

CURRICULUM VITAE

NECMI BIYIKLI was born in Utrecht, The Netherlands, in 1974. He received the B.S., M.S. and Ph.D. degrees in Electrical & Electronics Engineering from Bilkent University, Ankara, Turkey in 1996, 1998, and 2004 respectively. Dr. Biyikli's Ph.D. research concentrated on GaN/AlGaIn-based ultraviolet and solar-blind photodetectors. Afterwards, during his post-doctoral research at Virginia Commonwealth University, he worked on III-nitride epitaxy with an emphasis on high-mobility AlGaIn/GaN heterostructures. As a research scientist at Cornell Nanoscale Science and Technology Facility (CNF), he developed RF-MEMS integrated reconfigurable antennas. Late 2008, he joined the Institute of Materials Science & Nanotechnology at Bilkent University as an Assistant Professor, where he initiated and established the "**Atomic Layer Processing Laboratory**" concentrating on the fundamental materials and applied aspects of atomic layer deposition. Currently he is a visiting scholar at Utah State University, Department of Electrical and Computer Engineering. His current research interests include atomic layer deposition of III-nitride, metal-oxide, and metallic thin-films and nanostructures, area-selective atomic layer deposition, III-nitride opto-electronics and piezotronics, thin-films for chemical and biological sensing, and smart materials for agile wireless communications. He has contributed to 250+ journal and conference publications.



1. PERSONAL DATA

Birth Date and Place: January 12, 1974, Utrecht, The Netherlands
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2. ACADEMIC DEGREES

- **Ph.D.**, *Electrical & Electronics Engineering*, **Bilkent University** 2004
- **M.S.**, *Electrical & Electronics Engineering*, **Bilkent University** 1998
- **B.S.**, *Electrical & Electronics Engineering*, **Bilkent University** 1996

3. EMPLOYMENT HISTORY

07/16 – **Visiting Scholar**, Utah State University – Department of Electrical and Electronics Engineering
11/08 – 07/16 **Asst. Prof.**, Bilkent University – UNAM, Materials Science & Nanotechnology Institute
09/07 – 10/08 **Research Scientist**, Utah State University, Department of Electrical & Computer Engineering – Cornell Nanoscale Facility (CNF)
06/04 – 09/07 **Post-doctoral Research Associate**, Virginia Commonwealth University, Department of Electrical & Computer Engineering – Microelectronic Materials & Device Laboratory
09/96 – 06/04 **Teaching & Research Assistant**, Bilkent University, Department of Electrical & Electronics Engineering

4. HONORS, SCHOLARLY PROFESSIONAL DUTIES and ACHIEVEMENTS

- ODTU Prof. Mustafa N. Parlar Education and Research Foundation – Research Incentive Award 2013
- European Commission Research Executive Agency (REA) Marie Curie – International Reintegration Grant Award 2010
- Full scholarship awarded by Bilkent University for graduate study 1996-2004
- Full scholarship awarded by Bilkent University for undergraduate program 1992-1996
- Honor fellowship awarded by Turkish Scientific and Technical Research Foundation 1992-1994
- Ranked 7th among the ~1,000,000 candidates in the National University Exam. 1992

5. MEMBERSHIP

- Institute of Electrical and Electronics Engineers (IEEE) 1999 –
- Materials Research Society (MRS) 2002 –
- American Vacuum Society (AVS) 2011 –

6. TEACHING

- MSN 551 – Introduction to Micro and Nanofabrication
- MSN 532 – Selected Topics in Materials Science and Nanotechnology
- MSN 518 – Fundamentals of Nanoscience and Nanotechnology
- MSN 598/698 – Materials Science and Nanotechnology Seminars

7. JOURNAL REFEREEING

- AIP – Applied Physics Letters
- AIP – Journal of Applied Physics
- AIP – APL-Materials
- IEEE – Photonics Technology Letters
- ACS – Applied Materials and Interfaces
- ACS – Physical Chemistry Chemical Physics
- Advanced Materials
- RSC – Nanoscale
- RSC – Journal of Materials Chemistry C
- RSC – Advances
- Applied Surface Science
- IOP – Semiconductor Science and Technology

8. RESEARCH INTERESTS

Materials & Growth

- III-Nitride semiconductor materials (AlN, GaN, InN)
- III-Nitride thin-film growth (Plasma-enhanced atomic layer deposition, MOCVD)
- Metal-Oxide semiconductor materials (ZnO, TiO₂, SnO₂)
- Metal-Oxide thin-film growth (DC/RF-Sputtering, atomic layer deposition)
- Piezo-electric thin-films (AlN, ZnO)
- Tunable/smart alloys (Phase change - GST / Tunable dielectric - BST)
- Durable materials (BN)

Devices & Applications

- Opto-electronics: Photodetectors, LEDs based on III-Nitride compounds
- Electronics: High-power/high-frequency III-Nitride transistors, thin-film transistors (TFTs)
- Renewable energy: Inorganic solar cells, hybrid organic/inorganic solar cells, dye synthesized solar cells (DSSC)
- Sensing: Chemical/gas sensors for environmental monitoring using ZnO/SnO₂/TiO₂ nanostructures and ZnO/AlN SAW sensors
- Wireless communication: Novel materials & architectures for next-generation smart/green wireless communication systems
- Functional surfaces: Photocatalytic coatings based on hybrid organic/inorganic nano-structures using ALD
- Health monitoring & Medical diagnosis: Biological sensors, micro-needles, Lab-on-a-Chip (LoC) devices & systems
- National security and defense: Reconfigurable RF-antenna systems for agile & secure communication systems

