CURRICULUM VITAE

Onur Ergen, Ph.D.

Address:	Istanbul Technical University Dept. of Electronics and Communication Engineering, TR, 34450
E-mail:	oergen@itu.edu.tr
URL:	https://onurergen.com/
Date of Birth:	November 11, 1984
Nationality:	USA
Marial Status:	Married

EDUCATION

2011-2017 Ph.D., Physics
University of California at Berkeley, CA, USA

2011-2014 M.A., Physics
University of California at Berkeley, CA, USA

2008-2011 M.S., Electrical Engineering and Computer Sciences
University of California at Berkeley, CA, USA

2002-2007 B.S., Physics
Middle East Technical University, Ankara, Turkey

RESEARCH INTEREST

Energy harvesting and conversion devices; Artificial intelligence algorithms for energy and medical devices; Quantum nanomaterials; High performance nano-electronics and nano-fabrications; Novel material synthesis and property characterization; Development of new materials for optical devices and sensors; Quantum communication networks; Programmable-matter.

PROFESIONAL/ACADEMIC EXPERIENCE

2020-present Assoc. Prof.
Electronics and Communication Engineering Department
Istanbul Technical University, Istanbul, Turkey

- **ERC Group Leader (Starting Jan 2023):** Quantum Super-Exchange Energy Storage Platform (QUEEN), leverages quantum electron engineering to introduce a whole new approach to physics and chemistry, to redesign traditional battery technology and move it beyond existing theoretical limits. Awarded 1.48 Million Euros grant

2019 Visiting Scholar
University of California at Berkeley, CA, USA

- **Energy fellow:** Collaboration in atomic scale manipulations and 2D material conversions

2023-present Co-founder and Board Member
FurnaQuantum Inc., Chicago, USA
Venture funded company, mHuB Chicago

- FURNAQUANTUM accelerates Silicon Carbide (SiC) production through Quantum Phonon Aggregation technology, addressing the problem of insufficient supply of SiC to support the acceleration of the Electric Vehicle

(EV) industry. Currently, the existing furnaces used in SiC production are inefficient and take a long time to create defect-free wafers, resulting in a limited supply chain. Their solution provides a competitive edge by cutting SiC ingot production time in half, enhancing efficiency and quality.

2019-present Co-founder and Board Member
Next-Ion Energy Inc., Berkeley, USA
Venture funded company + NSF SBIR

- Next-ion is developing a unique universal membrane that enables an ultra-fast charging battery technology (EV charging in under 5min), while eliminating all the fast charging and safety problems.

2018 FECMP Engineer/Researcher
Intel Corp.

- Responsible for developing new chemical mechanical polish techniques for new VLSI process.

2017-2020 Asst. Prof.
Electrical and Electronics Engineering
Koç University, Istanbul, Turkey

- **Renewable energy and nano-electronics group leader**: Focused on next-generation electronic devices with the integration of nanoscale electronic materials.

2017 Display Engineer
Apple Inc.

- Worked on the development of thin film display technologies, OLED, LCD, LED, etc., automation, AI, and data science.

2016-present Senior Technologist and Advisor
Ambeent Inc., USA

- Responsible for developing next generation artificial intelligence algorithms for 5G and energy platforms.
- Instrumented prestigious SME phase II grant (2021): Awarded 1 Million Euros grant from European Innovation Council (EIC). **First ICT Awardee in Turkey**

2011-2013 Process Development Engineer
SoloPower Systems Inc.

- Process development and project management. Managed daily operations and project of R&D Lab, developed characterization techniques and analytical methods to inspect the methodology of deposited films, developed advancement in physical vapor deposition (PVD), reaction, and electroplating lines.

