research Fund Project, No: AFP-91030101,** 1991**.**

FUNDED BUT NOT STARTED PROJECT

tMAS, Design and Realization of a novel transcranial Magneto-Acousto Stimulation system based on Lorentz fields,

tMAS is a part of the **REMOPD** project submitted by an International Consortium to the 2020 EU Joint Programme-Neurodegenerative Disease (JPND) Research Call for Novel Imaging and Brain Stimulation Methods and Technologies, 2020. **tMAS** was proposed by **METU-BERG (METU, Turkey)** as a new brain stimulation method. It was planned to be realized by an Industrial partner (sixth member of the Consortium) Alvimedica from Turkey. **The project was not started due to insufficent financial support from the local support agency.**

Accepted budget of tMAS: € 134.536.

REMOPD, Restoring Motor Functions in Parkinson's Disease with Noninvasive Hybrid Transcranial Neuromodulation, Total Budget: € 1.464.661

Coordinator: Robert Chen, Krembil Research Institute, University Health Network and Division of Neurology, University of Toronto, Canada

Partners:
Saak V. Ovsepian, National Institute of Mental Health (U)
Walter Paulus, Ludwig Maximillians Universität München, Germany
Robert Chen, University of Toronto, Canada
Marc Fournelle, Fraunhofer Gesellschaft, Germany
Nevzat G. Gençer, Middle East Technical University, Turkey
Toygan Sönmez, Alvimedica Medical Technologies, Turkey

PATENTS

- **European patent No: EP3021757A1**, granted on 07.9.2020
  Title: **MULTIFREQUENCY ELECTRICAL IMPEDANCE IMAGING USING LORENTZ FIELDS**
  Proprietors of the Patent: **Nevzat Güneri Gencer, Reyhan Zengin**

- **USA patent (US 10,123,704 B2)**, granted on 13.11.18.
  European Patent No: EP3016579B1, granted on 21.04.2021
  Title: **METHOD AND SYSTEM FOR DUAL-BAND ACTIVE THERMAL IMAGING USING MULTI-FREQUENCY CURRENTS**
  Proprietors of the patent: **Nevzat Guneri Gencer, H. Feza Carlak, Cengiz Beşikci**

- **European Patent No: EP2908716A**, granted on 26.04.17.
  Title: **HYBRID MECHANICAL-ELECTROMAGNETIC IMAGING METHOD AND THE SYSTEM THEREOF**
  Proprietors of the patent: **Nevzat Guneri Gencer, Can Barış Top**

PUBLICATIONS:

Journal Publications:

Damla Alptekin Soydan, Can Barış Top, Nevzat G. Gençer**, On the utilization of the adjoint method in microwave tomography,** International Journal for Numerical Methods in Biomedical Engineering 40 (6), June 2024**.**

Volkan Tanrıverdi, Nevzat G. Gençer, **Induced Current Electro-Thermal Imaging for Breast Tumor Detection: A Numerical and Experimental Study**, Annals of Biomedical Engineering, DOI10.1007/s10439-024-03445-9, February 2024

Umit Irgin, Can Barış Top, Nevzat G. Gençer, **The effect of contrasts in electrical and mechanical properties between breast tissues on Harmonic Motion Microwave Doppler Imaging signal**, IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, Pages 1-11, 23, April 2021.

Keivan Kaboutari, A. Önder Tetik, Elyar Ghalichi, M. Soner Gözü, Reyhan Zengin, Nevzat G. Gençer, **Data acquisition system for MAET with magnetic field measurements,** Physics in Medicine & Biology 64 (11), 115016, 2019.

M. Soner Gozu, Reyhan Zengin, Nevzat G. Gençer, **Numerical Implementation of Hall Effect Imaging (HEI) Using Linear Phased Array Transducer**, Phys. Med. Biol., Volume 63, Number: 3, 035012, January 2018.

Elyar Ghalichi, Nevzat G. Gençer, **Theoretical limits to sensitivity and resolution in magneto-acousto electrical tomography**, Phys. Med. Biol., Vol 62, Number: 20, 8025-8040, October 2017.

Azadeh Kamali Tafreshi, Can Barış Top, and Nevzat G. Gençer, **Two-dimensional multi-frequency imaging of a tumor inclusion in a homogeneous breast phantom using the harmonic motion Doppler imaging method**, Phys. Med. Biol. , Vol 62, Number:12, 4852–4869 May 2017.

