

Curriculum Vitae

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Prof. Dr. Sefer Bora Lisesivdin,
BSc (Engineering), MSc, PhD, SMIEEE

CONTACT INFORMATION

(1) Department of Physics

Gazi University, Ankara, Turkey 06500

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<http://sblisesivdin.lrgresearch.org>

EDUCATION

- 2008 Ph.D. Physics, Gazi University, Ankara, Turkey
Dissertation: Electron and Magneto Transport Properties of AlGa_N/Ga_N Based High Electron Mobility Transistors (HEMTs)
Advisor: Prof. Dr. Mehmet Kasap
- 2005 M.Sc. Advanced Technologies, Gazi University, Ankara, Turkey
Thesis: Transport Properties of InGaAs/GaAs and AlGaAs/GaAs Semiconductors Grown by MBE
Advisor: Assoc. Prof. Dr. Mehmet Kasap
- 2002 B.Sc (Eng). Physics Engineering, Hacettepe University, Ankara Turkey
Senior Project: Development of X-Ray Data Analysis Software for Windows Systems

RESEARCH INTERESTS

Experimental and numerical investigation of electron and magnetotransport properties, strain, persistent photoconductivity, hot-electron transport properties, Shubnikov de Hass parameters and quantum parameters of 2 dimensional gas (2DEG) of III-V group semiconductor materials including, GaAs, GaN, InGa_N, TiO₂ bulks and AlGa_N/Ga_N, AlGa_N/(Al_N)/Ga_N, AlGa_N/(Al_N)/Ga_N/Al_N, AlIn_N/Al_N/Ga_N/Al_N and AlIn_N/Al_N/InGa_N/Al_N heterostructures, MgZnO/ZnO, BeZnO/ZnO heterostructures and graphene.

Numerical investigation of transport properties of low-dimensional systems as Quantum dots (0D), Quantum wires (1D), Quantum wells (2D),

SCHOLARSHIPS / FELLOWSHIPS / AWARDS

- 2019 **Leaders in Innovation Fellowship, Royal Academy of Engineering, United Kingdom,**
- 2017 Duty Award, Gazi University Faculty of Science, Ankara, Turkey.
- 2016 **Turkish Academy of Sciences, Distinguished Young Scientist Award**
- 2015 **IEEE Senior Membership**
- 2015 SCI-indexed Publication Award, Gazi University, Ankara, Turkey.
- 2015 Duty Award, Gazi University Faculty of Science, Ankara, Turkey.
- 2014 **Turkish Physical Union Prof. Dr. Sevet Erk Outstanding Young Scientist Award.**
- 2014 SCI-indexed Publication Award, Gazi University, Ankara, Turkey.

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| 2014 | SCI-indexed Citation Award, Gazi University, Ankara, Turkey. |
| 2013 | TUBITAK 2219 scholarship for postdoc research (6 months). |
| 2007-present | 20 publications are promoted through TUBITAK Incentive Program for International Scientific Publications. |
| 2010, 2012 | SCI-indexed Publication Award, Gazi University, Ankara, Turkey. |
| 2008-2009 | Postdoc fellowship for postdoc studies. |
| 2007-2008 | TUBITAK 2214 scholarship for PhD research (6 months). |
| 2007 | Progetto Lagrange PhD Scholarship, Politecnico di Torino, Italy (not used due to family issues). |
| 2005-2008 | Several project scholarship for M.Sc. and Ph.D. studies. |

GRANTS & PROJECT MEMBERSHIPS

Earned grants as a project investigator (PI) or project co-investigator (co-PI)