9. GRANTS

- **Dynamic Probing of Strain Dependent Electronic and Ionic Transport Properties in Oxides for Energy and Information Technologies**
Project Role: Principal Investigator
Funding Agency: MIT International Science and Technology Initiatives Global Seed Funds (MISTI-GSF) General Fund
Funding Amount: 25,073 USD
Period: 2016-2017 [Ongoing]
- **Surface Decoration of Metal Nanoparticles onto Electrospun Nanofibers/Nanowebs and Their Properties as Catalysis**
Project Role: Co-Principal Investigator
Funding Agency: TUBITAK (1001) – 115Z488
Funding Amount: 330,000 TL
Period: 2015-2017 [Ongoing]
- **Doping of Gallium Nitride Thin Films Using Low-Temperature Hollow Cathode Plasma-Assisted Atomic Layer Deposition for Flexible (Opto)electronic Device Applications (FLEXGaN)**
Project Role: Principal Investigator
Funding Agency: TUBITAK (COST) - 214M015
Funding Amount: 360,000 TL
Period: 2015-2017 [Ongoing]
- **Design, Fabrication and Characterization of a Fiber-optic based Miniaturized Flow Cytometer**
Project Role: Co-Principal Investigator
Funding Agency: TUBITAK (COST) - 113E321
Funding Amount: 359,509 TL
Period: 2014-2017 [Ongoing]
- **Fabrication and characterization of Schottky diode and THz antenna based detector with 50W output impedance for THz communication applications**
Project Role: Co-Principal Investigator
Funding Agency: TUBITAK (1001) - 113E126
Funding Amount: 331,457 TL
Period: 2013-2016 [Ongoing]
- **Synthesis and device applications of functional metal-oxide nanomaterials using self-assembled peptide nanofiber templates and atomic layer deposition**
Project Role: Principal Investigator
Funding Agency: TUBITAK (COST) - 112M578
Funding Amount: 251,400 TL
Period: 2013-2015 [Completed]
- **Investigation of III-Nitride thin-film transistors using atomic layer deposition technique**
Project Role: Co-Principal Investigator
Funding Agency: TUBITAK (COST) - 112M004
Funding Amount: 276,860 TL
Period: 2013-2015 [Completed]
- **Low-temperature growth and characterization of Boron Nitride and Boron-doped III-Nitride thin film coatings via plasma-enhanced atomic layer deposition and its electrical and opto-electronic device applications (BORALD)**
Project Role: Principal Investigator
Funding Agency: TUBITAK (1003) - 112M482
Funding Amount: 256,400 TL
Period: 2012-2014 [Completed]

- **Development of High-Performance and High-Reliability NEMS Switches for Smart Antenna Structures (NEMSmart)**

Project Role: Principal Investigator

Funding Agency: REA - Marie Curie International Reintegration Grant - PIRG-249196

Funding Amount: 100,000 Euro

Period: 2010-2014 [Completed]

10. SCHOLARLY PUBLICATIONS

10.1 ARTICLES PUBLISHED IN REFEREED JOURNALS

96) Mohammad Aref Khalily, Hamit Eren, Serdar Akbayrak, Hepi Hari Susapto, Necmi Biyikli, Saim Ozkar, and Mustafa O. Guler, "Facile Synthesis of Three-Dimensional Pt-TiO₂ Nanonetworks: Highly Active Catalyst for Hydrolytic Dehydrogenation of Ammonia Borane", Angewandte Chemie, *Accepted for publication* – DOI: 10.1002/ange.201605577R1 (2016).

95) Ruslan Garifullin, Hamit Eren, Gamze T. Ulusoy, Necmi Biyikli, Ali K. Okyay, and Mustafa O. Guler, "Self-Assembled Peptide Nanofiber Templated ALD Growth of TiO₂ and ZnO Semiconductor Nanonetworks", Physica Status Solidi A: Applications and Materials Science, *Accepted for publication* – EMID: f25ddfacc829b32c (2016).

94) Sevede Altuntas, Fatih Buyukserin, Ali Haider, Buket Altinok, Necmi Biyikli, Belma Aslim, "Protein-releasing conductive anodized alumina membranes for nerve-interface materials", Materials Science and Engineering C, Volume 67, p. 590 (2016).

93) Seda Kizir, Ali Haider, and Necmi Biyikli, "Substrate impact on the low-temperature growth of GaN thin films by plasma-assisted atomic layer deposition", Journal of Vacuum Science and Technology (A), Volume 34, Art. No. 041511 (2016).

92) Ali Haider, Seda Kizir, and Necmi Biyikli, "Low-temperature self-limiting atomic layer deposition of wurtzite InN on Si(100)", AIP Advances, Volume 6, Art. No. 045203 (2016).

91) Murat Serhatlioglu, Senver Ayas, Necmi Biyikli, Aykutlu Dana, and Mehmet E. Solmaz, "Perfectly absorbing ultra thin interference coatings for hydrogen sensing", Optics Letters, Volume 41, p. 1724 (2016).

90) Abdullah Gok, Mehmet Yilmaz, Necmi Biyikli, Kagan Topalli, and Ali K. Okyay, "Practical Multi-Featured Perfect Absorber Utilizing High Conductivity Silicon", Journal of Optics, Volume 18, Art.No. 035002 (2016).

89) Ali Kemal Okyay, Oguz Hanoglu, Mustafa Yuksel, Handan Acar, Selim Sulek, Burak Tekcan, Sedat Agan, Necmi Biyikli, and Mustafa O. Guler, "Using nanogap in label-free impedance based electrical biosensors to overcome electrical double layer effect", Microsystem Technologies, DOI: 10.1007/s00542-015-2764- 4, p. 1 (2016).

88) Mustafa Alevli, Nese Gungor, Ali Haider, Seda Kizir, and Necmi Biyikli, "Comparison of trimethylgallium and triethylgallium as "Ga" source materials for the growth of ultra-thin GaN films on Si(100) substrates via hollow-cathode plasma-assisted atomic layer deposition", Journal of Vacuum Science and Technology (A), Volume 34, Art. No. 01A137 (2016).

87) Mustafa Alevli, Nese Gungor, Ali Haider, Seda Kizir, and Necmi Biyikli, "Substrate temperature influence on the properties of GaN thin films grown by hollow-cathode plasma-assisted atomic layer deposition", Journal of Vacuum Science and Technology (A), Volume 34, Art. No. 01A125 (2016).