INSTITUTIONAL RESPONSIBILITIES

08/2022–present Program Leader, Quantum Systems and Security Laboratory
Istanbul Technical University, TR

08/2022–present Board member, Advanced Vehicle Technologies and Power Systems Development Center
Istanbul Technical University, TR

10/2021–present Advisor to Rector, Research and Development

Istanbul Technical University, TR

02/2021–present Vice Chair of Research and Development, Department of Electronic and Communication
Istanbul Technical University, TR

02/2021–present Assistant Director, Ukrainian - Turkish Scientific and Technological Research Coordination Center, Ukraine/TR

12/2020–present Undergraduate/ Master/ Ph.D. student advisor
Istanbul Technical University, TR

01/2018 – 05/2020 Member of Transmission Electron Microscopy Faculty Committee
Koç University, TR

09/2017 – 05/2020 Undergraduate/ Master/ Ph.D. student advisor
Koç University, TR

09/2017 – 05/2020 Advisor & Member of Ph.D defence/Master thesis committee
Koç University, TR

REVIEWING ACTIVITIES

2021–present Reviewer
MDPI,
Diagnostics, Journal of Imaging, IJEPH, etc.

2019–present Reviewer
Elsevier, Materials Letters

2019–present Associate Editor
The Journal of Cognitive Systems
- Review papers and organize special issues

2018–present Associate Editor
Balkan Journal of Electrical and Computer Engineering (BAJECE)
- Review papers and organize special issues

2020–present Scientific and Technical Committee & Editorial Review Board Member
The World Academy of Science, Engineering and Technology
- Review papers and promote conferences

ORGANISATION OF SCIENTIFIC MEETINGS

2020 Organizing Committee member
IEEE 4th International on Intelligent Energy and Power Systems

2019-present Co-organizer/Advisor Analyst
Maravedis (Wireless Infrastructure Analysts)
- Help organize webinars and newsletters

2019-present The scientific committee
Electrochem 2019 (12th Electrochemistry Congress of Turkey)

PATENTS

1. **O.Ergen** " Quantum Phonon Engineering for Accelerated Single Crystalline Silicon and Wide Bandgap Silicon Carbide, GaN Crystalline Growth", U.S Patent Application, 63/601,225, 2023
2. N. O. Ciftci, **O. Ergen** "Multielement Aerogels: High Entropy Compositions of Boron, Carbon, Nitrogen, and Associated Compound Aerogels" U.S Patent Application, 63/606,053, 2023
3. **O.Ergen** " NanoDermis: The 3D Printed 2D Substrate Revolutionizing Chemical Vapor Deposition in Nanoconfined Spaces and Programmable Matter.", U.S Patent Application, 63/602,629, 2023
4. **O.Ergen** "Multi-Dimensional Nanostructured Aerogels: Tailored Band Gaps and Heterostructures for Advanced Electronic Materials", U.S Patent Application, 63/601,237, 2023
5. **O.Ergen** "Maximizing H2 Storage Efficiency through Boron Nitride Aerogel Fibers utilizing AI-assisted electrical pulses: Programmable activation surfaces", U.S Patent Application, 63/602,633, 2023