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| 2018-2019 | TUBITAK 1512, 2180227, Production of Compact USB Fiber-coupled UV-VIS-NIR Optical Spectrometer for Industrial and Scientific Purposes, CEO and PI, Budget, 149 846 TL no-return grant (approximately 24 500 Euros) |
| 2017-2020 | TUBITAK 1001,116F197, Investigation of Growth Behaviors and 2DEG Properties of of MgZnO/ZnO Heterostructures grown by USPECVD Method, PI, Budget, 359 810 TL (approximately 88 600 Euros) |
| 2014-2016 | Joint grant of Scientific and Technological Research Council of Turkey and RFBR of Russia, 113F364, Manipulation properties of two-dimensional electronic gas using insitu surface passivation of AlGaIn/GaN heterostructures by molecular beam epitaxy, PI, Budget: 282 910 TL (approximately 97 500 Euros) |
| 2012-2013 | University Research Grant, 05-2012/13, Numerical optimization of Mg _x Zn _{1-x} O/ZnO and Be _x Zn _{1-x} O/ZnO based heterostructure transistors, PI, Budget: 14 889 TL (approximately 6 500 Euros) |
| 2012-2013 | University Research Grant, 05-2012/14, Investigation of the effects of transition metal palladium on electronic, structural and optical properties of graphene nanoribbons, PI, Budget: 14 955 TL (approximately 6 500 Euros) |

Project memberships

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| 2010-2012 | TUBITAK 1002 Support Project, 209T051, MOVPE growth and characterization of epitaxial germanium for infrared photovoltaic and sensor applications, Researcher, Budget: 25k TL (approximately 11k Euros) |
| 2009-2012 | TUBITAK 1007 Research Project, 107A012, Researcher, Budget: 4.7 M TL (approximately 2M Euros) |
| 2008-2012 | Military Related Research Project, SAVS020, Scholar, Budget: 5.8M TL (approximately 2.5M Euros) |
| 2008-2010 | TUBITAK 1001 Research Project, 108T018, Epitaxial growth and characterization of infrared AlGaAs laser diode materials, Scholar, Budget: 358 400 TL (approximately 156k Euros) |
| 2008-2010 | TUBITAK (Turkey) – ANCS (Romania) Joint Research Project, TBAG-U/220 (107A584), Studies on synthesis and characterization of TiO ₂ thinfilm nanostructures which have applications in ecological physics, Scholar, Budget: 58k TL (approximately 25k Euros) |

- 2006-2009 Military Related Research Project, SAVM005, Researcher, Budget: 4.7 M TL (approximately 2M Euros)
- 2006-2007 TUBITAK 1007 Research Project, 105A005, Scholar, Budget: 5.5M TL (approximately 2 4M Euros)

PROFESSIONAL APPOINTMENTS

- 2018-cont. Full Professor, Department of Physics, Faculty of Science, Gazi University, Ankara Turkey
- 2013 Academic Visiting Researcher, School of Computer Science and Electronics Engineering, University of Essex, Colchester, UK.
- 2011-2018 Associate Professor, Department of Physics, Faculty of Science, Gazi University, Ankara Turkey
- 2009-2011 Assistant Professor, Department of Physics, Faculty of Science and Arts, Gazi University, Ankara Turkey
- 2008-2009 Post-doctoral Researcher, Nanotechnology Research Center, Bilkent University, Ankara, Turkey <http://www.nanotam.bilkent.edu.tr>

RESEARCH EXPERIENCE

- 2013 Academic Visiting Researcher, Department of Computing and Electronic Systems University of Essex, Colchester, UK (6 months)
- 2008-2009 Post-doctoral Researcher, Nanotechnology Research Center, Bilkent University, Ankara, Turkey <http://www.nanotam.bilkent.edu.tr>
- 2007-2008 Research Student, Department of Computing and Electronic Systems University of Essex, Colchester, UK (6 months)

TEACHING EXPERIENCE

These courses correspond to a number of more than 2300 students as of this CV's writing time.

Institute of Science, Gazi University, Ankara, Turkey

- 2018/2 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2018/1 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2017/2 Instructor, Fiz 524 Physics of Low-dimensional Semiconductors
- 2017/1 Instructor, Fiz 524 Physics of Low-dimensional Semiconductors
- 2017/1 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2016/2 Instructor, Fiz 524 Physics of Low-dimensional Semiconductors
- 2016/2 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2016/1 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2015/2 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2015/1 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2014/2 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2014/1 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2013/2 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2013/2 Instructor, Fiz 524 Physics of Low-dimensional Semiconductors
- 2013/1 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 2013/1 Instructor, Fiz 524 Physics of Low-dimensional Semiconductors
- 2012/1 Instructor, Fiz 522 Micro and Nanofabrication Methods