- 86) Ali Haider, Seda Kizir, Cagla Ozgit-Akgun, Ali Kemal Okyay, and Necmi Biyikli, "Low-temperature sequential pulsed chemical vapor deposition of ternary $B_xGa_{1-x}N$ and $B_xIn_{1-x}N$ thin film alloys", Journal of Vacuum Science and Technology (A), Volume 34, Art. No. 01A123 (2016).
- 85) Sessa Vempati, Fatma Kayaci-Senirmak, Cagla Ozgit-Akgun, Necmi Biyikli, and Tamer Uyar, "Surface ionic states and structure of titanate nanotubes", RSC Advances, Volume 5, p. 82977 (2015).
- 84) Sessa Vempati, Fatma Kayaci-Senirmak, Cagla Ozgit-Akgun, Necmi Biyikli, and Tamer Uyar, "Amorphous to tetragonal zirconia nanostructures and evolution of valance and core regions", The Journal of Physical Chemistry C, Volume 119, p. 23268 (2015).
- 83) Ali Haider, Seda Kizir, Cagla Ozgit-Akgun, Eda Goldenberg, Shahid Ali Leghari, Ali Kemal Okyay, and Necmi Biyikli, "Low-temperature grown wurtzite $In_xGa_{1-x}N$ thin films via hollow cathode plasma-assisted atomic layer deposition", Journal of Materials Chemistry (C), Volume 3, p. 9620 (2015).
- 82) Halit Altuntas, Cagla Ozgit-Akgun, Inci Donmez, and Necmi Biyikli, "Effect of film thickness on the electrical properties of AlN films prepared by plasma-enhanced atomic layer deposition", IEEE Transactions on Electron Devices, Volume 62, p. 3627 (2015).
- 81) Eda Cetinorgu-Goldenberg, Turkan Bayrak, Cagla Ozgit-Akgun, Ali Haider, Shahid A. Leghari, Manoj Kumar, and Necmi Biyikli, "Effect of O_2/Ar Flow Ratio and Post-deposition Annealing on the Structural, Optical and Electrical Characteristics of $SrTiO_3$ Thin Films Deposited by RF Sputtering at Room Temperature", Thin Solid Films, Volume 590, p. 193 (2015).
- 80) A. Turut, A. Karabulut, K. Ejderha, and N. Biyikli, "Capacitance-conductance-current-voltage characteristics of atomic layer deposited $Au/Ti/Al_2O_3/n-GaAs$ MIS Structures", Materials Science in Semiconductor Processing, Volume 39, p. 400 (2015).
- 79) Fatma Kayaci, Sessa Vempati, Cagla Ozgit-Akgun, Inci Donmez, Necmi Biyikli, and Tamer Uyar, "Transformation of polymer-ZnO core-shell nanofibers into ZnO hollow nanofibers: Intrinsic defect reorganization in ZnO and its influence on the photocatalysis", Applied Catalysis B: Environmental, Volume 176-177, p. 646 (2015).
- 78) Cagla Ozgit-Akgun, Fatma Kayaci, Sessa Vempati, Ali Haider, Asli Celebioglu, Eda Goldenberg, Seda Kizir, Tamer Uyar, and Necmi Biyikli, "Fabrication of flexible polymer-GaN core-shell nanofibers by the combination of electrospinning and hollow cathode plasma-assisted atomic layer deposition", Journal of Materials Chemistry (C), Volume 3, p. 5199 (2015).
- 77) Halit Altuntas, Cagla Ozgit-Akgun, Inci Donmez, and Necmi Biyikli, "Current transport mechanisms in plasma-enhanced atomic layer deposited AlN thin films", Journal of Applied Physics, Volume 117, Art. No. 155101 (2015).
- 76) Mustafa Alevli, Cagla Ozgit-Akgun, Inci Donmez, Ali K. Okyay, Necmi Biyikli, Sampath Gamage, Indika Senevirathna, and Nikolaus Dietz, "Effect of reactor pressure on optical and electrical properties of InN films grown by high-pressure chemical vapor deposition" Physica Status Solidi (C), Volume 12, p.423 (2015).
- 75) A. Turut, A. Karabulut, K. Ejderha, and N. Biyikli, "Capacitance-conductance characteristics of $Au/Ti/Al_2O_3/n-GaAs$ structures with very thin Al_2O_3 interfacial layer", Materials Research Express, Volume 2, Art. No. 046301 (2015).
- 74) Cagla Ozgit-Akgun, Eda Goldenberg, Sami Bolat, Burak Tekcan, Fatma Kayaci, Tamer Uyar, Ali Kemal Okyay, and Necmi Biyikli, "Low-temperature hollow cathode plasma-assisted atomic layer deposition of crystalline III-nitride thin films and nanostructures", Physica Status Solidi (C), Volume 12, p.394 (2015).

- 73) S. Bolat, C. Ozgit-Akgun, B. Tekcan, N. Biyikli, and A. K. Okyay, "Electronic and Optical Device Applications of Hollow Cathode Plasma Assisted Atomic Layer Deposition Based GaN Thin Films", Journal of Vacuum Science and Technology (A), Volume 33, Art. No. 01A143 (2015).
- 72) Ali Haider, Hilal Cansizoglu, Mehmet Fatih Cansizoglu, Tansel Karabacak, Ali Kemal Okyay, and Necmi Biyikli, "Enhanced Photoresponse of Conformal TiO₂/Ag Nanorod Array-based Schottky Photodiodes Fabricated via Successive Glancing Angle and Atomic Layer Deposition", Journal of Vacuum Science and Technology (A), Volume 33, Art. No. 01A110 (2015).
- 71) Feyza B. Oruc, Levent E. Aygun, Inci Donmez, Hyun Yong Yu, Necmi Biyikli, and Ali K. Okyay, "Low Temperature Atomic Layer Deposited ZnO Photo Thin Film Transistors", Journal of Vacuum Science and Technology (A), Volume 33, Art. No. 01A105 (2015).
- 70) Asli Celebioglu, Sessa Vempati, Cagla Ozgit-Akgun, Necmi Biyikli, and Tamer Uyar, "Water-soluble non-polymeric electrospun cyclodextrin nanofiber template for the synthesis of metal oxide tubes by atomic layer deposition", RSC Advances, Volume 4, p. 61698 (2014).
- 69) Burak Tekcan, Cagla Ozgit-Akgun, Sami Bolat, Necmi Biyikli, Ali K. Okyay, "Metal-semiconductor-metal ultraviolet photodetectors based on gallium nitride grown by atomic layer deposition at low temperatures", SPIE Optical Engineering, Volume 53, issue 10, Art. No. 107106 (2014).
- 68) Necmi Biyikli, Abdulkерim Karabulut, Hasan Efeoglu, Betul Guzeldir, and Abdulmecit Turut, "Electrical characteristics of Au/Ti/n-GaAs contacts over a wide measurement temperature range", Physica Scripta, Volume 89, Art. No. 095804 (2014).
- 67) Ali Haider, Cagla Ozgit-Akgun, Fatma Kayaci, Ali K. Okyay, Tamer Uyar, and Necmi Biyikli, "Fabrication of BN/AlN bishell hollow nanofibers by electrospinning and atomic layer deposition", APL Materials, Volume 2, Art. No. 096109 (2014).
- 66) Sabri Alkis, Burak Tekcan, Mustafa Alevli, Nikolaus Dietz, Bulend Ortac, Necmi Biyikli, and Ali K. Okyay, "A near-infrared range photodetector based on indium nitride nanocrystals obtained through laser ablation", IEEE Electron Device Letters, Volume 35, p. 936 (2014).
- 65) Ali Haider, Cagla Ozgit-Akgun, Eda Goldenberg, Ali K. Okyay, and Necmi Biyikli, "Low-Temperature Deposition of Hexagonal Boron Nitride Via Sequential Injection of Triethylboron and N₂/H₂ Plasma", Journal of the American Ceramic Society, Volume 97, issue 12, p. 4052 (2014).
- 64) S. Bolat, C. Ozgit-Akgun, B. Tekcan, N. Biyikli, and A. K. Okyay, "Low temperature thin film transistors with hollow cathode plasma-assisted atomic layer deposition based GaN channels", Applied Physics Letters, Volume 104, Art. No. 243505 (2014).
- 63) Fatma Kayaci, Sessa Vempati, Inci Donmez, Necmi Biyikli, and Tamer Uyar, "Role of zinc interstitials and oxygen vacancies of ZnO in photocatalysis: A bottom-up approach to control the defect density", Nanoscale, Volume 6, p. 10224 (2014).
- 62) Halit Altuntas, Inci Donmez, Cagla Ozgit-Akgun, and Necmi Biyikli, "Effect of post-deposition annealing on the electrical properties of β -Ga₂O₃ thin films grown on p-Si by plasma-enhanced atomic layer deposition", Journal of Vacuum Science and Technology (A), Volume 32, Art. No. 041504 (2014).
- 61) H. Mopidevi, H. V. Hunerli, E. Cagatay, N. Biyikli, M. Imbert, J. Romeu, L. Jofre, and Bedri A. Cetiner, "Three-dimensional microfabricated broadband patch antenna for WiGig applications", IEEE Antennas and Wireless Propagation Letters, Volume 13, p. 828 (2014).
- 60) **(Cover Article)** Fatma Kayaci, Sessa Vempati, Cagla Ozgit-Akgun, Necmi Biyikli, and Tamer Uyar, "Selective isolation of the *electron* or *hole* in photocatalysis: ZnO–TiO₂ and TiO₂–ZnO core-shell structured