6. **O.Ergen** "Method of Controllable Synthesis of Borophene Aerogels by Utilizing h-BN Layers for High- Performance Batteries", U.S Patent Application , 63/589,585, 2023
7. **O. Ergen,** "Method and System For Forming An Electrolyte Separator Using A Silica Network Incorporated With Hexagonal Boron Nitride", U.S Patent Application, 63/580,571, 2023.
8. M. Ergen**, O. Ergen,** M. F. Tuysuz "Method and system for sharing Wi-Fi in a Wi-Fi network using a cloud platform." U.S. Patent No. 11,259,243. 22 Feb. 2022.
9. M. Ergen, **O. Ergen,** M. F. Tuysuz "Method and system for contact tracing using a software development kit (sdk) integrated into client devices." U.S. Patent Application No. 16/900,484.
10. **O. Ergen,** A. K. Zettl "High temperature Li-ion battery cells utilizing boron nitride aerogels and boron nitride nanotubes." U.S. Patent No. 11,223,071. 11 Jan. 2022. (continuation)
11. **O. Ergen,** "Method of growing large scale stable borophene using 2D layered and 3D aerogel templates for ultra-fast charging batteries", 63169965, 2021.
12. **O. Ergen,** "Automated Oral Cancer Screening: Detection and Classification of Oral Lesions Using Deep Learning to Detect Oral Potentially Malignant Disorders", 63164594, 2021.
13. **O. Ergen**, "Method and System for Hexagonal Boron Nitride Incorporation to Achieve High-Performance Lithium-Based Electrodes", U.S Patent Application, 63147776, 2021.
14. **O. Ergen**, "Method and System for Forming an Electrolyte Separator Using a Silica Network Incorporated with Hexagonal Boron Nitride", U.S Patent Application, 63147778, 2021.
15. **O. Ergen**, "Method and System for Forming an Electrolyte Separator with Additive Boron Nitride Structures, Using Acid-Stable Plasticizer", U.S Patent Application, 63147779, 2021.
16. **O. Ergen**, "Method and System for Providing Silica Networked Hybrid, Gel Polymer, Hexagonal Boron Nitride (h-BN) Electrolyte for Use with Liquid Organic Electrolyte Structures", U.S Patent Application, 63147780, 2021.
17. **O. Ergen**, "Method and System for Application of Protective Boundary on Capacitor Walls to Prevent Loss of Hydrogen at High Temperatures and/or High Voltages in Electrical Storage Devices", U.S Patent Application, 63147781, 2021.
18. **O. Ergen**, "Artificial Intelligence-Based Food Fraud/Adulteration Identification Utilizing Simple Sound Vibrations", U.S Patent Application, 63090231, 2020.
19. **O. Ergen**, A. Zettl. "High temperature Li-ion battery cells utilizing boron nitride aerogels and boron nitride nanotubes." U.S. Patent No. 10,686,227, 2020.
20. **O. Ergen**, A. Zettl, "Graded Band Gap Perovskite Solar Cells", U.S Patent Application, 10,403,708, 2019.

