

## Detailed Curriculum Vitae

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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Email: [bora@gazi.edu.tr](mailto:bora@gazi.edu.tr), [sblisesivdin@gmail.com](mailto:sblisesivdin@gmail.com)  
Personal web: <http://sblisesivdin.github.io>  
Group web: <http://www.lrgresearch.org>

### EDUCATION

2008	Ph.D. Physics, Gazi University, Ankara, Turkey Dissertation: Electron and Magneto Transport Properties of AlGa <sub>N</sub> /Ga <sub>N</sub> 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 (with calculating self-consistent solutions of Schroedinger-Poisson equations) 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<sub>N</sub>, TiO<sub>2</sub> bulks and AlGa<sub>N</sub>/Ga<sub>N</sub>, AlGa<sub>N</sub>/(Al<sub>N</sub>)/Ga<sub>N</sub>, AlGa<sub>N</sub>/(Al<sub>N</sub>)/Ga<sub>N</sub>/Al<sub>N</sub>, AlIn<sub>N</sub>/Al<sub>N</sub>/Ga<sub>N</sub>/Al<sub>N</sub> and AlIn<sub>N</sub>/Al<sub>N</sub>/InGa<sub>N</sub>/Al<sub>N</sub> heterostructures, MgZnO/ZnO, BeZnO/ZnO heterostructures.

Ab initio calculations of wide band gap semiconductors MgO, GaN, MgZnO, diamond and low dimensional structures like graphene, graphene nanoribbons, black phosphorus, 2D structures with kagome lattice structure.

Optical properties and ODMR measurements of NV- centers in Diamond.

### 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.
<b>2014</b>	<b>Turkish Physical Union Prof. Dr. Sevket Erk Outstanding Young Scientist Award.</b>
2014	SCI-indexed Publication Award, Gazi University, Ankara, Turkey.
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)*

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 <sub>x</sub> Zn <sub>1-x</sub> O/ZnO and Be <sub>x</sub> Zn <sub>1-x</sub> 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*

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<sub>2</sub> 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

- 2019-2020 Visiting Researcher, Institute for Quantum Optics, University of Ulm, Ulm, Germany (3 months)
- 2018-cont. Full Professor, Department of Physics, Faculty of Science, Gazi University, Ankara Turkey
- 2013 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

- 2019-2020 Visiting Researcher, Institute for Quantum Optics, University of Ulm, Ulm, Germany (3 months)
- 2013 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*

- 2020/1 Instructor, Fiz 5026 Physics of Low-dimensional Semiconductors
- 2020/1 Instructor, Fiz 5024 Micro and Nanofabrication Methods
- 2019/2 Instructor, Fiz 522 Micro and Nanofabrication Methods
- 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*

2020/1	Instructor, Fiz 1123 Introduction to Nanotechnology
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*

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*

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*

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

2012/1 Instructor, Fiz 315 Properties of Matter.

*Faculty of Technology, Gazi University, Ankara, Turkey*

2020/1 Instructor, Fiz 103, Physics II (2 groups)

2019/2 Instructor, Fiz 104, Physics II (2 groups)

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*

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**

2019 Scientific Committee Member, VIII. ADIM Physics Days, 12-15 September, Bilecik, Turkey.

2018 Scientific Committee Member, VII. ADIM Physics Days, 23-25 May, Aydin, Turkey.

2017 Scientific Committee Member, VI. ADIM Physics Days, 19-21 July, Balikesir, Turkey.

2015 Scientific Committee Member, 1st International Conference on Organic Electronic Material Technologies (OEMT-2015) 25-28 March Elazig, 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 11<sup>th</sup> Condensed Matter Ankara Meeting at Gazi University, Ankara, Turkey.

## **PROFESSIONAL SERVICES**

*Editorial Board Member*

- PLOS ONE (*SCI-indexed*) (2013-2016, 2019-continue)

- Advances in Condensed Matter Physics (*SCI-indexed*) (2019-continue)

- Advances in OptoElectronics (*ESCI-indexed*) (2019)

*Issue Editor (SCI-indexed) (2016)*

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

*Reviewer (SCI-indexed) (PUBLONS: <https://publons.com/researcher/2891039/sefer-bora-lisesivdin/>)*

- Journal of Physics and Chemistry of Solids

- Journal of Physics D – Applied Physics,

- Semiconductor Science and Technology,
- Superlattices and Microstructures,
- Journal of Materials Science: Materials in Electronics
- Journal of Materials Science: Materials in Electronics
- Nanotechnology,
- Diamond and Related Materials,
- Applied Physics Letters,
- Physica E : Low-dimensional Systems and Nanostructures,
- Physica B : Condensed Matter,
- AIP Advances,
- Computational Materials Science,
- Synthetic Metals,

## 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 Turkish)”, Department of Physics, Akdeniz University, Antalya, Turkey.  
 02/2008 “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>	778	15

*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*

- 72 F. Sonmez, S. Ardali, G. Atmaca, S.B. Lisesivdin, T. Malin, V. Mansurov, K. Zhuravlev, E. Tiras “The effect of passivation layer, doping and spacer layer on electron-longitudinal optical phonon momentum relaxation time in  $\text{Al}_{0.3}\text{Ga}_{0.7}\text{N}/\text{AlN}/\text{GaN}$  heterostructures” *Mater. Sci. Semicond. Process.* **122**, 105449 (2021).
- 71 H. Hebal, Z. Koziol, S.B. Lisesivdin, R. Steed “General-purpose open-source 1D self-consistent Schrödinger-Poisson Solver: Aestimo 1D” *Comput. Mater. Sci.* **186**, 110015 (2021).
- 70 B.Sarikavak-Lisesivdin, S.B.Lisesivdin, E.Ozbay, F.Jelezko “Structural parameters and electronic properties of 2D carbon allotrope: Graphene with a kagome lattice structure” *Chem. Phys. Lett.* **760**, 138006 (2020).
- 69 E. Kutlu, P. Narin, A. Yildiz, S. B. Lisesivdin “Effects of Annealing under Different Atmospheres on Structural and Optical Properties of USCVD grown ZnO Nanostructures” *Mater. Sci. Eng. B* **254**, 114506 (2020).
- 68 R. Ibrahim, P. Narin, S. B. Lisesivdin, E. Ozbay “Investigation of electronic and optical properties of wurtzite  $\text{MgZnO}$  using GGA + U formalism”, *Philos. Mag. Lett.* **99**, 424 (2019).
- 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)  $\text{GaN}$ -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  $\text{ZnO}$  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 ( $\text{V}_2\text{BR}/\text{RON}$ )  $\text{AlGaIn}/\text{GaIn}$  Power