heterojunction nanofibres *via* electrospinning and atomic layer deposition”, Nanoscale, Volume 6, p. 5735 (2014).

59) Eda Goldenberg, Cagla Ozgit-Akgun, Ali Kemal Okyay, and Necmi Biyikli, “Optical characteristics of nanocrystalline Al_xGa_{1-x}N thin films deposited by hollow cathode plasma-assisted atomic layer deposition” Journal of Vacuum Science and Technology (A), Volume 32, Art. No. 031508 (2014).

58) Fatma Kayaci, Sessa Vempati, Cagla Ozgit-Akgun, Necmi Biyikli, and Tamer Uyar, “Enhanced Photocatalytic Activity of Homoassembled ZnO Nanostructures on Electrospun Polymeric Nanofibres: A Combination of Atomic Layer Deposition and Hydrothermal Growth”, Applied Catalysis B: Environmental, Volume 156-157, p. 173 (2014).

57) **(Cover Article)** Cagla Ozgit-Akgun, Eda Goldenberg, Ali Kemal Okyay, and Necmi Biyikli, "Hollow cathode plasma-assisted atomic layer deposition of crystalline AlN, GaN and Al_xGa_{1-x}N thin films at low temperature", Journal of Materials Chemistry (C), Volume 2, p. 2123 (2014).

56) A. Ghobadi, K. Topalli, N. Biyikli, and A.K. Okyay, “Complementary Spiral Resonators For Ultrawideband Suppression Of Simultaneous Switching Noise In High-Speed Circuits”, Progress in Electromagnetics Research Society, Volume 46, p. 117 (2014).

55) Halit Altuntas, Inci Donmez, Cagla Ozgit-Akgun, and Necmi Biyikli, “Electrical characteristics of β-Ga₂O₃ thin films grown by plasma enhanced atomic layer deposition”, Journal of Alloys and Compounds, Volume 593, p. 190 (2014).

54) B. Sahin, F. Bayansal, M. Yuksel, N. Biyikli, and H. A. Cetinkara, “Effect of coumarin concentration on the physical properties of CdO nanostructures”, Ceramics International, Volume 40, p. 5237 (2014).

53) H. Ceylan, C. Ozgit-Akgun, T. S. Erkal, I. Donmez, R. Garifullin, A. B. Tekinay, H. Usta, N. Biyikli, and M. O. Guler, "Size-controlled conformal nanofabrication of biotemplated three-dimensional TiO₂ and ZnO nanonetworks", Scientific Reports, Volume 3, Article No: 2306 (2013).

52) H. Karaagac, M. Parlak, L.E. Aygun, M. Ghaffari, N. Biyikli, A.K. Okyay, “A baseball-bat-like CdTe/TiO₂ nanorods-based heterojunction core–shell solar cell”, Scripta Materialia Volume 69, Issue 4, p. 323 (2013).

51) F. Bayansal, B. Şahin, M. Yüksel, N. Biyikli, H.A. Çetinkara, H.S. Güder, “Influence of coumarin as an additive on CuO nanostructures prepared by successive ionic layer adsorption and reaction (SILAR) method”, Journal of Alloys and Compounds, Volume 566, p. 78 (2013).

50) Fatma Kayaci, Cagla Ozgit-Akgun, Necmi Biyikli, and Tamer Uyar, “Surface-decorated ZnO nanoparticles and ZnO nanocoating on electrospun polymeric nanofibers by atomic layer deposition for flexible photocatalytic nanofibrous membranes”, RSC Advances, Volume 3, p. 6817 (2013).

49) I. Donmez, F. Kayaci, C. Ozgit-Akgun, T. Uyar, and N. Biyikli, “Fabrication of hafnia (HfO₂) hollow nanofibers by atomic layer deposition using electrospun nanofiber templates”, Journal of Alloys and Compounds, Volume 559, p. 146 (2013).

48) I. Donmez, C. Ozgit-Akgun, and N. Biyikli, “Low temperature deposition of Ga₂O₃ thin films using trimethylgallium and oxygen plasma”, Journal of Vacuum Science and Technology (A), volume 31, Art. No. 01A110 (2013).