Faculty of Science, Gazi University, Ankara, Turkey

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| 2018/1 | Instructor, Fiz 123 Introduction to Nanotechnology |
| 2017/1 | Instructor, Fiz 123 Introduction to Nanotechnology |
| 2016/1 | Instructor, Fiz 123 Introduction to Nanotechnology |
| 2015/1 | Instructor, Fiz 123 Introduction to Nanotechnology |
| 2014/2 | Advisor, Fiz 414 Research Project |
| 2014/1 | Advisor, Fiz 413 Research Project |
| 2014/1 | Instructor, Fiz 123 Introduction to Nanotechnology |
| 2013/1 | Advisor, Fiz 413 Research Project |
| 2012/1 | Advisor, Fiz 413 Research Project (2 students) |
| 2011/2 | Instructor, Enf 102 Basic Computer Usage and Fortran Language (2 groups) |
| 2011/2 | Advisor, Fiz 414 Research Project |

Faculty of Science and Arts, Gazi University, Ankara, Turkey

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| 2018/2 | Advisor, Fiz 414 Research Project |
| 2018/1 | Advisor, Fiz 413 Research Project |
| 2011/1 | Advisor, Fiz 413 Research Project |
| 2009/2 | Advisor, Fiz 414 Research Project (2 students) |
| 2009/1 | Advisor, Fiz 413 Research Project (2 students) |

Faculty of Engineering, Gazi University, Ankara, Turkey

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| 2016/2 | Instructor, Fiz 104, Physics II (2 groups) |
| 2015/2 | Instructor, Fiz 104, Physics II (2 groups) |
| 2014/2 | Instructor, Fiz 104, Physics II (2 groups) |
| 2013/2 | Instructor, Fiz 104, Physics II (4 groups) |
| 2013/1 | Instructor, Fiz 103 Physics I (3 groups) |
| 2012/1 | Instructor, Fiz 103 Physics I (2 groups) |
| 2011/2 | Instructor, Fiz 156 Physics Lab. (Mechanics) |
| 2011/2 | Instructor, Fiz 104, Physics II (3 groups) |
| 2011/1 | Instructor, Fiz 103 Physics I (3 groups) |
| 2009/2 | Instructor, Fiz 156 Physics Lab. (Mechanics) |
| 2009/2 | Instructor, Fiz 104, Physics II (2 groups) |

Faculty of Dentistry, Gazi University, Ankara, Turkey

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| 2012/1 | Instructor, Fzk 111 Physics. |
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Faculty of Science at Polatlı, Gazi University, Polatlı, Ankara, Turkey

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| 2012/1 | Instructor, Fiz 315 Properties of Matter. |
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Faculty of Technology, Gazi University, Ankara, Turkey

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| 2018/2 | Instructor, Fiz 104, Physics II |
| 2017/2 | Instructor, Fiz 104, Physics II |
| 2014/1 | Instructor, Fiz 101 Physics I (2 groups). |
| 2011/1 | Instructor, Fiz 101 Physics I. |

Faculty of Technical Education, Gazi University, Ankara, Turkey

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| 2011/1 | Instructor, Fiz 101 Physics I. |
| 2009/2 | Instructor, Fiz 102 Physics II. |
| 2009/1 | Instructor, Fiz 101 Physics I (4 groups). |

Turkish Military Academy, National Defense University, Ankara, Turkey
2018-2019 Instructor, Physics.

PROFESSIONAL ACTIVITIES

- 2017 Scientific Committee Member, VI. ADIM Physics Days, 19-21 July, Balıkesir, Turkey
- 2015 Scientific Committee Member, 1st International Conference on Organic Electronic Material Technologies (OEMT-2015) 25-28 March Elazığ, Turkey
- 2015 Scientific Committee Member, 2nd International Nanoscience and Nanotechnology for Next Generation (NaNoNG) 29-31 October Antalya, Turkey
- 2011-2014 Member of board of management of the Photonics Research Center at Gazi University, Ankara, Turkey. <http://fotonik.gazi.edu.tr>
- 2004 Member of organizing group of 11th Condensed Matter Ankara Meeting at Gazi University, Ankara, Turkey.