HEMT With Periodically C-Doped GaN Buffer and AlGaN 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 GaN-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  $\beta$ -Si<sub>3</sub>N<sub>4</sub> 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/GaN 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 AlGaN and InGaN Back-Barriers in Ultrathin-Barrier AlN/GaN 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  $\beta$ -Si<sub>3</sub>N<sub>4</sub> 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  $\beta$ -Si<sub>3</sub>N<sub>4</sub> 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 AlGaN/AlN/GaN heterostructures with an *in situ* Si<sub>3</sub>N<sub>4</sub> 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 AlGaIn/AlN/GaN heterostructure with in situ Si<sub>3</sub>N<sub>4</sub> 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 AlGaIn/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<sub>x</sub>Zn<sub>1-x</sub>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 AlGaIn/AlN/GaN HEMT Structures with InGaIn/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  $\mu$ 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<sub>x</sub>Al<sub>1-x</sub>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  $\text{AlGaN}/\text{GaN}$ ” *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  $\text{InGaN}$  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 n- $\text{GaN}/\text{InAlN}/\text{AlN}/\text{GaN}$  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  $\text{AlGaN}/\text{GaN}$  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  $\text{AlGaN}/\text{GaN}$  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  $\text{AlGaN}$ ” *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).
- 26 S. Gokden, R. Tulek, A. Teke, J. H. Leach, Q. Fan, J. Xie, U. Ozgur, H. Morkoc, S. B. Lisesivdin, E. Ozbay “Mobility limiting scattering mechanisms in nitride-based two-dimensional heterostructures with InGaN channel” *Semicond. Sci. Technol.* **25**, 045024 (2010).
- 25 A. Yildiz, S. B. Lisesivdin, P. Tasli, E. Ozbay, ve M. Kasap “Determination of the critical indium composition corresponding to the metal-insulating transition in  $\text{In}_x\text{Ga}_{1-x}\text{N}$  ( $0.06 < x < 0.135$ ) layers” *Curr. Appl. Phys.* **10**, 838 (2010).
- 24 A. Yildiz, S. B. Lisesivdin, M. Kasap, S. Ozcelik, E. Ozbay ve N. Balkan “Investigation of low temperature electrical conduction mechanisms in highly resistive GaN bulk layers extracted with SPCEM” *Appl. Phys. A* **98**, 557 (2010).
- 23 P. Tasli, S. B. Lisesivdin, A. Yildiz, M. Kasap, E. Arslan, E. Özbay, ve S. Özcelik “Well parameters of the two-dimensional electron gas in  $\text{Al}_{0.88}\text{In}_{0.12}\text{N}/\text{AlN}/\text{GaN}/\text{AlN}$  heterostructures grown by MOCVD” *Cryst. Res. Tech.* **45**, 133 (2010).
- 22 S. B. Lisesivdin, E. Ozbay “Effect of various pseudomorphic AlN layer insertions on the electron densities of two-dimensional electron gas in lattice-matched  $\text{In}_{0.18}\text{Al}_{0.82}\text{N}/\text{GaN}$  based heterostructures” *Optoelectron. Adv. Mater.: Rapid. Comm.* **3**, 904 (2009).
- 21 A. Yildiz, S. B. Lisesivdin, H. Altuntas, M. Kasap ve S. Ozcelik “Electrical conduction properties of Si  $\delta$ -doped GaAs grown by MBE” *Physica B* **404**, 4202 (2009).
- 20 G. Atmaca, K. Elibol, S. B. Lisesivdin, M. Kasap, E. Ozbay “Numerical optimization of Al-mole fractions and layer thicknesses in normally-on AlGaIn-GaN double-channel high electron mobility transistors (DCHEMTs)” *J. Optoelectron. Adv. Mater.* **11**, 578 (2009).
- 19 A. Teke, S. Gökden, R. Tülek, J. H. Leach, Q. Fan, J. Xie, Ü. Özgür, H. Morkoç, S. B. Lisesivdin, E. Özbay, “The effect of AlN interlayer thicknesses on scattering processes in lattice-matched AlInN/GaN two-dimensional electron gas heterostructures “ *New J. Phys.* **11**, 063031 (2009).
- 18 S. B. Lisesivdin, N. Balkan, O. Makarovsky, A. Patanè, A. Yildiz, M. D. Caliskan, M. Kasap, S. Ozcelik, E. Ozbay “Large Zero-Field Spin Splitting in AlGaIn/AlN/GaN/AlN Heterostructures” *J. Appl. Phys.* **105**, 093701 (2009).
- 17 S. B. Lisesivdin, H. Altuntas, A. Yildiz, M. Kasap, E. Ozbay, S. Ozcelik, “DX-center Energy Calculation with Quantitative Mobility Spectrum Analysis in n-AlGaAs/GaAs Structures with Low Al Content” *Superlatt. Microstruct.* **45**, 604 (2009).
- 16 A. Yildiz, S. B. Lisesivdin, M. Kasap, D. Mardare “Non-adiabatic Small Polaron Hopping Conduction in Nb-doped  $\text{TiO}_2$  thin films” *Physica B* **404**, 1423 (2009).