Can Barış Top, Azadeh Kamali Tafreshi, Nevzat G. Gençer, Microwave **Sensing of Acoustically Induced Local Harmonic Motion: Experimental and Simulation Studies on Breast Tumor Detection**, IEEE Trans. Microwave Theory and Techniques, Vol 64., Number:11, 3974-3986, November 2016.

Reyhan Zengin, Nevzat G. Gençer, **Lorentz Force Electrical Impedance Tomography using Magnetic measurements**, Phys. Med. Biol. 61 (2016) 5887-5905. **This article was selected as featured article by the editorial board of the journal**.

H. Feza Carlak, Nevzat G. Gençer, Cengiz Beşikci, **Theoretical assessment of electro-thermal imaging: A new technique for medical diagnosis**, Infrared Physics & Technology, Vol. 76, pages 227-234, May 2016.

Can Barış Top; Nevzat G. Gençer, **Harmonic Motion Microwave Doppler Imaging: A Simulation Study Using a Simple Breast Model**, IEEE Trans. Medical Imaging, Volume: 33 Issue: 2 Pages: 290-300, February 2014.

Can Bariş Top; Nevzat G. Gençer, **Simulation of the Scattered Field From a Vibrating Tumor Inside the Tissue Using 3D-FDTD Method**, IEEE Microwave and Wireless Comp. Letters, Volume: 23 Issue: 6 Pages: 273-275, June 2013.

Katrina Wendel, Outi Väisänen, Jaakko Malmivuo, Nevzat G. Gençer, Bart Vanrumste, Piotr Durka, Ratko Magjarević, Selma Supek, Mihail Lucian Pascu, Hugues Fontenelle, and Rolando Grave de Peralta Menendez, **EEG/MEG Source Imaging: Methods, Challenges, and Open Issues**, Computational Intelligence and Neuroscience, Volume 2009, Article ID 656092, 2009.

Koray Ö. Özkan, Nevzat G. Gençer, **Low-frequency Magnetic Induction Imaging: Reconstructing high-resolution conductivity images of biological tissues**, IEEE Trans. Med. Imaging. Vol. 28, No.4, April 2009.

Yoldaş Ataseven Z. Akalın-Acar, C. E. Acar, Nevzat G. Gençer, **Parallel implementation of the accelerated BEM approach for EMSI of the human brain**, Med. Biol. Eng. Comput., Vol. 46, No:7, 671-679, July 2008.

Bülent Uşaklı, Nevzat G. Gençer, **USB-Based 256-Channel Electroencephalographic Data Acquisition System for Electrical Source Imaging of the Human Brain**, Instrumentation Science and Technology, 35: 255–273, 2007.

Nevzat G. Gençer, Zeynep Akalın-Acar, **Use of the Isolated Problem Approach for multi-compartment BEM models of electro-magnetic source imaging**, Phys. Med. Biol., 50, 3007-3022, 2005.

Zeynep Akalın-Acar, Nevzat G. Gençer, **An advanced boundary element method implementation for the forward problem of electromagnetic source imaging**, Phys. Med. Biol., 49, No: 21, 5011-5028, 2004.

Nevzat G. Gençer, Can E. Acar, **Sensitivity of EEG and MEG measurements to tissue conductivity**, Phys. Med. Biol. 49, 701-717, February 2004.

Başak Ülker Karbeyaz, Nevzat G. Gençer, **Electrical Impedance Imaging via contactless measurements: An Experimental Study**, IEEE Trans. Med. Imaging, Vol. 22, No.5, pp. 627-635, May 2003.

Başak Ülker, Nevzat G. Gençer, **Implementation of a Data Acquisition System for Contactless Conductivity Imaging**, IEEE Engineering in Medicine and Biology, pp. 152-155, September/October 2002 (**This article was tied for third-place in the 2001 EMBS Student Paper Competition).**

Nevzat G. Gençer, I. Oguz Tanzer, **Forward Problem Solution of Electro- Magnetic Source Imaging using a new BEM Formulation with High Order Elements**, Phys. Med. Biol. Vol. 44, Issue 9, pp. 2275-2287, September 1999.

Nevzat G. Gençer, Nejat Tek, **Electrical Conductivity Imaging Via Contactless Measurements**, IEEE Transactions on Medical Imaging, Vol. 18, No: 7, pp. 617-627, July 1999.