PUBLICATIONS

1. M. Mansoor, M. A. Sarsil, M. Mansoor, M. Mansoor, M. Tas, Y. Sorkhe, Z. Er, K. Jabłczyńska, B. Derin, S. Timur, M. Ürgen, **O. Ergen,** K. Czelej "Optical Centers in Cr-, Mn-, and O-Doped AlN and Their Thermodynamic Stability Designed by a Multiscale Computational Approach." *ACS Applied Materials & Interfaces*, *16*(50), pp.69529-69547.
2. K. Czelej, M. Mansoor, M.A. Sarsil, M. Tas, Y.A. Sorkhe, M. Mansoor, M. Mansoor, B. Derin, **O. Ergen,** S. Timur, M. Ürgen, "Atomistic Origins of Various Luminescent Centers and n-Type Conductivity in GaN: Exploring the Point Defects Induced by Cr, Mn, and O through an Ab Initio Thermodynamic Approach." *Chemistry of Materials,* 36/13, 2024.
3. M. Ergen, B. Saoud, I. Shayea, A. A. El-Saleh, **O. Ergen,** F. Inan, M F. Tuysuz, M. F. "Edge computing in future wireless networks: A comprehensive evaluation and vision for 6G and beyond." *ICT Express,* 2405-9595, 2024
4. O. Karaarslan, K. D. Belcastro**, O. Ergen**, "Respiratory sound-base disease classification and characterization with deep/machine learning techniques." *Biomedical Signal Processing and Control*, 87, 105570, (2024).
5. N. O. Çiftçi, S. B. Şentürk, Y. Sezen, S. Ü. Kaykusuz, H. Long, **O. Ergen,** "Controllable synthesis of borophene aerogels by utilizing h-BN layers for high-performance next-generation batteries." *Proceedings of the National Academy of Sciences*, 120(42), e2307537120, (2023).
6. K. D. Belcastro, **O. Ergen,** "Digitize the Human Body by Backscattering Based Nano-Tattoos: Battery-Free Sensing", *IEEE Electron Device Letters*, *44*(5), 849-852, 2(023).
7. **O. Ergen,** N.O. Çiftçi, Ö. İbiş " Simple Air Blow to Charge Li-air, Rechargeable, Solid-state Batteries Using Nano-engineered Aerogel Structures", *Electrochemistry Communications*, 107379, (2022).
8. G. Tanriver, M.S. Tekkesin, **O. Ergen, "**Automated Detection and Classification of Oral Lesions Using Deep Learning to Detect Oral Potentially Malignant Disorders", Cancers, (2021).
9. **O. Ergen,** "Robust atrial fibrillation monitoring utilizing graphene aerogel-based nano-tattoo.", *Materials Letters*, 129525, (2021).
10. **O. Ergen, "**Graphene Aerogel Based Nanogenerators for Health Monitoring. ", *European Journal of Science and Technology*, (21), 665-668, (2021).
11. **O. Ergen**, E. Celik, A. H. Unal, M. H. Erdolu, F. E. Sarac, U. Unal, "Real Time Chemical and Mechanical Human Motion Monitoring with Aerogel Based Wearable Sensors", *Lab on a Chip*, 20, 2689 - 2695, (2020).
12. **O. Ergen**, E. Celik, A. H. Unal, M. H. Erdolu, "Screen engineered field effect Cu2O based solar cells", *IEEE Electron Device Letter*, (2020).
13. **O. Ergen**, "Hexagonal boron nitride incorporation to achieve high performance Li4Ti5O12 electrodes", *AIP Advances* 10, 045040 (2020).
14. G. Iymen, G. Tanriver, Y. Z. Hayirlioğlu, **O. Ergen "**Artificial Intelligence-Based Identification of Butter Variations as a Model Study for Detecting Food Adulteration", I*nnovative Food Science & Emerging Technologies*, 102527, (2020).
15. G. Iymen, G. Tanriver, **O. Ergen**. Selected Applications of Generative Adversarial Networks: Mini Review. *COJ Rob Artificial Intel.* COJRA, 1(2), 000506 (2020).
16. M. Ergen, F. Inan, **O. Ergen**, I. Shayea, M. F. Tuysuz, A. Azizan, N. K. Ure, M. Nekovee. "Edge on Wheels with OMNIBUS Networking in 6G Technology." *IEEE Access* (2020).
17. A. Zahedi, M. Ergen, **O. Ergen,** I. Shayea, A, El-Saleh, "Effective Capacity and Outage Probability Assessment of Multiple-Relay Cognitive Communication Systems in Nakagami-m and Rayleigh Fading Channel", *Transactions on Emerging Telecommunications Technologies,*31, 4, 3841, (2019).
18. **O. Ergen,** *et. al.,*"AI Driven Advanced Internet of Things (IoTX^2) : The Future Seems Irreversibly Connected in Medicine", *Anatolian Journal of Cardiology/Anadolu Kardiyoloji Dergisi*, *23*(3), (2019).
19. **O. Ergen**, S.M. Gilbert, S. J. Turner, A. Zettl. "Hexagonal Boron Nitride as a Cationic

Diffusion Barrier to form a Graded Band Gap Perovskite Heterostructure", Physica Status Solidi(b), (2016). doi:10.1002/pssb.201600234