PROFESSIONAL SERVICES

Editorial Board Member

- PLOS ONE (*SCI-indexed*) (2013-2016, 2019-continue)
- Advances in OptoElectronics (ESCI-indexed) (2019-continue)

Issue Editor (SCI-indexed) (2016)

- Advances in Materials Science and Technology “Recent Progress in Group III-Nitride Electronic and Optoelectronic Devices”

Reviewer (SCI-indexed)

- Journal of Physics D – Applied Physics,
- Semiconductor Science and Technology,
- Nanotechnology,
- Applied Physics Letters,
- Physica E,
- Physica B,
- AIP Advances,
- Computational Materials Science.

PROFESSIONAL AFFILIATIONS

- 2005-present **Senior Member**, IEEE (Institute of Electrical and Electronics Engineers)
- 2005-present **Senior Member**, IEEE Electron Devices Society
- 2006 Member, IEEE Communications Society
- 2006 Member, SPIE (Society of Photographic Instrumentation Engineers)
- Member, Hacettepe University Alumni

SEMINARS

- 12/2014 “Elektriksel Olarak Pompalanan Seyreltik Azotlu Dikey Kaviteli Yarıiletken Optik Yükselteç” Physics Department, Istanbul University, Istanbul, Turkey.
- 05/2008 “AlGaIn/GaN-temelli Yüksek Elektron Hareketliliğine Sahip Transistörlerin (HEMTs) Elektron ve Manyeto-iletim Özelliklerinin İncelenmesi (in

- 02/2008 Turkish)", Department of Physics, Akdeniz University, Antalya, Turkey.
 "Investigation of 2DEG parameters in AlGaIn/GaN based heterostructures using QMSA technique" Department of Computing and Electronic Systems, University of Essex, Colchester, UK.

ATTENDED COURSES AND WORKSHOPS

- 01/2006 I. Adaligeli, "Solid State Educational Workshop 2006.1 : The Theory of Spin Transport (1 Week)" Feza Gürsey Institute, Istanbul, Turkey.
 01/2006 J. Schliemann, "Solid State Educational Workshop 2006.1 : Rashba and Spin-Hall Effects in Quantum Dots (1 Week)" Feza Gürsey Institute, Istanbul, Turkey.
 01/2006 E.V. Sukhorukov, "Solid State Educational Workshop 2006.1 : The Physics of Quantum Shot Noise (1 Week)" Feza Gürsey Institute, Istanbul, Turkey.
 03-04/2005 R. Gerhardt, "Solid State Educational Workshop 2004.3-2 : Magnetotransport in low-dimensional systems (3 Weeks)", Bilkent University, Ankara, Turkey.

PUBLICATIONS

Cites and h-index

| Index name | Total cite | h-index |
|-----------------------|------------|---------|
| <i>Web of Science</i> | 663 | 15 |
| <i>Google Scholar</i> | 812 | 16 |

Books and Book Chapters

- 2 S. B. Lisesivdin, B. Sarikavak-Lisesivdin, E. Ozbay "Chapter 18: The Effects of the Interaction of Transition Metals on the Electronic Properties of the Graphene Nanosheets and Nanoribbons" Graphene Science Handbook Vol.3, CRCPress, Taylor&Francis, (2016).
- 1 E. L. Wolf, M. Medikonda, (Transl. eds: B. Sarikavak-Lisesivdin, S. B. Lisesivdin) "Nanoteknoloji Devrimini Anlamak" Nobel Press, (2014).

SCI-Articles

- 67 P. Narin, J. M. All Abbas, G. Atmaca, E. Kutlu, S. B. Lisesivdin, E. Ozbay "Ab initio study of electronic properties of armchair graphene nanoribbons passivated with heavy metal elements" *Solid State Commun.* **296**, 8 (2019).
- 66 P. Narin, E. Arslan, M. Ozturk, M. Ozturk, S. B. Lisesivdin, E. Ozbay "Scattering analysis of ultrathin barrier (< 7 nm) GaN-based heterostructures" *Appl. Phys. A: Mater. Sci. Process.* **125**, 278 (2019).
- 65 J. M. All Abbas, P. Narin, E. Kutlu, S. B. Lisesivdin, E. Ozbay "Electronic properties of Zigzag ZnO nanoribbons with Hydrogen and Magnesium passivations" *Physica B* **556**,

(2019).