- 15 Y. Sun, N. Balkan, M. Aslan, S. B. Lisesivdin, H. Carrere, M. C. Arikan, X. Marie “Electronic transport in n- and p-type modulation doped  $\text{Ga}_x\text{In}_{1-x}\text{N}_y\text{As}_{1-y}/\text{GaAs}$  Quantum Wells” *J. Phys: Condens. Matt.* **21**, 174210 (2009) Invited Article.
- 14 S. B. Lisesivdin, N. Balkan, E. Ozbay “A Simple Parallel Conduction Extraction Method (SPCEM) for MODFETs and Undoped GaN-based HEMTs” *Microelectron. J.* **40**, 413 (2009).
- 13 A. Yildiz, S. B. Lisesivdin, M. Kasap, M. Bosi “Anomalous temperature dependence of the electrical resistivity in  $\text{In}_{0.17}\text{Ga}_{0.83}\text{N}$ ” *Solid State Commun.* **149**, 337 (2009).
- 12 A. Yildiz, S. B. Lisesivdin, M. Kasap, D. Mardare “Electrical Properties of  $\text{TiO}_2$  Thin Films” *J. Non-Crys. Solids* **354**, 4944 (2008).
- 11 S. B. Lisesivdin, S. Demirezen, M. D. Caliskan, A. Yildiz, M. Kasap, S. Ozcelik ve E. Ozbay “Growth parameters investigation of  $\text{Al}_{0.25}\text{Ga}_{0.75}\text{N}/\text{GaN}/\text{AlN}$  heterostructures with Hall Effect Measurements” *Semicond. Sci. Technol.* **23**, 095008 (2008).
- 10 E. Arslan, S. Butun, S. B. Lisesivdin, M. Kasap, S. Ozcelik, ve E. Ozbay “The persistent photoconductivity effect in  $\text{AlGaIn}/\text{GaN}$  heterostructures grown on sapphire and SiC substrates” *J. Appl. Phys.* **103**, 103701 (2008).
- 9 S. Acar, S. B. Lisesivdin, M. Kasap, S. Ozcelik ve E. Ozbay “Determination of two-dimensional electron and hole gas carriers in  $\text{AlGaIn}/\text{GaN}/\text{AlN}$  heterostructures grown by Metal Organic Chemical Vapor Deposition” *Thin Solid Films* **516**, 2041 (2008).
- 8 A. Yildiz, F. Dagdelen, S. Acar, S. B. Lisesivdin, M. Kasap, Y. Aydogdu ve M. Bosi “Stokes shift and bandgap bowing in  $\text{In}_x\text{Ga}_{1-x}\text{N}$  ( $0.060 \leq x \leq 0.105$ ) grown by MOVPE” *Acta Physica Pol. (a)* **113**, 731 (2008).
- 7 S. B. Lisesivdin, E. Arslan, M. Kasap, S. Ozcelik ve E. Ozbay, “Self-consistent scattering analysis of  $\text{Al}_{0.2}\text{Ga}_{0.8}\text{N}/\text{AlN}/\text{GaN}/\text{AlN}$  heterostructures grown on 6H-SiC substrates using photo-Hall effect measurements” *J. Phys.: Condens. Matt.* **20**, 045208 (2008).
- 6 S. B. Lisesivdin, A. Yildiz ve M. Kasap, “Optimization of alloy composition, interlayer and barrier thicknesses in  $\text{Al}_x\text{Ga}_{1-x}\text{N}/(\text{AlN})/\text{GaN}$  high electron mobility transistors” *Opt. Adv. Mater.-Rapid Comm.* **1** (9), 467 (2007).
- 5 A. Yildiz, S. B. Lisesivdin, M. Kasap, D. Mardare “High temperature variable-range hopping conductivity in undoped  $\text{TiO}_2$  thin film” *Opt. Adv. Mater.-Rapid Comm.* **1** (10), 531 (2007).
- 4 A. Yildiz, S. B. Lisesivdin, S. Acar, M. Kasap ve M. Bosi, “Electron transport in Ga-rich  $\text{In}_x\text{Ga}_{1-x}\text{N}$  alloys” *Chin. Phys. Lett.* **24**, 2930 (2007).
- 3 S. B. Lisesivdin, A. Yildiz, S. Acar, M. Kasap, S. Ozcelik ve E. Ozbay “The Effect of Strain Relaxation on Electron Transport in Undoped  $\text{Al}_{0.25}\text{Ga}_{0.75}\text{N}/\text{GaN}$  HEMT Structures” *Physica B* **399** (2), 132 (2007).
- 2 S. B. Lisesivdin, A. Yildiz, S. Acar, M. Kasap, S. Ozcelik ve E. Ozbay “Electronic Transport Characterization of  $\text{AlGaIn}/\text{GaN}$  HEMT Structures grown by MOCVD” *Appl. Phys. Lett.* **91**,

102113 (2007). Selected for *Virtual Journal of Nanoscale Science & Technology* **16** 12 (2007).

- 1 S. B. Lisesivdin, S. Acar, M. Kasap, S. Ozcelik, S. Gokden ve E. Ozbay “Scattering Analysis of Extracted 2D carrier in AlGa<sub>N</sub>/Ga<sub>N</sub> HEMT Structures” *Semicond. Sci. Technol.* **22**, 543 (2007).

#### *SCI Technical Notes*

- 1 I. Kara, S. B. Lisesivdin, M. Kasap, E. Er, U. Uzek "The Relationship between the Surface Morphology and Chemical Composition of Gunshot Residue Particles" *J. Foren. Sci.* **60**, 1030 (2015).

#### *Non-SCI Articles*

- 1 O. Celik, E. Tiras, S. Ardali, S. B. Lisesivdin, E. Ozbay “Determination of the in-plane effective mass and quantum lifetime of 2D electrons in AlGa<sub>N</sub>/Ga<sub>N</sub> based HEMTs” *Phys. Stat. Sol. (c)* **8**, 1625 (2011).