20. **O. Ergen**, A. Gibb, O. Vazquez-Mena, W.R. Regan, A. Zettl. "Metal Insulator Semiconductor Solar cell devices based on a Cu2O substrate utilizing h-BN as an insulating and passivating layer", Applied Physics Letters, 106, 103904, (2015).
21. O. Vazquez-Mena, J.P. Bosco, **O. Ergen**, H.I. Rasool, A. Fathalizadeh, M. Tosun, M. Crommie, A. Javey, H.A. Atwater, A. Zettl. "Performance Enhancement of a Graphene-Zinc Phosphide Solar Cell Using the Electric Field-Effect", Nano Letters., 14, 8, pp 4280–4285, (2014).
22. W. Regan, S. Byrnes, W. Gannett, **O. Ergen**, O. Vazquez-Mena, F. Wang, A. Zettl. "Screening-engineered Field-effect solar cells", Nano Letters, 12(8), 4300-4304, (2012).
23. K. Cho, D. J. Ruebusch, M. H. Lee, J. H. Moon, A. C. Ford, R. Kapadia, K. Takei, **O. Ergen**, A. Javey. "Molecular Monolayers for Conformal, Nanoscale Doping of InP Nanopillar Photovoltaics", Applied Physics Letters, 98, 203101, (2011).
24. **O. Ergen**, D. Ruebusch, H. Fang, A. Rathore, R. Kapadia, Z. Fan, K. Takei, A. Jamshidi, M. Wu, A. Javey. "Shape-Controlled Synthesis of Single-Crystalline Nanopillar Arrays by Template-Assisted Vapor-Liquid-Solid Process", Journal of the American Chemical Society, 132 (40), 13972–13974, (2010).
25. Z. Fan, D. J. Ruebusch, A. A. Rathore, R. Kapadia, **O. Ergen**, P. W. Leu, A. Javey. "Challenges and Prospects of Nanopillar Based Solar Cells", Nano Research, 2, 829-843, (2009).
26. Z. Fan, H. Razavi, J. Do, A. Moriwaki, **O. Ergen**, Y.-L. Chueh, P. W. Leu, J. C. Ho, T. Takahashi, L. A. Reichertz, S. Neale, K. Yu, M. Wu, J. W. Ager, A. Javey. "Three Dimensional Nanopillar Array Photovoltaics on Low Cost and Flexible Substrates", Nature Materials, 8, 648-653, (2009).
27. J. C. Ho, A. C. Ford, Y.-L. Chueh, P. Leu, **O. Ergen**, K. Takei, G. Smith, P. Majhi, J. Bennett, A. Javey. "Nanoscale Doping of InAs via Sulfur Monolayers", Applied Physics Letters, 95, 072108, (2009).
28. A. C. Ford, J. C. Ho, Z. Fan, **O. Ergen**, V. Altoe, S. Aloni, H. Razavi, A. Javey. "Synthesis, Contact Printing, and Device Characterization of Ni-Catalyzed, Crystalline InAs Nanowires", Nano Research, 1, 32-39, (2008).

Proceeding

29. **O. Ergen** "In Operando Noninvasive Lithium-Ion Battery Health Diagnoses Utilizing Sound Waves", 7th International Congress on Engineering, Architecture, and Design, 2021.
30. **O. Ergen**, "Cos Effective Grid Edge Management Utilizing Wireless Information", International Congress on Engineering Sciences and Multidisciplinary Approaches, 2021.
31. **O. Ergen**, "ZnO Nanowire Embedded Graphene Aerogel Nanogenerators" International Congress of Natural Sciences, 2021.
32. O. Vazquez-Mena,W. Regan, S. Byrnes, **O. Ergen**, W. Gannett, F. Wang, F., A. Zettl, "A Novel Architecture for Photovoltaic Devices: Field-effect Solar Cells Using Screening-Engineered Nanoelectrodes for Silicon and Earth Abundant Cuprous Oxide." In *2013 IEEE 39th Photovoltaic Specialists Conference (PVSC) PART 2* (pp. 083-086). IEEE, (2013).