- 47) C. Ozgit, F. Kayaci, I. Donmez, T. Uyar, and N. Biyikli, "Template-based synthesis of aluminum nitride hollow nanofibers via plasma-enhanced atomic layer deposition", Journal of the American Ceramics Society, Volume 96, p. 916 (2013).
- 46) F. Kayaci, C. Ozgit-Akgun, I. Donmez, N. Biyikli, and T. Uyar "Polymer-Inorganic Core-Shell Nanofibers by Electrospinning and Atomic Layer Deposition: Flexible Nylon-ZnO Core-Shell Nanofiber Mats and Their Photocatalytic Activity", ACS Applied Materials & Interfaces, Volume 4, p. 6185 (2012).
- 45) N. Biyikli, C. Ozgit, and I. Donmez, "Low-temperature self-limiting growth of III-Nitride thin films by plasma-enhanced atomic layer deposition", Nanoscience and Nanotechnology Letters, volume 4, p. 1008 (2012).
- 44) H. Karaagac, Levent Erdal Aygun, Mehmet Parlak, Mohammad Ghaffari, N. Biyikli, and A. K. Okyay, "Au/TiO₂ nanorods based Schottky type UV photodetectors", Physica Status Solidi – Rapid Research Letters, Volume 6, Issue 11, p. 442 (2012).
- 43) M. Alevli, C. Ozgit, I. Donmez, and N. Biyikli, "Optical properties of AlN thin films grown by plasma enhanced atomic layer deposition", Journal of Vacuum Science and Technology (A), volume 30, No.2, Art. No. 021506 (2012).
- 42) C. Ozgit, I. Donmez, M. Alevli, and N. Biyikli, "Atomic layer deposition of GaN at low temperatures", Journal of Vacuum Science and Technology (A), volume 30, No.1, Art. No. 01A124 (2012).
- 41) M. Alevli, C. Ozgit, I. Donmez, and N. Biyikli, "Structural Properties of AlN Films Deposited by Atomic Layer Deposition at different growth temperatures", Physica Status Solidi (A), volume 209, p. 266 (2012).
- 40) C. Ozgit, I. Donmez, M. Alevli, and N. Biyikli, "Self-limiting low-temperature growth of crystalline AlN thin films by plasma-enhanced atomic layer deposition", Thin Solid Films, volume 520, p. 2750 (2012).
- 39) C. Ozgit, I. Donmez, and N. Biyikli, "Self-limiting growth of GaN at low temperatures", Acta Physica Polonica (A), volume 120, p. A55 (2011).
- 38) M. Alevli, C. Ozgit, I. Donmez, and N. Biyikli, "The Influence of N₂/H₂ and Ammonia N Source Materials on Optical and Structural Properties of AlN Films Grown by Plasma Enhanced Atomic Layer Deposition", Journal of Crystal Growth, volume 335, p. 51 (2011).
- 37) Bedri A. Cetiner, Gemma Roqueta, Luis Jofre, and Necmi Biyikli, "RF MEMS Integrated Frequency Reconfigurable Annular Slot Antenna", IEEE Transactions on Antenna and Propagation volume 58, No. 3, p. 626 (2010).
- 36) B. A. Cetiner, N. Biyikli, B. Yildirim, and Y. Damgaci, "Nanoelectromechanical Switches for Reconfigurable Antennas", Microwave and Optical Technologies Letters volume 52, No. 1, p. 64 (2010).
- 35) N. Biyikli, Y. Damgaci, and B. A Cetiner, "Low-voltage small-size double-arm MEMS actuator" Electronics Letters, volume 45, issue 7, p. 354 (2009).
- 34) H. Cheng, N. Biyikli, J. Xie, C. Kurdak, and H. Morkoc, "Energy relaxation probed by weak antilocalization measurements in GaN heterostructures", Journal of Applied Physics, volume 106, issue 10, Art. No. 103702 (2009).

- 33) H. Cheng, N. Biyikli, U. Ozgur, C. Kurdak, H. Morkoc, and V. I. Litvinov, "Measurement of linear and cubic spin-orbit coupling parameters in AlGaN/AlN/GaN heterostructures with a polarization-induced two-dimensional electron gas", Physica E-Low Dimensional Systems & Nanostructures, volume 40, p. 1586 (2008).
- 32) Mutlu Gokkavas, Serkan Butun, Turgut Tut, Necmi Biyikli, and Ekmel Ozbay, "AlGaN-based high-performance metal-semiconductor-metal photodetectors", Photonics and Nanostructures – Fundamentals and Applications, volume 5, issue 2-3, p. 53 (2007).
- 31) P. R. Ohodnicki, K. Y. Goh, Y. Hanlumyuang, K. Ramos, M. E. McHenry, Z. Cai, K. Ziemer, H. Morkoc, Necmi Biyikli, Z. Chen, C. Vittoria, and V. G. Harris, "Magnetic anisotropy and crystalline texture in BaO(Fe₂O₃)₆ thin films deposited on GaN/Al₂O₃", Journal of Applied Physics, volume 101, Art. No. 09M521 (2007).
- 30) Necmi Biyikli, H. Cheng, Ç. Kurdak, X. Ni, Y. Fu, J. Xie, I. Vurgaftman, J. Meyer, and H. Morkoç, "Magneto-transport properties of MOVPE-grown Al_xGa_{1-x}N/AlN/GaN heterostructures with high-mobility two-dimensional electron gas", Journal of Applied Physics, volume 101, Art. No. 113710 (2007).
- 29) X. Ni, U. Ozgur, Y. Fu, Necmi Biyikli, J. Xie, A. A. Baski, H. Morkoc, and Z. Liliental-Weber, "Defect reduction in (11-20) a-plane GaN by two-stage epitaxial lateral overgrowth", Applied Physics Letters, volume 89, Art. No. 262105 (2006).
- 28) Necmi Biyikli, Ç. Kurdak, Ü. Özgür, X. Ni, Y. Fu, and H. Morkoç, "Illumination and annealing characteristics of two-dimensional electron gas systems in metal-organic vapor-phase epitaxy grown Al_xGa_{1-x}N/AlN/GaN heterostructures", Journal of Applied Physics, volume 100, Art. No. 103702 (2006).
- 27) Ç. Kurdak, Necmi Biyikli, Ü. Özgür, H. Morkoç, and V. I. Litvinov, "Weak antilocalization and zero-field electron spin splitting in AlGaN/AlN/GaN heterostructures with a polarization-induced two-dimensional electron gas", Physical Review B, volume 74, Art. No. 113308 (2006).
- 26) Necmi Biyikli, C. W. Litton, J. Xie, Y. T. Moon, F. Yun, C. G. Stefanita, S. Bandyopadhyay, J. R. Meyer, and H. Morkoc, "Quantitative Mobility Spectrum Analysis of AlGaN/GaN Heterostructures Using Variable-Field Hall Measurements", Materials Science Forum, volumes 527-529, p. 1533 (2006).
- 25) Y. T. Moon, J. Xie, C. Liu, Y. Fu, X. Ni, Necmi Biyikli, K. Zhu, F. Yun, H. Morkoc, A. Sagar, and R. M. Feenstra, "A study of the morphology of GaN seed layers on in situ deposited Si_xN_y and its effect on properties of overgrown GaN epilayers", Journal of Crystal Growth, volume 291, issue 1, p. 301 (2006).
- 24) Y. I. Alivov, X. Bo, S. S. Akarca-Biyikli, Q. Fan, J. Xie, Necmi Biyikli, K. Zhu, D. Johnstone, H. Morkoc, "Effect of annealing on electrical properties of radio-frequency-sputtered ZnO films", Journal of Electronic Materials, volume 35, issue 4, p. 520 (2006).
- 23) X. Ni, Y. Fu, Y. T. Moon, Necmi Biyikli, H. Morkoc, "Optimization of (11-20) a-plane GaN growth by MOCVD on (1-102) r-plane sapphire", Journal of Crystal Growth, volume 290, issue 1, p. 166 (2006).
- 22) Necmi Biyikli, J. Xie, Y. T. Moon, F. Yun, C. G. Stefanita, S. Bandyopadhyay, H. Morkoc, I. Vurgaftman, J. R. Meyer, "Quantitative mobility spectrum analysis of AlGaN/GaN heterostructures using variable-field Hall measurements", Applied Physics Letters, volume 88, issue 14, Art. No. 142106 (2006).
- 21) Y. Fu, F. Yun, Y. T. Moon, U. Ozgur, J. Q. Xie, X. F. Ni, Necmi Biyikli, H. Morkoc, L. Zhou, D. J. Smith, C. K. Inoki, and T. S. Kuan, "Dislocation reduction in GaN grown on porous TiN networks by metal-organic vapor-phase epitaxy", Journal of Applied Physics, volume 99, issue 3, Art. No. 033518 (2006).