#### *Proceedings*

- 90 S. B. Lisesivdin, J. Lang, F. Jelezko “Spin-coherence time measurements of NV- centers in <sup>15</sup>N<sup>+</sup>, <sup>15</sup>N<sub>2</sub><sup>+</sup> and O<sup>+</sup> implanted diamond” *Quantum Optics and Informatics Meeting – 4 (Kobit 4)*, İzmir (2020).
- 89 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay, F. Jelezko “Spin-polarized DFT calculations of nitrogen-vacancy color centers in diamond with various XC potentials” *Quantum Optics and Informatics Meeting – 4 (Kobit 4)*, İzmir (2020).
- 88 O. Omeroglu, S. B. Lisesivdin, E. Ozbay “The Optical Properties of Group-III Nitrides with LDA-1/2 Approximation” *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P78, (2018).
- 87 G. Atmaca, P. Narin, E. Kutlu, S. Ardali, E. Tiras, T. Malin, V. G. Mansurov, K. S. Zhuravlev, S. B. Lisesivdin, E. Ozbay “An Investigation on Lifetime of Hot Phonons in GaN-Based Heterostructures” *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P68, (2018).
- 86 J. M. All Abbas, P. Narin, E. Kutlu, S. B. Lisesivdin, E. Ozbay “First Principle Study of ZnO Nanoribbon Passivated with H and Mg” *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P37, (2018).

- 85 E. Kutlu, P. Narin, A. Yildiz, S. B. Lisesivdin "Structural and Optical Properties of  $Mg_xZn_{1-x}O$  Nanostructures Depending on Growth Temperatures" *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P31, (2018).
- 84 E. Kutlu, P. Narin, A. Yildiz, S. B. Lisesivdin "Effect of Transducer Power on Optical and Structural Properties of ZnO Nanostructures" *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P30, (2018).
- 83 P. Narin, E. Kutlu, S. B. Lisesivdin, E. Ozbay "Growth of ZnO Nanostructures on Sapphire by Ultrasonic Spray CVD" *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P29, (2018).
- 82 P. Narin, E. Kutlu, S. B. Lisesivdin, "Optical and Structural Properties of ZnO Grown by Mist CVD Using Different Precursor Molarity" *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P28, (2018).
- 81 R. Ibrahim, P. Narin, S. B. Lisesivdin, E. Ozbay "First-Principles Calculation of Optical Properties of Magnesium Zinc Oxide" *20<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P14, (2018).
- 80 O. Omeroglu, S. B. Lisesivdin, E. Ozbay "The Electronic Properties of Asymmetrical Armchair Boron Nitride Nanoribbons With Germanium Termination" p475, *Turkish Physical Society 34<sup>th</sup> International Physics Congress*, September 5-9 2018, Bodrum, Turkey.
- 79 O. Omeroglu, S. B. Lisesivdin, E. Ozbay "Improvement of the Theoretical Band Gaps for AlN, GaN and InN with LDA-1/2 Approach" p495, *Turkish Physical Society 34<sup>th</sup> International Physics Congress*, September 5-9 2018, Bodrum, Turkey.
- 78 M. T. Haliloglu, S. B. Lisesivdin, E. Ozbay "Back-Side Via Etching Application of SiC for GaN-Based Transistors" *1<sup>st</sup> Light and Light-Based Technologies Workshop*, Ankara, p51 (2018).
- 77 S. Mutlu, S. B. Lisesivdin, A. Erol, E. Tiras "Evolution of HELLISH devices: Colorful story of HELLISH Devices from IR to VIS light" *Celebrating Naci: The Physics of Optoelectronic Materials and Devices*, 27-28 March 2017, Colchester, UK.
- 76 A. Erol, S. Mutlu, S. B. Lisesivdin, E. Tiras, "Hot electron Transport Based Devices for Optoelectronics" *International Conference on Condensed Matter and Material Science*, October 11-15 2017, Adana, Turkey.
- 75 S. B. Lisesivdin, E. Kutlu, J. M. Allabbas, O. Omeroglu, R. Ibrahim, E. Ozbay "Zn ve Cd Atomları ile Katkılanmış "Armchair" Grafen Nanoşeritlerin Elektronik Yapıları" *ADIM Physics Days VI*, July 19-21 2017, Balıkesir, Turkey.
- 74 J.-H. Lee, G. Atmaca, J. -G. Kim, D. -H. Son, J. -M. Ju, S. B. Lisesivdin, J. -H. Lee, High Voltage Low Leakage Current AlGaIn/GaN HEMTs with Multi-layer Buffer and AlGaIn Back-Barrier Structure, P310, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.