Nevzat G. Gençer, M. Nejat Tek, **Forward Problem Solution for Electrical Conductivity Imaging via Contactless Measurements**, Phys. Med. Biol. 44 (4), pp. 927-940, April 1999.

Nevzat G. Gençer, Kemal Özdemir, I. Oğuz Tanzer, Can Acar, Mert Sungur**, State of Art in Realistic Head Modeling for Electro-Magnetic Source Imaging of the Human Brain,** Turkish Journal of Electrical Engineering — ELEKTRIK, pp. 167-182, 1998.

Nevzat G. Gençer, Nejat Tek, **Imaging Tissue Conductivity via contactless measurements: A Feasibility Study**, Turkish Journal of Electrical Engineering — ELEKTRIK, 183-200, 1998.

Nevzat G. Gençer, Samuel J. Williamson, **Differential Characterization of EEG and MEG sources with the Bimodal Truncated SVD Pseudo inverse**, IEEE Transactions on Biomedical Engineering, 45, No.7, pp. 827-838, July 1998.

Nevzat G. Gençer, Samuel J. Williamson, **Magnetic Source Images of Human Brain Functions**, Behavior Research Methods, Instruments & Computers, Vol 29(1), pp. 78-83, 1997.

Nevzat G. Gençer, Samuel J. Williamson, Andre Gueziec, Robert Hummel, **Optimal Reference Electrode Location for Electric Source Imaging**, Electroencephalography and Clinical Neurophysiology, Vol 99, pp. 163-173, 1996.

Nevzat G. Gençer, Y. Ziya İder, Samuel J. Williamson, **Electrical Impedance Tomography: Induced Current Imaging Achieved with a Multiple Coil System**, IEEE Transactions on Biomedical Engineering, Vol. 43, pp. 139-149, February 1996.

Nevzat G. Gençer, Y. Z. İder, **A Comparative Study of Several Exciting Magnetic Fields for Induced Current EIT**, Physiological Measurement, 15, pp. A51-A57, 1994.

Nevzat G. Gençer, M. Kuzuoğlu, Y. Ziya İder, **Electrical Impedance Tomography Using Induced Currents**, IEEE Transaction on Medical Imaging, 13, No.2, pp. 338-350, June 1994.

Y. Ziya İder, Bora Nakiboğlu, Mustafa Kuzuoğlu, Nevzat G. Gençer, **Determination of the Boundary of an Object Inserted into a Water Filled Container**, Clinical Physics and Physiological Measurement, Vol 13, Supp. A, pp. 151-154, 1992.

Nevzat G. Gençer, Y. Ziya İder, M. Kuzuoğlu, **Electrical Impedance Tomography Using Induced and Injected Currents**, Clinical Physics and Physiological Measurement, Vol 13, Supp. A, pp. 95-99, 1992.

Y. Ziya İder, Nevzat G. Gençer, Ergin Atalar, Haluk Tosun, **Electrical Impedance Tomography Of Translationally Uniform Cylindrical Objects With General Cross Sectional Boundaries**, IEEE Transactions on Medical Imaging, Vol. 9, No.1, pp. 49-59, March 1990.

Conference Papers:

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

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

Ahmet Ö. Tetik, Mehmet S. Gözü, Nevzat G. Gençer, **Removing the effect of the transfer function of a coil with high Q factor on signals of Magneto-Acousto-Electrical Tomography with magnetic field measurements**, 2022 Medical Technology Congress (TIPTEKNO), 2022.

Mehmet S. Gözü, Ahmet Ö. Tetik, Nevzat G. Gençer, **Numerical Studies for Magneto-Acousto-Electrical Tomography with magnetic field measurement using linear frequency modulated excitation**, 2022 Medical Technology Congress (TIPTEKNO), 2022.

Volkan Tanrıverdi, Nevzat G. Gençer, **Induced Current Thermal Imaging in Breast Cancer Detection**, 2021 29th Signal Processing and Communications Applications Conference (SIU), 2021.

Volkan Tanrıverdi, Nevzat G. Gençer, **Phantom and Solenoid Coil Development for Induced Current Electro-Thermal Imaging**, 2021 Medical Technology Congress (TIPTEKNO), 2021.

Ümit İrgin, Can Barış Top; Azadeh Kamali Tafreshi and Nevzat G. Gençer, **Received Signal in Harmonic Motion Microwave Doppler Imaging as a Function of Tumor Position in a 3D Scheme**, ISMICT 2017 Int. Symp. Medical Information and Communication Technology, 6-8 February, Lisbon, Portugal.