- 20) Necmi Biyikli, Ibrahim Kimukin, Turgut Tut, Orhan Aytur, and Ekmel Ozbay, "Fabrication and characterisation of solar-blind $\text{Al}_{0.6}\text{Ga}_{0.4}\text{N}$ MSM photodetectors", IEE Electronics Letters, volume 41, issue 5, p. 274 (2005).
- 19) Turgut Tut, Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High Bandwidth-Efficiency Solar-Blind AlGaN Schottky Photodiodes with Low Dark Current", Solid State Electronics volume 49, issue 1, p. 117 (2005).
- 18) Necmi Biyikli, Ibrahim Kimukin, Orhan Aytur, and Ekmel Ozbay, "ITO-Schottky Photodiodes for High-Performance Detection in the UV-IR Spectrum", IEEE Journal of Selected Topics in Quantum Electronics volume 10, issue 4, p. 759 (2004).
- 17) Necmi Biyikli, Ibrahim Kimukin, Turgut Tut, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High-speed characterization of solar-blind $\text{Al}_x\text{Ga}_{1-x}\text{N}$ p-i-n photodiodes", Semiconductor Science & Technology, volume 19, issue 11, p. 1259 (2004).
- 16) Ibrahim Kimukin, Necmi Biyikli, Tolga Kartaloglu, and Ekmel Ozbay, "High-speed InSb p-i-n photodiodes", IEEE Journal of Selected Topics in Quantum Electronics volume 10, issue 4, p. 766 (2004).
- 15) (invited) Ekmel Ozbay, Necmi Biyikli, Ibrahim Kimukin, T. Tut, T. Kartaloglu, and Orhan Aytur, "High-Performance Solar-Blind Photodetectors Based on $\text{Al}_x\text{Ga}_{1-x}\text{N}$ Heterostructures", IEEE Journal of Selected Topics in Quantum Electronics, volume 10, issue 4, p. 742 (2004).
- 14) Necmi Biyikli, Ibrahim Kimukin, Orhan Aytur, and Ekmel Ozbay, "Solar-blind AlGaN-based p-i-n photodiodes with low dark current and high detectivity", IEEE Photonics Technology Letters, volume 16, No: 7, p. 1718 (2004).
- 13) B. Butun, N. Biyikli, Orhan Aytur, Ibrahim Kimukin, Ekmel Ozbay, P.A. Postigo, J.P. Silveira, and A.R. Alija, "High-speed 1.55 μm operation of low-temperature grown GaAs based resonant cavity enhanced p-i-n photodiodes", Applied Physics Letters, volume 84, p. 4185 (2004).
- 12) Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High-speed visible-blind resonant cavity enhanced AlGaN Schottky photodiodes", MRS Internet Journal of Nitride Semiconductor Research, volume 8, p. 8 (2003).
- 11) Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, Ekmel Ozbay, "High-speed solar-blind AlGaN-based metal-semiconductor-metal photodetectors", Physica Status Solidi C, volume 0, p. 2314 (2003).
- 10) Ibrahim Kimukin, Necmi Biyikli, and Ekmel Ozbay, "1.55 μm InSb p-i-n photodiodes", Journal of Applied Physics [Rapid Communications], volume 94, p. 5414 (2003).
- 9) Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, Ekmel Ozbay, "High-speed Solar-Blind photodetectors with indium-tin-oxide Schottky contacts", Applied Physics Letters, volume 82, p. 2344 (2003).
- 8) Necmi Biyikli, Tolga Kartaloglu, Orhan Aytur, Ibrahim Kimukin, Ekmel Ozbay, "High-Performance Solar-Blind AlGaN Schottky Photodiodes", MRS Internet Journal of Nitride Semiconductor Research, volume 8, p. 2 (2003).
- 7) Necmi Biyikli, Orhan Aytur, Ibrahim Kimukin, Turgut Tut, Ekmel Ozbay, "Solar-blind AlGaN-based Schottky photodiodes with low noise and high detectivity", Applied Physics Letters, volume 81, p. 3272 (2002).
- 6) Ibrahim Kimukin, Necmi Biyikli, Bayram Butun, Orhan Aytur, Selim Unlu, Ekmel Ozbay, "InGaAs Based High Performance p-i-n Photodiodes", IEEE Photonics Technology Letters, volume 14, p. 366 (2002).

5) Ekmel Ozbay, Ibrahim Kimukin and Necmi Biyikli, "Ultrafast & Highly Efficient Resonant Cavity Enhanced Photodiodes", Materials Science Forum, volume 384-385, p. 241 (2002).