- 73 J. M. Al Abbas, P. Narin, S. B. Lisesivdin, E. Ozbay, A First Principle Investigations of The Electronic Structures For ZGNRs Terminated With Zn, Cd and H, P587, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.
- 72 A. F. Kuloglu, S. B. Lisesivdin, E. Ozbay, A Theoretical Study of (5,0) Zigzag BexZn1-Xo Nanotubes: Investigation of Structural, Electronic and Optic Properties Using Density Functional Theory, P588, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.
- 71 E. Kutlu, O. Omeroglu, R. Ibrahim, S. B. Lisesivdin, E. Ozbay, First Principle Calculations of Zn and Cd-Doped Zigzag Graphene Nanoribbons, P611, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.
- 70 O. Omeroglu, E. Kutlu, S. B. Lisesivdin, E. Ozbay, Investigation of The Electronic Properties of Zinc and Magnesium Adsorption on Graphene Sheets, P620, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.
- 69 G. Atmaca, J. -G. Kim, J. -H. Lee, C. -H. Won, S. -H. Kang, S. B. Lisesivdin, J. -H. Lee, Numerical Optimization of 2DEG Improvement in AlGaIn/GaN HEMTs with C-GaN/u-GaN Multi-layer Buffer Structure, P629, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.
- 68 R. Ibrahim, P. Narin, S. B. Lisesivdin, E. Ozbay, Optimized Ab Initio Studies on Electronic Structure of Wurtzite MgZnO, P630, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.
- 67 P. Narin, J. M. Al Abbas, S. B. Lisesivdin, E. Ozbay, The Effect of Zinc, Cadmium and Hydrogen Terminations on The Electronic Structure of Symmetrical AGNRs, P648, *Turkish Physical Society 33<sup>rd</sup> International Physics Congress*, September 6-10 2017, Bodrum, Turkey.
- 66 E. Kutlu, P. Narin, G. Atmaca, S. B. Lisesivdin, E. Ozbay “Sn, I, Au gibi Bazı Safsızlıkların Siyah Fosfor’un Elektronik ve Optik Özelliklerine Etkileri” *18<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P26,(2016).
- 65 P. Narin, E. Kutlu, G. Atmaca, B. Sarıkavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “Ultrathin Bariyere Sahip AlN/GaN ve InAlN/GaN HEMT Yapıların Yapısal ve Yüzey Özelliklerinin İncelenmesi” *18<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P72,(2016).
- 64 G. Atmaca I. Berkutov, O. A. Mironov, K. Rogacki, S. B. Lisesivdin, E. Ozbay “The Weak Localization In A Two-Dimensional Electron Gas In AlInN/AlN/GaN Heterostructures” *18<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P43,(2016).
- 63 J. M. Al Abbas, G. Atmaca, P. Narin, E. Kutlu, B. Sarıkavak-Lisesivdin, S. B. Lisesivdin “Numerical Investigation Of 2DEG Properties In Ultrathin-Barrier AlN/GaN Heterostructures with AlGaIn and InGaIn Back-Barriers” *18<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P47,(2016).

- 62 M. Ozturk, E. Arslan, P. Narin, S. B. Lisesivdin, B. Sarikavak-Lisesivdin, E. Ozbay "Ultraince Bariyerli GaN-Temelli HEMT'lerde Elektron Gazının Elektriksel Özellikleri ve Saçılma Analizleri" *18<sup>th</sup> National Workshop on Optics, Electro-optics and Photonics, Ankara*, P50,(2016).
- 61 J. M. Al Abbas, P. Narin, E. Kutlu, G. Atmaca, S. B. Lisesivdin, B. Sarikavak-Lisesivdin "P-tipi ve N-tipi InGaN Arka-Bariyerli Ultraince AlInN/GaN Çoklu Yapılarda İki Boyutlu Elektron Gazı" *ADIM Physics Congress V*, p.163 (2016).
- 60 J. M. Al Abbas, P. Narin, G. Atmaca, E. Kutlu, S. B. Lisesivdin, B. Sarikavak-Lisesivdin "Ultraince Bariyerli AlN/GaN Çoklu Yapılarda Farklı Katmanların 2BEG Üzerine Etkisi" *ADIM Physics Congress V*, p.164 (2016).
- 59 E. Kutlu, P. Narin, G. Atmaca, J. M. Al Abbas, B. Sarikavak Lisesivdin, S. B. Lisesivdin "Li Katkılı Zigzag Kenarlı Grafen Nano Şeritlerin Elektronik Özelliklerinin İncelenmesi" *ADIM Physics Congress V*, p.151 (2016).
- 58 E. Tiras, G. Atmaca, S. B. Lisesivdin, S. Ardali, T. Malin, V. Mansurov, K. Zhuravlev, Power-loss Mechanisms in Surface Passivated AlGaIn/AlN/GaN Heterojunctions, *11<sup>th</sup> Conference on Laser and Electro-Optic Pacific Rim, CLEO-PR 2015*, 24-28 August, Busan, Korea (2015).
- 57 S. Ardali, G. Atmaca, S. B. Lisesivdin, T. Malin, V. Mansurov, K. Zhuravlev, E. Tiras, Surface Passivation Effect in AlGaIn/AlN/GaN Heterostructure, *European Materials Research Society 2015 Spring Meeting*, I-P1 3 (2015).
- 56 T. Tiras, G. Atmaca, S. B. Lisesivdin, T. Malin, V. Mansurov, K. Zhuravlev, E. Tiras, The longitudinal optical phonon energy in passivated AlGaIn/AlN/GaN, *European Materials Research Society 2015 Spring Meeting*, I-P1 5 (2015).
- 55 P. Narin, E. Kutlu, G. Atmaca, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, "Investigation of Optical Properties of the Beta-Si<sub>3</sub>N<sub>4</sub> structure doped with some Group IIIA Elements" *1<sup>st</sup> International Conference on Organic Electronic Material Technologies*, p102 (2015).
- 54 E. Kutlu, P. Narin, G. Atmaca, B. Sarikavak-Lisesivdin, S. B. Lisesivdin "First Principle Calculations of Electrical Properties of Insulator Wurtzite the Beta-Si<sub>3</sub>N<sub>4</sub> with the Aluminum, Indium and Gallium Impurities" *1<sup>st</sup> International Conference on Organic Electronic Material Technologies*, p103 (2015).
- 53 G. Atmaca, T. Malin, E. Kutlu, S. Ardali, P. Narin, V. Mansurov, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Tiras, K. Zhuravlev, "The Effect of In-Situ Si<sub>3</sub>N<sub>4</sub> Passivation on Hot-Electron Energy Relaxation Rates in AlGaIn/GaN Heterostructures" *Нитриды галлия, индия и алюминия: структуры и приборы, Санкт-Петербурге*, p141-142 (2015)
- 52 G. Atmaca, P. Narin, E. Kutlu, S. B. Lisesivdin "The Effect of Si<sub>3</sub>N<sub>4</sub> Passivation with As-Impurity on the Device Properties of AlGaIn/GaN HEMT Structures" *IX. International Balkan Physics Union Conference*, p410 (2015).