Elyar Ghalichi, Nevzat Güneri Gençer, **An Analytical Solution for Forward Problem of Magneto-Acousto-Electrical Tomography**, BIOEM 2016, 7-10 June 2016, Ghent Belgium.

Reyhan Zengin, Nevzat Güneri Gençer, **A numerical study on the resolution limit of Magneto-Acousto-Electrical Tomography using Magnetic Field Measurements**, BIOEM 2016, 7-10 June 2016, Ghent Belgium.

Azadeh Kamali Tafreshi, Can Barış Top, Ümit İrgin, Nevzat Güneri Gençer, **Realization of Harmonic Motion Microwave Doppler Imaging Method**, BIOEM 2016, 7-10 June 2016, Ghent Belgium.

Damla Alptekin, Lale Alatan, Nevzat G. Gençer, **Dual Band PIFA Design For Biomedical Applications**, 2016 10th European Conference on Antennas and Propagation (EuCAP), Davos, Switzerland.

Mürsel Karadaş, Nevzat G. Gençer, **2D Simulations Based on General Time-Dependent Reciprocal Relation for LFEIT**, 37th Annual International Conference Of The IEEE Engineering In Medicine And Biology Society (EMBC), IEEE Engineering in Medicine and Biology Society Conference Proceedings Pages: 1556-1559, 2015.

Azadeh Kamali Tafreshi, Mürsel Karadaş, C. Barış Top, Nevzat G. Gençer, **Data Acquisition System for Harmonic Motion Microwave Doppler Imaging**, 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) Location: Chicago, IL Date: AUG 26-30, 2014 Pages: 2873-2876.

Can Barış Top, Azadeh Kamali Tafreshi, Nevzat G. Gençer, **Harmonic Motion Microwave Doppler Imaging Method for Breast Tumor Detection**, 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) Location: Chicago, IL Date: AUG 26-30, 2014 Pages: 6076-6079.

Damla Alptekin, Nevzat Güneri Gençer, Fikret Küçükdeveci, **A dual band antenna design for implantable medical devices**, 2014 18th National Biomedical Engineering Meeting (BIYOMUT), İstanbul, Turkey.

H. Feza Carlak, Nevzat G. Gençer, Cengiz Beşikci, **Medical Thermal Imaging of Electrically Stimulated Woman Breast: a simulation study,** 33rd Annual International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society (EMBS) Location: Boston, MA Date: AUG 30-SEP 03, 2011 Pages: 4905-4908.

Hasan Balkar Erdoğan, Berna Akıncı, Erman Acar, Ali Bülent Uşaklı, Nevzat Güneri Gençer, **Bilgisayar Arayüzü Uygulamaları için Prototip Donanım Tasarımı**, BIYOMUT 2009, İzmir, 2009.

Koray Özdal Özkan, Nevzat G. Gençer, **Dokuların Elektriksel İletkenliklerinin Dokunmasız Yöntemlerle Görüntülenmesi: ODTÜ Beyin Araştırmaları Laboratuvarlarında Geliştirilen Veri Toplama Sistemleri**, BİYOMUT 2009, İzmir, 2009.

Berna Akıncı, Nevzat Güneri Gençer, **Sınıflı Hareket Düşünsel EEG Verisinin Ortak Seyrek Spektral Uzamsal Örüntüler Yöntemiyle Sınıflandırılması**, BIYOMUT 2009, İzmir, 2009.

Can Barış Top, Nevzat Güneri Gençer, **FDFD Yöntemi ile Dokunmasız Elektriksel İletkenlik Görüntüleme Benzetim Çalışmaları**, BIYOMUT 2009, İzmir, 2009.

Feza Carlak, Nevzat Güneri Gençer, **Elektriksel Olarak Uyarılmış Göğüs Modelinin Termal Görüntüleme Simülasyonları**, BIYOMUT 2009, İzmir, 2009.

Hasan Balkar Erdoğan, Nevzat Güneri Gençer, **P300 Heceleme Paradigmasında Wiener Ters Evrişim Modelinin Uygulanması**, BIYOMUT 2009, İzmir, 2009.

Reyhan Zengin, Nevzat G. Gençer, **Dokunmasız Elektriksel İletkenlik Görüntülemesinde Gerçekçi Kafa Modeli ile İleri Problem Çözümü**, BIYOMUT 2009, İzmir, 2009.