4) Necmi Biyikli, Tolga Kartaloglu, Orhan Aytur, Ibrahim Kimukin, Ekmel Ozbay, "High-speed visible-blind GaN-based indium–tin–oxide Schottky photodiodes", Applied Physics Letters, volume 79, p. 2838 (2001).

3) Necmi Biyikli, Ibrahim Kimukin, Orhan Aytür, Mutlu Gokkavas, Selim Ünlü, Ekmel Ozbay, "45-GHz Bandwidth-Efficiency Resonant-Cavity-Enhanced ITO-Schottky Photodiodes", IEEE Photonics Technology Letters, volume 13, p. 705 (2001).

2) Ibrahim Kimukin, Ekmel Ozbay, Necmi Biyikli, Tolga Kartaloglu, Orhan Aytür, Selim Ünlü, Gary Tuttle, "High-speed GaAs-based resonant-cavity-enhanced 1.3 μ m photodetector", Applied Physics Letters, volume 77, p. 3890 (2000).

1) Ekmel Ozbay, Ibrahim Kimukin, Necmi Biyikli, Orhan Aytür, Mutlu Gökavas, Gökhan Ulu, R. Mirin, D. H. Christensen, and M.Selim Ünlü, "High-Speed >90% Quantum-Efficiency p-i-n Photodiodes with a Resonance Wavelength Adjustable in 795-835 nm Range," Applied Physics Letters, volume 74, p. 1072 (1999).

10.2 REFEREED CONFERENCE PROCEEDINGS AND PRESENTATIONS

170) Sami Bolat, Ali Haider, Seda Kizir, Necmi Biyikli, Ali Kemal Okyay, "Thin film transistors with atomic layer deposited GaN channels for low-temperature and flexible electronic applications", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

169) Mustafa Alevli, Nese Gungor, Ali Haider, Seda Kizir, Necmi Biyikli, "The role of film thickness on the visible/UV and infrared optical properties of GaN films grown by hollow-cathode plasma-assisted atomic layer deposition", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

168) Ali Haider, Petro Deminsky, Sevde Altuntas, Mehmet Yilmaz, Ibrahim Yilmaz, Fatih Buyukserin, Necmi Biyikli, "Template-assisted fabrication of III-nitride hollow nano-cylinder arrays on Si substrates via plasma-assisted atomic layer deposition", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

167) Ibrahim Yilmaz, Kholoud Elmabruk, Ali Haider, Sevde Altuntas, Fatih Buyukserin, Necmi Biyikli, "Temperature-dependent photoluminescence characteristics of plasma-assisted ALD-grown ordered GaN nanostructures on Si substrates", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

166) Zahraa Ghanem, Asmaa Moussa, Asmaa S. A. Ali, Hamit Eren, Osama Tobail, Necmi Biyikli, "Tailoring field effect passivation quality of Al₂O₃ on p/n-type Si by ALD-growth temperature and a single annealing step for improved solar cell performance", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

165) Seda Kizir, Ali Haider, Necmi Biyikli, "Substrate effect on the growth behavior and material properties of low-temperature plasma-assisted ALD-grown GaN thin films", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

164) Seda Kizir, Ali Haider, Necmi Biyikli, "Self-limiting hollow-cathode plasma-assisted atomic layer deposition of wurtzite GaN thin films by using triethylgallium and N₂/H₂ plasma precursors", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

163) Seda Kizir, Aslı Celebioglu, Ali Haider, Piter Deminsky, Tamer Uyar, Necmi Biyikli, "Photocatalytic activity of flexible core/shell nylon/III-nitride nanofibers fabricated via electrospinning and low-temperature plasma-

assisted atomic layer deposition”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

162) Hamit Eren, Mahbuba Begum, Mesut Yurukcu, Tansel Karabacak, Necmi Biyikli, “Oxygen reduction reaction properties of core-shell Ni/Pt nanorod arrays fabricated via glancing angle and atomic layer deposition”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

161) Ali Haider, Seda Kizir, Necmi Biyikli, “Low-temperature self-limiting growth optimization of wurtzite InN films grown by plasma-assisted atomic layer deposition”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

160) Seda Kizir, Ali Haider, Necmi Biyikli, “Low-temperature plasma-assisted atomic layer doping of GaN using BTBAS as Si precursor”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

159) Mustafa Alevli, Nese Gungor, Ali Haider, Seda Kizir, Necmi Biyikli, “Infrared dielectric functions, phonon modes, and band-gap properties of plasma-assisted ALD-grown $\text{In}_x\text{Ga}_{1-x}\text{N}$ films”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

158) Mustafa Alevli, Nese Gungor, Cagla Ozgit-Akgun, Ali Haider, Seda Kizir, Necmi Biyikli, “Influence of N_2/H_2 and N_2 Plasma on Binary III-Nitride Films Prepared by Hollow-Cathode Plasma-Assisted Atomic Layer Deposition”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

157) Hamit Eren, Muhammed Enes Oruc, Necmi Biyikli, “Further Surface Modifications of Thin Alumina Membranes Fabricated by Sequential Infiltration Synthesis”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

156) Ali Haider, Seda Kizir, Necmi Biyikli, “Evolution of post-deposition thermally annealed III-nitride thin film properties grown by capacitively-coupled plasma-assisted ALD”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

155) Halit Altuntas, Turkan Bayrak, Seda Kizir, Ali Haider, Necmi Biyikli, “Dielectric behavior of AlN thin films deposited on *p*-Si substrates by hollow-cathode plasma-assisted atomic layer deposition”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

154) Hamit Eren, Asli Celebioglu, Tamer Uyar, Necmi Biyikli, “Catalytic applications of platinum nanoparticle-decorated electrospun nanofibers by atomic layer deposition”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

153) Hamit Eren, Faruk Okur, Eda Yilmaz, Necmi Biyikli, “Atomic layer deposition of ultrathin TiO_2 on multi-wall carbon nanotubes: Towards stable cathodes for Li- O_2 batteries”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

152) Hamit Eren, Veera Sadhu, Esaam Jamil, Nurbek Kakenov, Selmiye Alkan Gürsel, Coskun Kocabas, Necmi Biyikli, “Atomic Layer Deposition of Pt Nanoparticles on Graphene as Highly Efficient Electrocatalyst for Fuel Cells”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

151) Sina Abedini Dereshgi, Hamit Eren, Necmi Biyikli, Ali Kemal Okyay, “Atomic layer deposition of platinum nanoparticles for scalable nanophotonic devices”, 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).