- 51 S. B. Lisesivdin, G. Atmaca, S. Ardali, E. Tiras, T. Malin, V. Mansurov, K. Zhuravlev “The Effect of in situ Si<sub>3</sub>N<sub>4</sub> Passivation on 2DEG Quantum Well Parameters in AlGa<sub>N</sub>/Ga<sub>N</sub> Heterostructures IX. *International Balkan Physics Union Conference*, p441 (2015).
- 50 S. B. Lisesivdin, “Implementation of Simple Parallel Conduction Extraction Method (SPCEM) for separating 2D and 3D conduction channels in semiconductor structures” *Конференция И Школа Молодых Учёных По Актуальным Проблемам Физики Полупроводниковых Структур, Novosibirsk*, 25, (2014).
- 49 E. Kutlu, P. Narin, G. Atmaca, B. Sarikavak-Lisesivdin, S. B. Lisesivdin “Ab initio study of oxygen and arsenic impurities on non-linear optical properties of  $\beta$ -Si<sub>3</sub>N<sub>4</sub> material” *Конференция И Школа Молодых Учёных По Актуальным Проблемам Физики Полупроводниковых Структур, Novosibirsk*, 77, (2014).
- 48 G. Atmaca, A. E. Evrensel, S. B. Lisesivdin “Influence of interface traps on device performance of AlGa<sub>N</sub>/Ga<sub>N</sub> HEMTS with Si<sub>3</sub>N<sub>4</sub> passivation” *Turkish Physical Society 31<sup>th</sup> International Physics Congress*, p371 (2014).
- 47 E. Kutlu, P. Narin, G. Atmaca, S. B. Lisesivdin, M. Kasap “Investigation of electrical properties of two dimensional hole gas in hybrid InGa<sub>N</sub>/ZnO heterostructure” *Turkish Physical Society 31<sup>th</sup> International Physics Congress*, p401 (2014).
- 46 S. B. Lisesivdin, E. Kutlu, P. Narin, G. Atmaca, B. Sarikavak-Lisesivdin, “Investigation of the effect of the arsenic impurity on the electronic and optical properties of  $\beta$ -Si<sub>3</sub>N<sub>4</sub> dielectric material” *Turkish Physical Society 31<sup>th</sup> International Physics Congress*, p402 (2014).
- 45 P. Narin, G. Atmaca, S. B. Lisesivdin, “Effects of ultrathin InGa<sub>N</sub> channel layer on two dimensional electron gas in hybrid Ga<sub>N</sub>/InGa<sub>N</sub>/ZnO heterostructures” *Turkish Physical Society 31<sup>th</sup> International Physics Congress*, p406 (2014).
- 44 S. B. Lisesivdin, G. Atmaca, E. Arslan, J. Ul-Hassan, E. Janzén, E. Ozbay "SiC üzerine büyütülen grafen yapılarında elektriksel iletim kanallarının ayrıştırılıp incelenmesi XIX. *Solid State Matter Physics Ankara Meeting*, S13, (2013). [Invited].
- 43 S. B. Lisesivdin, N. A. Khan , S. Mazzucato , N. Balkan, M. J. Adams “Gain in electrically-driven 1.3  $\mu$ m dilute nitride VCSOAs” *COST MP0805 Final Meeting, Istanbul*, P17, (2013).
- 42 P. Narin, G. Atmaca, E. Boyali, S. B. Lisesivdin, M. Kasap, S. Ozelik, “Scattering Analysis of 2DEG in AlIn<sub>N</sub>/Ga<sub>N</sub> Based Heterostructures with Ga<sub>N</sub> and InGa<sub>N</sub> Quantum Wells”, *Turkish Physical Society 30<sup>th</sup> International Physics Congress*, p530 (2013).
- 41 E. Boyali, P. Narin, G. Atmaca, S. B. Lisesivdin, M. Kasap and S. Ozelik, “The Investigation of Temperature Dependent Electrical Transport Properties of In<sub>x</sub>Ga<sub>1-x</sub>P/GaAs”, *Turkish Physical Society 30<sup>th</sup> International Physics Congress*, p482 (2013).
- 40 P. Narin, G. Atmaca, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, M. Kasap, “A Numerical Investigation on Electronic Properties of Two Dimensional Electron Gas in Be<sub>x</sub>Zn<sub>1-x</sub>O/ZnO Heterostructures”, *Turkish Physical Society 30<sup>th</sup> International Physics Congress*, p529 (2013).