Koray Ö. Özkan, N. G. Gençer, **Düşük Frekanslı Manyetik Alanlar Kullanarak Dokuların Elektriksel İletkenliğinin Görüntülenmesi,** Genç Bilim İnsanları Ile Beyin Biyofiziği Çalıştayı II: Beyin Asimetrisi Ve Kognitif Ölçümlerde Mult. İzmir, 2008.

A. B. Uşaklı, N. G. Gençer, **Çok Kanallı Elektroensefalografik Veri Toplama Sistemi**, Genç Bilim İnsanları ile Beyin Biyofiziği Çalıştayı II: Beyin Asimetrisi ve Kognitif Ölçümlerde Mult., İzmir 2008.

Koray Ö. Özkan, N. G. Gençer, **Dokuların Elektriksel İletkenliğinin Dokunmasız Yöntemlerle Görüntülenmesi: Algılayıcı Dizilimli Sistem**, 13. Biyomedikal Mühendisliği Ulusal Konferansı, Biyomut 2008, 238-241, 2008.

C. B. Top, N. G. Gençer, **Dokunmasız Elektriksel İletkenlik Görüntüleme Yöntemi ile Meme Kanseri Tanısı Üzerine Simülasyon Çalışmaları**, 13. Biyomedikal Mühendisliği Ulusal Konferansı, **BİYOMUT 2008**, 433-436, 2008.

Koray Ö. Özkan, N. G. Gençer, **Dokuların Elektriksel İletkenliğinin Dokunmasız Yöntemlerle Görüntülenmesi: Tek Bobinli Sistem**, 13. Biyomedikal Mühendisliği Ulusal Konferansı, **BİYOMUT 2008**, 242-245, 2008.

Ç. Altın, N. G. Gençer, **İnternet Üzerinden Çalışan Manyetik Rezonans Görüntüleme Simülatorü**, 13. Biyomedikal Mühendisliği Ulusal Konferansı, **BIYOMUT 2008**, 363-366, 2008.

R. Zengin, N. G. Gençer, **Ansys Yazılımı İle Elektriksel İletkenlik Görüntülemesi için İleri Problem Çözümü**, 13. Biyomedikal Mühendisliği Ulusal Konferansı, **BİYOMUT 2008**, 246-249, 2008.

A. B. Usaklı, N. G. Gençer, **256 Kanallı Elektroensefalografik Veri Toplama Sistemi**, 13. Biyomedikal Mühendisliği Ulusal Konferansi, **BİYOMUT 2008** 234-237 2008.

M. Yurtkölesi, N. G. Gençer, **İnsan Beyninin İletkenlik Görüntülemesinin Uyarılmış Potansiyeller İle Yapılması**, 13. Biyomedikal Mühendisliği Ulusal Konferansı, **BİYOMUT 2008**, 250-253, 2008.

Nevzat G. Gençer, Zeynep Akalın, **Use of the Isolated Problem Approach for the multi-compartment BEM models of electric source imaging**, Proc. BEM&NFSI, Minneapolis, May 2005.

Nevzat G. Gençer, Can E. Acar, **Use of the reciprocal problems in Electro-magnetic source imaging of the human brain**, 25th Annual International Conference of IEEE Engineering in Medicine and Biology Conference, pp. 2667-2670, September 2003.

Zeynep Akalın, Nevzat G. Gençer, **An Accelerated BEM formulation for the formulation of ESI using realistic head models**, 25th Annual International Conference of IEEE Engineering in Medicine and Biology Conference, pp. 2671-2674, September 2003.

Can E. Acar, Nevzat G. Gençer, **Sensitivity of EEG and MEG to conductivity perturbations**, 25th Annual International Conference of IEEE Engineering in Medicine and Biology Conference, pp. 2834-2837, September 2003.

Serap Kılıç, Nevzat G. Gençer, Buyurman Baykal, **Comparison of methods for extraction of evoked potentials**, 25th Annual International Conference of IEEE Engineering in Medicine and Biology Conference, pp. 2495-2498, September 2003.

Yoldaş Ataseven, Can E. Acar, Zeynep Akalın, Nevzat G. Gençer, **İnsan beyninin elektro-manyetik kaynak görüntülemesinde sınır elemanları yönteminin (SEY) paralel uygulaması**, Biyomedikal Mühendisliği ulusal toplantısı, BİYOMUT 2003, 197-201, Istanbul.