- 64 J.-H. Lee, J.-M. Ju, G. Atmaca, J.-G. Kim, S.-H. Kang, Y. S. Lee, S.-H. Lee, J.-W. Lim, H.-S. Kwon, S. B. Lisesivdin, J.-H. Lee “ High Figure-of-Merit (V2BR/RON) AlGa_N/Ga_N Power HEMT With Periodically C-Doped Ga_N Buffer and AlGa_N Back Barrier” *IEEE J. Electron Dev. Soc.* **6**, 1179 (2018).
- 63 Ö. Ömeroğlu, E. Kutlu, P. Narin, S. B. Lisesivdin, E. Ozbay “Electronic Properties of Graphene Nanoribbons Doped with Zinc, Cadmium, Mercury Atoms” *Physica E* **104**, 124 (2018).
- 62 G. Atmaca, P. Narin, E. Kutlu, T. V. Malin, V. G. Mansurov, K. S. Zhuravlev, S. B. Lisesivdin, E. Ozbay, “Negative Differential Resistance Observation and a New Fitting Model for Electron Drift Velocity in Ga_N-Based Heterostructures” *IEEE Trans. Electron Dev.* **65**, 950 (2018).
- 61 P. Narin, E. Kutlu, G. Atmaca, A. Atilgan, A. Yildiz. S. B. Lisesivdin, “Structural and optical properties of hexagonal ZnO nanostructures grown by ultrasonic spray CVD” *Optik* **168**, 86 (2018).
- 60 E. Kutlu, P. Narin, S. B. Lisesivdin, E. Ozbay “Electronic and optical properties of black phosphorus doped with Au, Sn and I atoms” *Philos. Mag.* **98**, 155 (2018).
- 59 P. Narin, E. Kutlu, G. Atmaca, S. B. Lisesivdin, E. Ozbay “A first principles investigation of the effect of aluminum, gallium and indium impurities on optical properties of β -Si₃N₄ structure” *Optik* **147**, 115 (2017).
- 58 J. M. Al Abbas, P. Narin, G. Atmaca, E. Kutlu, B. Sarikavak-Lisesivdin, S. B. Lisesivdin “The effect of doping in different layers on 2DEG for ultrathin-barrier AlN/Ga_N heterostructures” *Optoelectron. Adv. Mater.-Rapid Comm.* **11**, 328 (2017).
- 57 J. M. All Abbas, G. Atmaca, P. Narin, E. Kutlu, B. Sarikavak-Lisesivdin, S. B. Lisesivdin “A Comparative Study of AlGa_N and InGa_N Back-Barriers in Ultrathin-Barrier AlN/Ga_N Heterostructures” *J. Elec. Mater.* **46**, 5278 (2017).
- 56 E. Kutlu, P. Narin, G. Atmaca, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “Electronic structure of β -Si₃N₄ crystals with substitutional icosagen group impurities” *J. Optoelectron. Adv. Mater.* **19**, 278 (2017).
- 55 P. Narin, E. Kutlu, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Özbay "Electronic properties of Li-doped zigzag graphene nanoribbons" *Physica E* **84**, 543 (2016).
- 54 E. Kutlu, P. Narin, G. Atmaca, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Özbay "Effect of substitutional As impurity on electrical and optical properties of β -Si₃N₄ Structure" *Mater. Res. Bull.* **83**, 128 (2016).
- 53 G. Atmaca, S. Ardali, E. Tiras, T. Malin, V. G. Mansurov, K. S. Zhuravlev, S. B. Lisesivdin "Scattering analysis of 2DEG mobility in undoped and doped AlGa_N/AlN/Ga_N heterostructures with an *in situ* Si₃N₄ passivation layer" *Solid-State Electron.* **118**, 12 (2016).