PRESENTATIONS/CONFERENCES

- O. Ergen, 2025 "New Direction Room Temperature Quantum Computing Materials", ERC, Belgium
- O. Ergen, 2024, " Quantum Electron Engineering and Advanced Materials Engineering", Aselsan, Ankara
- O. Ergen, 2023, "Controllable Synthesis of Borophene Aerogels by Utilizing h-BN Layers for High Performance Li-S Batteries", Winter-school on Electronic Properties of Novel Materials Kirchberg, Tirol, Austria.
- O. Ergen, 2023 "Future quantum communication networks", WMC, Barcelona, Spain

- O. Ergen, 2023," Quantum Electron Engineering: Towards an Energy and Electronics Revolution", Nano Seminer Series, Material Science and Engineering, UC Berkeley, CA, USA
- O. Ergen, 2023, " Quantum electron engineering: Pioneering the next wave of energy and electronics technologies", New Frontiers of Natural Science, Konya, Turkey
- O. Ergen, 2022, "Quantum Electron Engineering: Towards Energy and Electronics Revolution", Dean's Speaker Series, Sabancı University, TR
- O. Ergen, 2022, "Quantum information transfer towards new era of communication", GITEX forum, Dubai, UAE
- O. Ergen, 2022, "Decoding the Batteries Towards Energy and Electronics Revolution", CHEM Seminar, Bilkent University, TR
- O. Ergen, 2021, "In Operando Noninvasive Lithium-Ion Battery Health Diagnoses Utilizing Sound Waves", (Online), 7th International Congress on Engineering, Architecture, and Design
- O. Ergen, 2021, "Cost Effective Grid Edge Management Utilizing Wireless Information", (Online), International Congress on Engineering Sciences and Multidisciplinary Approaches.
- O. Ergen, 2021, "ZnO Nanowire Embedded Graphene Aerogel Nanogenerators", (Online), International Congress of Natural Sciences
- O. Ergen. 2020, "Inventing the future of mobility with an energy and electronic revolution", Ford Otosan BİG 2020 Webinar.
- O. Ergen. 2019, "Artificial Intelligence and Energy", UC Berkeley, CA, USA
- O. Ergen, 2018, "Ultra Hızlı Şarj Olabilen Pil Teknolojileri", Aspilsan, Kayseri, Turkey
- O. Ergen, 2018 "A Novel Direct and Cost-effective Growth of III–V Semiconductors on 2D layered materials" International Winter-school on Electronic Properties of Novel Materials, Kirchberg, Tirol, Austria.
- O. Ergen, "Application of 2D Dimensional and High Surface Area Materials in Water and Energy", LBNL, ETA, 2017
- O. Ergen, 2016 "Graded Bandgap Perovskite Solar Cells." MRS Fall Meeting, Boston, MA.
- O. Ergen, 2016 "High Current, High Efficiency Graded Bandgap Perovskite Solar Cells." KAVLI ENSI workshop, Berkeley, CA.
- O. Ergen, 2016 "Li-Air, Rechargeable Solid-state Batteries Using Graphene and Boron Nitride Aerogel Matrices." APS March Meeting, Baltimore, MD.
- O. Ergen, 2016 "Graded Bandgap Perovskite Solar Cells." APS March Meeting, Baltimore, MD.
- O. Ergen, 2016 "High Efficiency Graded Bandgap Perovskite Solar Cells." International Winter-school on Electronic Properties of Novel Materials, Kirchberg, Tirol, Austria.
- O. Ergen, 2015 "MIS Solar Cell Devices Based on a Cu2O Substrate Utilizing h-BN as an Insulating and Passivating Layer." APS March Meeting, San Antonio, TX.
- O. Ergen, 2014 "The Future of Solar." Berkeley Energy and Resources Collaborative, Berkeley, CA.
- O. Ergen, 2014 "Directed/Programmable Matter for Energy." Foresight Institute Workshop, Palo Alto, CA.
- O. Ergen, 2014 "Enhanced Photovoltaic Performance by Using 2D Layer Materials." Center of Integrated Nano-mechanical Systems, University of California, Berkeley, CA.
- O. Ergen, 2012 "PV Technology Overview and Current Innovations." Center of Integrated Nano-mechanical Systems, University of California, Berkeley, CA.
- O. Ergen, 2011 "Micro-crystal Based Screen Field Engineering Field-effect Solar Cells." PV Idea Lab, University of California, Berkeley, CA.
- O. Ergen, 2009 "Shape-Controlled Synthesis of Single-Crystalline Nanopillar Arrays by Template-Assisted Vapor Liquid Solid Process", PV Idea Lab, University of California, Berkeley, CA.