Zeynep Akalın, Nevzat G. Gençer, **Elektro-manyetik kaynak görüntüleme ileri probleminde gerçekçi kafa modelleri ve iletkenliğe duyarlılık analizi,** Biyomedikal Mühendisliği Ulusal Toplantısı, BİYOMUT 2003, 64-67, İstanbul.

Evrim Çolak, Nevzat G. Gençer, **Biyolojik doku iletkenliklerinin dokunmasız yöntemlerle görüntülenmesi**, Biyomedikal Mühendisliği ulusal toplantısı, BİYOMUT 2003, 38-41, İstanbul.

A. Serkan Şık, Nevzat G. Gençer, **X-ışınlı görüntüleme fiziği eğitimi için Java/Flash Tabanlı Benzetim Arabirim Tasarımı,** Biyomedikal Mühendisliği ulusal toplantısı, BİYOMUT 2003, 106-109, İstanbul.

Serap Kılıç, Nevzat G. Gençer, Buyurman Baykal, **EBÇ'den Uyarılmış potansiyellerin kestirimi için üç ayarlanır süzgeç ile altuzay düzenleme yönteminin kıyaslanması**, 11. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, 612-615, Haziran 2003, İstanbul.

Serap Kılıç, Nevzat G. Gençer, Buyurman Baykal, **Uyarılmış potansiyellerin elde edilmesinde altuzay yöntemi ile birleştirilerek etkili kestirim sağlayan iki farklı Wiener süzgeç yaklaşımı**, 11. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, 616-619, Haziran 2003, İstanbul.

Can E. Acar, Nevzat G. Gençer, **A high performance PC-based Parallel Computing Platform for Electro-magnetic Source Imaging**, The XXIXth International Congress on Electrocardiology and the 4th International Conference on Bioelectromagnetism, July 2002, Montreal, Canada.

Zeynep Akalın, Nevzat G. Gençer, **Investigating the effects of eye conductivity on EMSI forward problem using a Realistic BEM Head Model**, The XXIXth International Congress on Electrocardiology and the 4th International Conference on Bioelectromagnetism, July 2002, Montreal, Canada.

Tafseer Ahmad, Nevzat G. Gençer, **Development of a data acquisition system for electrical conductivity images of biological tissues via contactless measurements**, 23rd Annual International Conference of IEEE/ EMBS, October 2001, Istanbul, Turkey.

Başak Ülker, Nevzat G. Gençer, **Implementation of a Data Acquisition System for contactless conductivity imaging**, 23rd Annual International Conference of IEEE/ EMBS, October 2001, Istanbul, Turkey (tied for 3rd Place in the student paper Competition).

Zeynep Akalın, Can Erkin Acar, Nevzat G. Gençer, **Development of realistic head models for electromagnetic-source images of the human brain**, 23rd Annual International Conference of IEEE/ EMBS, October 2001, Istanbul, Turkey.

Can. E. Acar, Nevzat G. Gençer, **Forward Problem Solution of EMSIs with FEM on a network of workstations**, **NFSI 2001**, pp. 132-134, Innsbruck, Austria.

Zeynep Akalın, Nevzat G. Gençer, **Forward Problem Solution of EMSIs with BEM Using Realistic Head Models**, **NFSI 2001**, pp. 135-137, Innsbruck, Austria.

Can. E Acar, Nevzat G. Gençer, **Elektro-Manyetik Kaynak Görüntüleme İleri Probleminin Paralel Bilgisayar Ortamında Çözülmesi: Başarım Arttırımı**, Biyomedikal Muhendisligi Ulusal Toplantısı, Kasım 2000.

Zeynep Akalin, Nevzat G. Gençer, **MR Kafa Görüntülerinin Bölütlenmesi**, Biyomedikal Muhendisligi Ulusal Toplantisi, Kasim 2000.

Tafseer Ahmad, Nevzat G. Gencer, **Biyolojik Dokularin Elektriksel İletkenliğini Temas Olmadan Görüntülemeye Yönelik Bir Alici Gelişirmek Için Deneysel Çalişmalar**, Biyomedikal Muhendisligi Ulusal Toplantisi, Kasim 2000.

Nevzat G. Gençer, I. Oğuz Tanzer, **Forward Problem Solution of EMSIs Using BEM with Isoparametric Cubic Elements**, Proceedings of the First Joint BMES/EMBS Conference, p. 1122, Atlanta, October 1999.