- 52 I. Kara, Y. Sarikavak, S. B. Lisesivdin, M. Kasap "Evaluation of Morphological and Chemical Differences of Gunshot Residues in Different Ammunitions Using SEM/EDS Technique" *Environ. Foren.* **17**, 68 (2016).
- 51 G. Atmaca, P. Narin, B. Sarikavak-Lisesivdin, S. B. Lisesivdin "Two Dimensional Electron Gas in a Hybrid GaN/InGaN/ZnO Heterostructure with Ultrathin InGaN Channel Layer" *Physica E* **79**, 67 (2016).
- 50 G. Atmaca, S. Ardali, P. Narin, E. Kutlu, S. B. Lisesivdin, T. Malin, V. Mansurov, K. Zhuravlev, E. Tiras "Energy relaxation of hot electrons by LO phonon emission in AlGaN/AlN/GaN heterostructure with in situ Si₃N₄ passivation" *J. Alloys Compounds* **659**, 90 (2016).
- 49 S. Ardali, G. Atmaca, S. B. Lisesivdin, T. Malin, V. Mansurov, K. Zhuravlev, E. Tiras "The variation of temperature dependent carrier concentration and mobility in AlGaN/AlN/GaN heterostructure with SiN passivation" *Phys. Stat. Sol. B* **252**, 1960 (2015).
- 48 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, N. Balkan, G. Atmaca, P. Narin, H. Cakmak, E. Ozbay "Energy relaxation of electrons in InGaN quantum wells" *Metall. Mater. Trans. A* **46**, 1565 (2015).
- 47 G. Atmaca, P. Narin, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, M. Kasap "Electron Transport Properties of Two Dimensional Electron Gas in Be_xZn_{1-x}O/ZnO Heterostructures" *Philos. Mag.* **95**, 79 (2015).
- 46 G. Atmaca, P. Tasli, G. Karakoc, E. Yazbahar and S. B. Lisesivdin "Numerical Investigation of the 2DEG Properties of AlGaN/AlN/GaN HEMT Structures with InGaN/GaN MQW Back-Barrier Structure" *Physica E* **65**, 110 (2015).
- 45 O. Donmez, F. Sarcan, S. B. Lisesivdin, M. P. Vaughan, A. Erol, M. Gunes, M. C. Arikan, J. Puustinen and M. Guina, "Analytic modeling of temperature dependence of 2D carrier mobility in as-grown and annealed GaInNAs/GaAs quantum well structures" *Semicond. Sci. Technol.* **29**, 125009 (2014).
- 44 S. B. Lisesivdin, G. Atmaca, E. Arslan, S. Cakmakyapan, O. Kazar, S. Butun, Jawad-ul-Hassan, E. Janzén and E. Ozbay "Extraction and scattering analyses of 2D and bulk carriers in epitaxial graphene-on-SiC structure" *Physica E* **63**, 87 (2014).
- 43 E. Arslan, S. Cakmakyapan, O. Kazar, S. Bütün, S. B. Lisesivdin, N. A. Cinel, G. Ertas, S. Ardali, E. Tiras, J. Ul-Hassan, E. Janzén and Ekmel Özbay "SiC substrate effects on electron transport in the epitaxial Graphene layer" *Electron. Mater. Lett.* **10**, 387 (2014).
- 42 S. B. Lisesivdin, N. A. Khan, S. Mazzucato, N. Balkan, M. J. Adams, V.-M. Korpijärvi, M. Guina, G. Mezosi and M. Sorel "Optical gain in 1.3 μ m electrically-driven dilute nitride VCSOAs" *Nanoscale Res. Lett.* **9**, 22 (2014).
- 41 K. Elibol, G. Atmaca, P. Tasli, S. B. Lisesivdin "A Numerical Study on Subband Structure of In_xAl_{1-x}N/GaN-Based HEMT Structures with Low-Indium (x<0.10) Barrier Layer" *Solid State Commun.* **162**, 8 (2013).