- 39 G. Atmaca, P. Tunay Tasli, S. B. Lisesivdin, “Electron Confinement in Lattice-Matched InAlN/AlN/GaN Heterostructures with  $\text{Al}_y\text{Ga}_{1-y}\text{N}$  Back-barrier”, *8<sup>th</sup> Nanoscience and Nanotechnology Conference*, PP-332 (2012).
- 38 B. Sarikavak Lisesivdin, S. B. Lisesivdin, E. Ozbay, “First Principles Study of Interaction Between Ru and Graphene Nanoribbons” *2<sup>nd</sup> Int. Conf. on Comp. for Sci. and Techno.* pp-70 (2012).
- 37 P. Tasli, S. B. Lisesivdin, M. Kasap, S. Ozcelik, E. Ozbay “InAlN/GaN Temelli Yuksek Elektron Mobiliteli Transistörlerin (HEMT) Elektron ve Magneto Iletim Ozellikleri” *ADIM Physics Congress II*, 65 (2012).
- 36 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “AlGaIn/GaN-temelli Yuksek Hareketlilik Sahip Transistorlerde InGaIn Geribariyerin Dislokasyon Yogunluguna Etkisi” *ADIM Physics Congress II*, 131 (2012).
- 35 A. F. Kuloglu, B. Alsancak, C. Gunes, S. B. Lisesivdin, E. Ozbay “Kenarlari Paladyum Atomlari ile Sonlandirilmis Farkli Genisliklerdeki Armchair Grafen Nanoseritlerin Elektronik Ozelliklerinin Yogunluk Fonksiyonu Teorisi Kullanilarak Incelenmesi” *I. Solid State Matter Physics İzmir Meeting*, p01 (2012).
- 34 C. Günes, A. F. Kuloglu, S. B. Lisesivdin, E. Ozbay, “GaIn-tabanlı HEMT Yapilarin Hareketliliği ve Tasiyici Yogunlugunun Deneysel Incelenmesi” *I. Solid State Matter Physics İzmir Meeting*, p18 (2012).
- 33 K. Elibol, C. Gunes, A. F. Kuloglu, E. Boyali and S. B. Lisesivdin “A Numerical Study on Effects of InAlN/AlGaIn Barrier in InAlN/AlGaIn/AlN/GaN-based High Electron Mobility Transistors” *Turkish Physical Society XXVIII. International Conference*, p711 (2011).
- 32 K. Elibol, G. Atmaca, O. Kelekci, P. Tasli, E. Ozbay and S. B. Lisesivdin “Self-consistent Transport Properties of Graphene Sheets” *Turkish Physical Society XXVIII. International Conference*, p710 (2011).
- 31 G. Karakoc, G. Atmaca, E. Yazbahar, P. Tasli and S. B. Lisesivdin “Numerical Investigation of Two-dimensional Electron Gas in AlGaIn/AlN/GaN HEMT with InGaIn/GaN Multi-quantum Well Structure” *Turkish Physical Society XXVIII. International Conference*, p745 (2011).
- 30 K. Elibol, Ö. Kelekçi, G. Atmaca, S. B. Lisesivdin, M. Kasap, S. Özçelik and E. Özbay “Grafen Flake Üretim Yöntemlerinin Geliştirilmesi” *XVII. Solid State Matter Physics Ankara Meeting*, S2 (2010).
- 29 G. Atmaca, K. Elibol, P. Taşlı, S. B. Lisesivdin and M. Kasap “Eklem Alan Etkili Transistörlerin Elektriksel Karakteristiklerinin İncelenmesi” *XVII. Solid State Matter Physics Ankara Meeting*, S12 (2010).
- 28 Ö. Kelekçi, S. B. Lisesivdin, M. Kasap, S. Özçelik and E. Özbay “InGaIn arka bariyerli  $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{AlN}/\text{GaIn}$  HEMT yapılarındaki ince filmlerin alaşım oranları ve kalınlıklarının nümerik optimizasyonu” *XVII. Solid State Matter Physics Ankara Meeting*, S17 (2010).

- 27 K. Elibol, G. Atmaca, P. Taşlı, S. B. Lişesivdin and M. Kasap “GaN Tabanlı MESFET Yapıların 2-boyutta Elektriksel Karakteristikleri” XVII. *Solid State Matter Physics Ankara Meeting*, P34 (2010).
- 26 A. F. Kuloglu, S. B. Lişesivdin and M. Kasap “GaAs Tabanlı Bir MOSFET Yapının 2-Boyutta Akım – Gerilim Karakteristiklerinin İncelenmesi” XVII. *Solid State Matter Physics Ankara Meeting*, P88 (2010).
- 25 O. Kartaloğlu, G. Atmaca, K. Elibol and S. B. Lişesivdin “Erbiyum Katkılı Eklem Diyotun I-V Karakteristiği” XVII. *Solid State Matter Physics Ankara Meeting*, P46 (2010).
- 24 H. Yu, S. Lisesivdin, B. Bolukbas, O. Kelekci, M. Ozturk, H. Cakmak, P. Demirel and E. Ozbay “Double Heterostructure AlGaIn/GaN/AlGaIn HEMT Based on Grading AlGaIn/AlN Buffer Layer”, 2009 *MRS Fall Meeting, I: III-Nitride Materials for Sensing, Energy Conversion, and Controlled Light-Matter Interactions, SESSION I4: Surface and Interface Properties II*, I4.9 (2009).
- 23 A. Ilgaz, S. Gokden, A. Teke, S. Ozcelik, S. B. Lisesivdin, E. Ozbay “Safir ve SiC Uzerine Buyutulmus AlGaIn/AlN/GaN HEMT Yapilarindaki Sicak Elektron Dinamiginin Karsilastirilmesi” XVI. *Solid State Matter Physics Ankara Meeting*, P73 (2009).
- 22 G. Atmaca, K. Elibol, P. Tasli, S. B. Lisesivdin, M. Kasap “Cift kanalli AlGaAs/InGaAs/GaAs tabanlı p-HEMT Yapilarinda 1 ve 2-boyutta Schrödinger-Poisson Cozumleri ve Akim-Gerilim Incelemeleri” XVI. *Solid State Matter Physics Ankara Meeting*, P59 (2009).
- 21 S. B. Lisesivdin, H. Altuntaş, A. Yıldız, M. Kasap, E. Ozbay, S. Ozcelik “Sicakliga ve manyetik alana bagli Hall olcumlerinin analizi ile DX-merkezi aktivasyon enerjisi hesabi” XVI. *Solid State Matter Physics Ankara Meeting*, S9 (2009).
- 20 P. Tasli, S. B. Lisesivdin, A. Yildiz, M. Kasap, E. Ozbay “Determination of Two-Dimensional Electron and Hole Gas Carriers in Al<sub>0.88</sub>In<sub>0.12</sub>N/GaN-based Heterostructures Grown by Metal Organic Chemical Vapor Deposition” *Turkish Physical Society XXVI. International Conference*, p510 (2009).
- 19 P. Tasli, S. B. Lisesivdin, M. Kasap, K. Elibol, G. Atmaca, E. Ozbay “A Numerical Study on Subband Structure of Al<sub>x</sub>In<sub>1-x</sub>N/GaN-based HEMT Structures with Low-Indium (x>0.82) Barrier Layer” *Turkish Physical Society XXVI. International Conference*, p509 (2009).
- 18 A. Yildiz, S. B. Lisesivdin, M. Kasap, S. Özçelik, D. Mardare “Small Polaron Transport In Titanium Dioxide Thin Film” *Turkish Physical Society XXV. International Conference*, p133 (2008).
- 17 S. B. Lisesivdin, N. Balkan, O. Makarovsky, A. Patanè, A. Yildiz, M. D. Caliskan, M. Kasap, S. Ozcelik, E. Ozbay “Investigation of the Beating Pattern of Shubnikov-De Haas Oscillations and Spin Splitting in AlGaIn/AlN/GaN/AlN Heterostructures” *Turkish Physical Society XXV. International Conference*, p484 (2008).