FUNDING & AWARDS

- 2025, Seal of Excellence, Horizon Europe, European Innovation Council "Charging Ahead with Safety: Boron Nitride Aerogel Battery Separators for Safe Ultra-Fast Charging, Higher Capacities - From Neglect to Necessity"
- 2022, **ERC Starting Grant**, Quantum Super-Exchange Energy Storage Platform (QUEEN), European Research Council, 1.48 Million Euros
- 2021, TÜBA-GEİB **The Young Scientists Award**
- 2020, European Innovation Council, SME Phase II, SMART Wi-Fi, 1 Million Euros (Project Coordinator)
- 2020, TUBITAK, Success-Awards, 2020
- 2020, Seal of Excellence, Horizon 2020, "Early Oral Cancer Detection Sensor"
- 2019, Seal of Excellence, Horizon 2020, "SMART Wi-Fi"
- 2019, TUBITAK, Above-Threshold-Awards
- 2016, Conference travel award to Kirchberg, Tirol, Austria
- 2016, NSF grant fellowship
- 2015, Vanderbilt DTRA research fellowship
- 2014, UC Lab Fees Research Program fellowship
- 2013, DMR (NSF) fellowship
- 2013, Recipient of Center of Integrated Nanomechanical Systems Fellowship
- 2012, Anselmo J. Macchi Fellowship
- 2011, UC Berkeley Graduate Division Fellowship

Domestic Funding

- TUBITAK 1003, Development of High Stability Perovskite Cells with the Help of Organic and Inorganic Based Space Carrier Materials, 400,000 Euro, 4 collaborators
- TUBITAK, 1507, Algorithm (SON) and product design that increases efficiency in wireless internet (Wi-Fi) access with software-oriented network structures (SDN), 500,000 Euro, Industry partnership

CITATIONS

Citations	2378
h-index	14
i10-index	16

THESIS MANAGED

- MS-G. Tanriver "Automated Detection of Oral Lesions Using Deep Learning for Early Diagnosis of Oral Cancer", 668039, 2021
- MS-E. Celik "Synthesis of graphene aerogel and its application"-10358569, 2020

TEACHING ACTIVITIES & TOPICS

Fall 2023 Fall 2022 Fall 2021	Artificial Neural Networks	55 Enrolled 81 Enrolled 63 Enrolled	BS/MS	Istanbul Technical University, Istanbul, TR

Spring 2023	Computer Aided Devices	69 Enrolled	BS/MS/	
Spring 2022	in Medicine	71 Enrolled	PhD	
Spring 2021		41 Enrolled		
Spring 2022	Basic Electronic Circuits	114 Enrolled	BS	
Fall 2021	Basic Processes in VLSI Technologies	10 Enrolled	PhD	
Spring 2020	Digital Integrated Circuit	29 Enrolled	BS/MS	Koç University,
Spring 2019	& VLSI Design	32 Enrolled		Istanbul, TR
Spring 2018		28 Enrolled		
Spring 2020	Microelectronics circuits	35 Enrolled	BS/MS	
Spring 2019	and devices	33 Enrolled		
Spring 2018		30 Enrolled		
Fall 2019	Fundamentals of Emerging	22 Enrolled	BS/MS	
Fall 2018	Energy Technologies and	20 Enrolled		
Fall 2017	Devices	19 Enrolled		

COMPUTER SKILLS

- Python, C, Spark, C++, R, Hadoop, JAVA, Swift, Electron, Kotlin, Go
- Device design software: Synopsys, Tsuprem, Medici, Cadence, Sentaurus, Hspice
- Optics software: ZEMAX, OSLO, Rsoft
- Multisim, LT spice, and Labview
- MySQL and PostgreSQL databases
- Matlab, Maple, Mathemetica, Mathcad
- Latex, Origin, Igor, Adobe and MS Office Applications