- 40 A. F. Kuloglu, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “First-principles calculations of Pd-terminated symmetrical armchair graphene nanoribbons” *Comp. Mater. Sci.* **68**, 18 (2013).
- 39 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “The Effect of $\text{In}_x\text{Ga}_{1-x}\text{N}$ Back-barriers on the Dislocation Densities in $\text{Al}_{0.31}\text{Ga}_{0.69}\text{N}/\text{AlN}/\text{GaN}/\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ Heterostructures ($0.05 \leq x \leq 0.14$)” *Cur. Appl. Phys.* **13**, 224 (2013).
- 38 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “Ab initio study of Ru-terminated and Ru-doped armchair graphene nanoribbons” *Mol. Phys.* **110**, 2295 (2012).
- 37 E. Tiras, O. Celik, S. Mutlu, S. Ardali, S. B. Lisesivdin, E. Ozbay “Temperature dependent energy relaxation time in $\text{AlGaN}/\text{AlN}/\text{GaN}$ heterostructures” *Superlat. Microstruct.* **51**, 733 (2012).
- 36 O. Celik, E. Tiras, S. Ardali, S. B. Lisesivdin, E. Ozbay “Determination of the LO phonon energy by using electronic and optical methods in AlGaN/GaN ” *Cent. Eur. J. Phys.* **10**, 485 (2012).
- 35 O. Kelekci, S. B. Lisesivdin, S.Ozcelik, E. Ozbay “Numerical optimization of In-mole fraction and layer thicknesses in $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{AlN}/\text{GaN}$ high electron mobility transistors with InGaN back barrier” *Physica B* **406**, 1513 (2011).
- 34 A. Yildiz, P. Tasli, B. Sarikavak, S. B. Lisesivdin, M. K. Ozturk, M. Kasap, S. Ozcelik, E. Ozbay “Grain boundary related electrical transport in Al-rich $\text{Al}_x\text{Ga}_{1-x}\text{N}$ layers grown by metal organic chemical vapor deposition” *Semiconductors+* **45**, 33 (2011).
- 33 H. Yu, S. B. Lisesivdin, B. Bolukbas, O. Kelekci, M. K. Ozturk, S. Ozcelik, D. Caliskan, M. Ozturk, H. Cakmak, P. Demirel ve E. Ozbay “Improvement of breakdown characteristics in $\text{AlGaN}/\text{GaN}/\text{Al}_x\text{Ga}_{1-x}\text{N}$ HEMT based on a grading $\text{Al}_x\text{Ga}_{1-x}\text{N}$ buffer layer” *Phys. Stat. Sol. a* **207**, 2593 (2010).
- 32 P. Tasli, B. Sarikavak, G. Atmaca, K. Elibol, A. F. Kuloglu ve S. B. Lisesivdin “Numerical Simulation of Novel Ultrathin Barrier $\text{n-GaN}/\text{InAlN}/\text{AlN}/\text{GaN}$ HEMT Structures: Effect of In Mole Fraction, Doping and Layer Thicknesses” *Physica B* **405**, 4020 (2010).
- 31 A. Bengi, S. B. Lisesivdin, M. Kasap, T. Mammadov, S. Ozcelik, E. Ozbay “Analysis of defect related optical transitions in AlGaN/GaN heterostructures” *Mater. Sci. Semicond. Process.* **13**, 105 (2010).
- 30 S. B. Lisesivdin, A. Yildiz, N. Balkan, M. Kasap, S. Ozcelik, E. Ozbay “Scattering Analysis of Two-dimensional Electrons in AlGaN/GaN with Bulk Related Parameters Extracted by Simple Parallel Conduction Extraction Method” *J. Appl. Phys.* **108**, 013712 (2010).
- 29 P. Tasli, A. Yildiz, M. Kasap, E. Ozbay, S. B. Lisesivdin ve S. Ozcelik “Contributions of the impurity band and electron–electron interactions to the magnetoconductance of AlGaN ” *Philos. Mag.* **90**, 3591 (2010).
- 28 S. B. Lisesivdin, P. Tasli, M. Kasap, M. Ozturk, E. Arslan, S. Ozcelik, ve E. Ozbay, “Double subband occupation of the two-dimensional electron gas in $\text{In}_x\text{Al}_{1-x}\text{N}/\text{AlN}/\text{GaN}/\text{AlN}$

Heterostructures with Low Indium Barrier ($0.064 < x < 0.139$)” *Thin Solid Films* **518**, 5572 (2010).