- 16 K. Elibol, G. Atmaca, S. B. Lisesivdin, M. Kasap, S. Özçelik “Optimization of Al-mole Fraction and Layer Thicknesses in  $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{AlN}/\text{GaN}/\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{AlN}/\text{GaN}$  Double Channel HEMT Structures” *Turkish Physical Society XXV. International Conference*, p454 (2008).
- 15 S. B. Lisesivdin, N. Balkan, E. Ozbay, “A Simple Parallel Conduction Extraction Method for MODFET’s and Undoped GaN-based HEMTs” *Workshop on Recent Advances of Low Dimensional Structures and Devices*, p90 (2008).
- 14 A. Yildiz, S. Eker, S. B. Lisesivdin, M. Kasap, S. Ozcelik, D. Mardare “On the conduction mechanism of  $\text{TiO}_2$ ” *8th International Conference on Physics of Advanced Materials*, p28 (2008).
- 13 A. Yildiz, H. Altuntas, S. B. Lisesivdin, A. Bengi and M. Kasap “Stokes shift in  $\text{In}_{0.13}\text{Ga}_{0.87}\text{N}$  epitaxial layer grown by MOVPE” *Turkish Physical Society XXIV. International Conference*, p152 (2007).
- 12 H. Altuntas, S. B. Lisesivdin, A. Yildiz, T. Mammedov and S.Ozcelik “MBE Growth and Characterization of n-AlGaAs/GaAs Heterojunction” *Turkish Physical Society XXIV. International Conference*, p414 (2007).
- 11 S. B. Lisesivdin, A. Yildiz, S. Acar, M. Kasap, S. Ozcelik, S. Gokden, E. Ozbay “Improved Scattering Analysis of 2DEG carriers in  $\text{Al}_{0.25}\text{Ga}_{0.75}\text{N}/\text{GaN}$  Heterostructures” *NanoTr3 Conference Proceedings*, p134 (2007).
- 10 A. Yildiz, S. B. Lisesivdin, S. Acar, M. Kasap and D. Mardare “Electrical Conductivity Behaviour in Anatase Phase  $\text{TiO}_2$ ” *NanoTr3 Conference Proceedings*, p151 (2007).
- 9 A. Yildiz, S. B. Lisesivdin, S. Acar, and M. Kasap “Activation Mechanism in InGaN Grown By MOVPE” *AIP Conf. Proc.* **899** 671 (2007).
- 8 A. Yildiz, S. B. Lisesivdin, S. Acar, and M. Kasap “Mole Fraction Dependence Of Mobility In  $\text{In}_x\text{Ga}_{1-x}\text{N}$  Alloys” *AIP Conf. Proc.* **899** 670 (2007).
- 7 S. B. Lisesivdin and M. Kasap “Simulation of the Interfacial AlN Layer on Band Structures and Carrier Densities of AlGaIn/GaN HEMT Structures” *AIP Conf. Proc.* **899** 622 (2007).
- 6 S. B. Lisesivdin, A. Yildiz, M. Kasap, and E. Ozbay “Strain Calculations from Hall Measurements in Undoped  $\text{Al}_{0.25}\text{Ga}_{0.75}\text{N}/\text{GaN}$  HEMT Structures” *AIP Conf. Proc.* **899** 623 (2007).
- 5 S. B. Lisesivdin, S. Acar, M. Kasap “Transport properties of the 2DEG and minority carriers in AlGaIn/GaN HEMT Structures grown by MOCVD” *XIII. Solid State Matter Physics Ankara Meeting*, **P-71**, p104 (2006).
- 4 S. Acar, S. B. Lisesivdin, M. Kasap “Two dimensional hole gas (2DHG) formation evidence in AlGaIn/GaN/AlN HEMTs” *XIII. Solid State Matter Physics Ankara Meeting*, **P-72**, p105 (2006).

- 3 S. B. Lisesivdin, S. Acar, M. Kasap and S. Ozcelik “QMSA Analysis and Effects of Extreme Space-Charge Scattering on the Mobility in III-V Systems grown by MBE” *Turkish Physical Society XXIII. International Conference*, p1214 (2005).
- 2 S. B. Lisesivdin, U. Yurdugul, S. Demirezen, S. Acar and M. Kasap “Galvanomagnetic measurements of LEC grown Te-doped InSb” *XI. Solid State Matter Physics Ankara Meeting*, **P-46**, p79 (2004).
- 1 I. Kara, S. B. Lisesivdin, S. Acar and M. Kasap “Temperature depence of magnetotransport and electrotransport properties of LEC grown S-doped InAs” *XI. Solid State Matter Physics Ankara Meeting*, **P-34**, p 67 (2004).

## ADVISING

### PhD

- 3 E. Kutlu, (Ankara University, Institute of Science, Physics 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 Si<sub>3</sub>N<sub>4</sub> 2013 - 2018. Advisor.

### MSc

- 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 12<sup>th</sup>, 1979

*Social Status:* Married and have a son.

2018-2020 CEO, Biarsis Ltd. Company manufacturing UV-Vis Spectrometers and light sources. Successful acquisition of company is completed at September 2020, <http://www.biarsis.com/>, Ankara, Turkey.

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: November 5<sup>th</sup>, 2020.

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