Nevzat G. Gençer, M. Nejat Tek, **Sub-surface Electrical Conductivity Imaging via Contactless Measurements**, Proceedings of the First Joint BMES/EMBS Conference, p. 1121, Atlanta, October 1999.

Can E. Acar, Nevzat G. Gençer**, Forward Problem Solution of ESI using FEM and BEM with Quadratic Isoparametric Elements,** Proceedings of the First Joint BMES/EMBS Conference, p. 437, Atlanta, October 1999.

Can E. Acar, Nevzat G. Gençer, **Parallel Solution of the Electro-Magnetic Source Imaging Forward Problem on a network of Workstations**, Proceed. Int. Conf. Biomag., **BIOMAG 98**, 1998.

Barış Kazar, Nevzat. G. Gençer, **Doku iletkenliklerinin kontak olmadan görüntülenebilmesi için çevirgeç tasarımı,** 7th Annual Conference of Electrical-Electronics and Computer Engineering, pp. 142-145, September 1997

Nejat Tek, Nevzat. G. Gençer, **Manyetik uyarımla doku iletkenliği görüntülemesi için sonlu elemanlar yöntemi ile ileri problem çözümü**, 7th Annual Conference of Electrical-Electronics and Computer Engineering, pp. 138-141, September 1997.

Kemal Özdemir, Nevzat. G. Gençer, **Beyin Elektriksel Aktivitelerinin Görüntülenmesi için Sonlu Elemanlar Yöntemi ile İleri Problem Çözümü**, 7th Annual Conference of Electrical-Electronics and Computer Engineering, pp. 158-161, September 1997.

I. Oğuz Tanzer, Nevzat. G. Gençer, **Beyin Elektriksel Aktivitelerinin Görüntülenmesi için Sınır Elemanı Yöntemi ile İleri Problem Çözümü**, 7th Annual Conference of Electrical-Electronics and Computer Engineering, pp. 154-157, September 1997.

Can Acar, Nevzat. G. Gençer, **Sonlu Elemanlar Sayısal Modelinin Çözümü için Kullanılan Yöntemlerin ve Sıralama Algoritmalarının Karşılaştırılması**, 7th Annual Conference of Electrical-Electronics and Computer Engineering, pp. 184-187, September 1997.

Özlem Birgül, Y. Z. İder, Nevzat. G. Gençer, **MRI-EIT için Duyarlılık Matrisinin Türetilmesi**, 7th Annual Conference of Electrical-Electronics and Computer Engineering, pp. 168-171, September 1997.

Nejat Tek, Nevzat. G. Gençer, **A New 3D FEM Formulation for the solution of Potential Fields in Magnetic Induction Problems**, 19th Annual International Conference of the IEEE Eng. Med. Biology Society , pp. 2470-2473, 1997.

Kemal Özdemir, Nevzat. G. Gençer, **A New Finite Element Method Formulation for the Forward Problem Solution of Electro-magnetic Source Localization**, 19th Annual International Conference of the IEEE Eng. Med. Biology Society, pp. 2104-2107, 1997.

İ. Oğuz Tanzer, Nevzat. G. Gençer, **A New Boundary Element Method Formulation for the Forward Problem Solution of Electro-Magnetic Imaging**, 19th Annual International Conference of the IEEE Eng. Med. Biology Society, pp. 2100-2103 1997.

N. G. Gençer, and S. J. Williamson, **Generalized inverse solution for Bimodal Electro-Magnetic Source Imaging**, Tenth Int. Conf. on Biomag., February 1996, BIOMAG96, Santa Fe.

Nevzat. G. Gençer, and Y. Z. Ider, **An Experimental Study for Electrical Impedance Tomography Using Induced Currents**, IEEE-EMBS 15th Ann. Int. Conf. Proc., October 1993, San Diego.

Nevzat. G. Gençer, and Y. Z. Ider, **Electrical Impedance Tomography Using Induced Currents: An Experimental Study**, IEEE Trans. Nuc. Sci. Med. Imaging Conf., Vol. 3, pp. 1794-1798, November 1993, San Francisco.

Nevzat G. Gençer, Mustafa Kuzuoglu, Y. Ziya Ider, **Sensitivity Matrix Analysis of the Back-Projection Algorithm in Electrical Impedance Tomography**, IEEE-EMBS 14th Annual International Conference Proceedings, October 1992, Paris.