- 27 A. Yildiz, S. B. Lisesivdin, M. Kasap, D. Mardare “The substrate temperature dependent electrical properties of titanium dioxide thin films” *J. Mater. Sci.: Mater. Electron.* **21**, 692 (2010).
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ADVISING

PhD's

- 3 E. Kutlu, (Ankara Yıldırım Beyazır University, Institute of Science, Energy Systems Engineering), *2018-present*. Second Advisor.
- 2 P. Narin, (Gazi University, Institute of Science, Physics), *2015 - present*. Advisor.
- 1 G. Atmaca, (Gazi University, Institute of Science, Physics), Investigations of Low-field Transport and Hot-electron Transport in Passivated AlGaIn/GaN HEMTs with Si₃N₄ *2013 - 2018*. Advisor.

MSc's

- 12 K. B. Sönmez, (Gazi University, Institute of Science, Advanced Technologies), RF Magnetron Sputter System and Passive Circuit Element Resistor Production and Characterization *2016 - 2019*. Advisor.
- 11 M. T. Haliloğlu, (Gazi University, Institute of Science, Advanced Technologies), Back Side Via Hole Etching Application of SiC for GaN-based Field Effect Transistors *2016 - 2019*. Advisor.
- 10 O. Omeroglu, (Gazi University, Institute of Science, Physics), Investigation of the Electronic Properties of Zn, Cd and Hg-doped Graphene Sheets with Ab-Initio Methods, *2016 - 2018*. Advisor.
- 9 R. Ibrahim, (Gazi University, Institute of Science, Physics), Investigation of Electronic and Optical Properties of Wurtzite MgZnO with First Principles Calculations, *2016 - 2018*. Advisor.
- 8 M. Ozturk, (Gazi University, Institute of Science, Physics), Electrical Characteristics and Scattering Analysis of Ultrathin Barrier GaN-Based High Electron Mobility Transistors, *2015 - 2018*. Advisor.
- 7 J. M. M. J. Al-Abbas, (Gazi University, Institute of Science, Physics), Simulation and optimization of GaN-based ultrathin barrier high electron mobility transistors, *2014 - 2016*. Advisor.
- 6 E. Kutlu, (Gazi University, Institute of Science, Physics), Investigation of the effects of Cadmium Doping on Electronic and Optical Properties of Graphene Nanoribbons, *2014 - 2016*. Advisor.
- 5 A. F. Kuloglu, (Gazi University, Institute of Science, Physics), Investigation of Electronic Properties of Pa-terminated Graphene Nanoribbons, *2010-2012*. Advisor.
- 4 G. Atmaca, (Gazi University, Institute of Science, Physics), Numerical Investigation of the 2-Dimensional Carriers in AlQN/AlN/GaN-Based (Q=Ga, In) Transistors with Multi-Quantum Well Back-Barriers, *2010-2012*. Advisor.

- 3 K. Elibol, (Gazi University, Institute of Science, Physics), Investigation of Magnetoconductivity and Surface Properties of Exfoliated and Epitaxially Grown Graphene Samples, 2010-2012. Advisor.
- 2 G. Karakoc, (Gazi University, Institute of Science, Physics), Investigating the Electron Transport Properties of AlInN/AlN/(InGaN)/GaN Heterostructures with InGaN Quantum Wells. 2009-2012. Advisor.
- 1 C. Gunes, (Gazi University, Institute of Science, Physics), Electron and magnetotransport investigation of two dimensional electron gas in ultrathin barrier GaN-based heterostructures. 2009-2012. Advisor.

PERSONAL INFORMATION AND OTHER EXPERIENCE

Birth date: September 12th, 1979

Social Status: Have a son.

2010-2011 Completed the one-year full-time long military service as Assistant Professor Air Defence Second Lieutenant at Turkish Army Forces, 8. Corps, Air Defence Battalion which is located at Ercis, Van, Turkey.

-End of CV-

Last update: July 11th, 2019.

Hereby, I am confirming that all information listed on this CV is correct at this date.

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