Mustafa Kuzuoglu, Kemal Leblebicioğlu, Nevzat G. Gençer, **A New Descent Algorithm for Electrical Impedance Tomography**, IEEE-EMBS 14th Annual International Conference Proceedings, October 1992, Paris.

Nevzat G. Gençer, Mustafa Kuzuoglu, Y. Ziya Ider, **Sensitivity Matrix Approach For Image Reconstruction for Electrical Impedance Tomography,** Proc. CAIT Workshop, Toulouse, 1992.

Nevzat G. Gençer, Y. Ziya Ider, Mustafa Kuzuoglu, **Sensitivity Analysis and Inverse Problem Solution of Electrical Impedance Tomography Using Induced and Injected Currents**, IEEE-EMBS 13th Annual International Conference Proceedings, November 1991, Orlando.

Nevzat G. Gençer, Y. Ziya Ider, Bora Nakiboglu, **An Alternative Solution For the Problem of Electrode Position Determination in Electrical Impedance Tomography**, IEEE-EMBS 12th Annual International Conference Proceedings, pp. 128-129, 1990 Philadelphia.

Nevzat G. Gençer, Bora Nakiboglu, Y. Ziya Ider, **Use of a Peripheral Layer of Known Conductivity for Electrical Impedance Tomography**, Proceedings of a Workshop on Electrical Impedance Tomography, pp. 76-83 1990 Copenhagen.

Nevzat G. Gençer, Y. Ziya Ider, Haluk Tosun, **Genel kesitli, keside dik yönlerde iletkenliği değişmeyen yapılar için elektriksel empedans tomografisi,** ODTÜ EMB 30. Yıl Sempozyumu, sayfa 103-106, 1989 Ankara Türkiye.

Y. Ziya Ider, Nevzat G. Gençer, **An Algorithm for Compensating for 3D Effects in Electrical Impedance Tomography**, IEEE-EMBS 11th Annual International Conference Proceedings, pp. 465-466, 1989 Seattle.

Nevzat G. Gençer, Y. Ziya Ider, **A Simulation Study of the Resolution limits of Electrical impedance Tomography**, 5th Mediterranean Medical and Biological Engineering Conference Proceedings, pp. 356-357, 1989 Patras Greece.

Y. Ziya Ider, Erkan Dorken, Nevzat G. Gençer, Hayrettin Köymen, **A Dual Modality Imaging System for Impedance Tomography with Ultrasonically Determined Boundaries**, IEEE-EMBS 10th Annual International Conference Proceedings, pp. 283-284, 1988 New Orleans.

Nevzat G. Gençer, Y. Ziya Ider, **Algebraic Reconstruction Techniques for Electrical Impedance Imaging**, Proceedings of 2nd National Conference on Electrical Engineering, pp. 402-405, 1987 Ankara, Turkey (Turkish).

Ziya Ider, Cahit Altan, Ergin Atalar, Nevzat G. Gençer, **Electrical Impedance Imaging System Applicable to Objects of Arbitrary but Known Boundary**, IEEE-EMBS 9th Annual International Conference Proceedings, Vol. 3, pp. 1427-28, 1987 Boston.

CHAPTER IN A BOOK:

Nevzat G. Gençer, Can E. Acar, Ihsan O. Tanzer, **Forward Problem Solution of Magnetic Source Imaging**, in ***Magnetic Source Imaging of the Human Brain,*** Lawrence Erlbaum Associates, Inc., Publishers, Ed: Zhong-lin Lu, Lloyd Kaufmann, 2003.

Nevzat G. Gençer, **Induced Current Electrical Impedance Tomography**, **Wiley Encyclopedia of Biomedical Engineering**, John Wiley & Sons, Inc, 2006.

OTHER

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- **Certificate of Competence for Operators of Pleasure Craft**, Republic of Turkey, Prime Ministry, Undersecretariat for Maritime Affairs Turkish Sailing Federation, General Directorate of Maritime Transport, 2008**.**
- **Certificate of Competence for Short Range Radio Operators**, Republic of Turkey, Prime Ministry, Undersecretariat for Maritime Affairs Turkish Sailing Federation, General Directorate of Maritime Transport, 2008.
- **Amateur Paragliding Certificate,** METU Aviation Society, Ankara, Turkey, 1992.
- **Amateur Gliding Certificate,** Turkish Aeronautical Association, İnönü, Eskişehir, Turkey, 1980.