- 150) Hamit Eren, Mohammad Aref Khalily, Serdar Akbayrak, Saim Ozkar, Mustafa Ozgur Guler, Necmi Biyikli, "Atomic layer deposited TiO₂/Pt nanocatalysts on supramolecular peptide nanofiber templates for efficient hydrolytic dehydrogenation of ammonia borane", 16th International Conference on Atomic Layer Deposition (ALD 2016), Dublin, Ireland, 24 – 27 July (2016).
- 149) Ali Haider, Seda Kizir, Shahid Ali Leghari, Nese Gungor, Mustafa Alevli, and Necmi Biyikli, "Effect of substrate temperature and Ga source precursor on growth and material properties of GaN grown by hollow cathode plasma assisted atomic layer deposition", IEEE 35th International Conference on Electronics and Nanotechnology (IEEE-ELNANO), Kyiv, Ukraine, April 19-21 (2016).
- 148) Petro Deminskyi, Ali Haider, Alexander Tsybalenko, Dmitry Kotov, Vladyslav Matkivskyi, Alexander Ovsianitsky, Nata Liakhova, Vladimir Osinsky, and Necmi Biyikli, "Investigation of native oxide removing from HCPA ALD grown GaN thin films surface utilizing HF solutions", IEEE 35th International Conference on Electronics and Nanotechnology (IEEE-ELNANO), Kyiv, Ukraine, April 19-21 (2016).
- 147) Mehmet Yilmaz, Ali Haider, Sevde Altuntas, Petro Deminskyi, Fatih Buyukserin, Ibrahim Yilmaz, and Necmi Biyikli, "Low-Temperature Template-Assisted Fabrication of Hollow GaN Nano-Cylinders on Si Substrates", MRS Spring Meeting, Phoenix, AZ, March 27 – April 1 (2016).
- 146) Hamit Eren, Ruslan Garifullin, Gamze Ulusoy, Ali Kemal Okyay, Mustafa Ozgur Guler, and Necmi Biyikli, "Self-Assembled Peptide Nanonetwork Template for Atomic Layer Deposited Anodic Titania Used in Dye Sensitized Solar Cells", MRS Fall Meeting, Boston, MA, November 29 – December 4 (2015).
- 145) Hamit Eren, Faruk Okur, Eda Yilmaz, and Necmi Biyikli, "Atomic Layer Deposition of TiO₂ on Multi-Wall Carbon Nanotubes: A Step to Stable Cathodes for Li-O₂ Batteries", MRS Fall Meeting, Boston, MA, November 29 – December 4 (2015).
- 144) Amira Ahmed, Turkan Bayrak, Ali Haider, Shahid Ali Leghari, Seda Kizir, Eda Goldenberg, and Necmi Biyikli, "Structural, optical, electrical, and mechanical properties of Ga:ZnO and In:Ga:ZnO thin films grown in room temperature and with substrate heating - a comparative study", TACT2015 International Thin Films Conference, Tainan, Taiwan, 15–18 November (2015).
- 143) Burak Tekcan, Sami Bolat, Cagla Ozgit-Akgun, Necmi Biyikli, and Ali. K. Okyay, "Electronic and Optical Device Applications based on III-Nitride Films Grown by Plasma-Assisted ALD", AVS 62nd International Symposium and Exhibition, San Jose, CA, 18 – 23 October (2015).
- 142) Ali Haider, Seda Kizir, Cagla Ozgit-Akgun, Eda Goldenberg, Mustafa Alevli, Ali. K. Okyay, and Necmi Biyikli, "Hollow Cathode Plasma-Assisted Atomic Layer Deposition of Wurtzite InN and In_xGa_{1-x}N Thin Films with Low Impurity Content", AVS 62nd International Symposium and Exhibition, San Jose, CA, 18 – 23 October (2015).
- 141) Mustafa Alevli, Nese Gungor, Ali Haider, Seda Kizir, Sabri Alkis, Ali Kemal Okyay, and Necmi Biyikli, "Comparison Studies of GaN Grown with Trimethylgallium and Triethylgallium for Optoelectronic Applications", AVS 62nd International Symposium and Exhibition, San Jose, CA, 18 – 23 October (2015).
- 140) Halit Altuntas, Cagla Ozgit-Akgun, Inci Donmez, and Necmi Biyikli, "Electrical properties of AlN films deposited by plasma-enhanced atomic layer deposition", 13th International Baltic Conference on Atomic Layer Deposition, Tartu, Estonia, 28 – 29 September (2015).
- 139) Halit Altuntas, Cagla Ozgit-Akgun, Seda Kizir, Ali Haider, Turkan Bayrak, and Necmi Biyikli, "A comparative study of the AlN dielectric films grown by PA-ALD and HCPA-ALD", 13th International Baltic Conference on Atomic Layer Deposition, Tartu, Estonia, 28 – 29 September (2015).

138) Seda Kizir, Ali Haider, Eda Goldenberg, Ali. K. Okyay, and Necmi Biyikli, "Low-temperature GaN thin films optimized by hollow-cathode plasma-assisted ALD using TEG and N₂/H₂ plasma", Atomic Layer Deposition Russia 2015, Moscow-Dolgoprudny, Russia, 21 – 23 September (2015).

137) Ali Haider, Seda Kizir, Eda Goldenberg, Ali. K. Okyay, and Necmi Biyikli, "Growth optimization and detailed material characterization of wurtzite InN deposited by hollow-cathode plasma-assisted ALD", Atomic Layer Deposition Russia 2015, Moscow-Dolgoprudny, Russia, 21 – 23 September (2015).

136) Petro Deminskyi, Ali Haider, Seda Kizir, Vladimir Osinsky, and Necmi Biyikli, "Investigation of native oxide removal from ALD-grown III-nitride films", Atomic Layer Deposition Russia 2015, Moscow-Dolgoprudny, Russia, 21 – 23 September (2015).

135) Ali Haider, Sevde Altuntas, Mehmet Yilmaz, Ibrahim Yilmaz, M. Fatih Buyukserin, and Necmi Biyikli, "Template-assisted growth of GaN nanorod-arrays by hollow cathode plasma-assisted atomic layer deposition", Atomic Layer Deposition Russia 2015, Moscow-Dolgoprudny, Russia, 21 – 23 September (2015).

134) Murat Serhatlıođlu, Bülend Ortaç, Çađlar Elbüken, Mehmet E. Solmaz, and Necmi Biyikli, " Femtosecond Laser Based Fabrication of Microfluidic Devices and Flow Cytometry System ", 17. Ulusal Fotonik Çalıştay, Ankara, 18 September (2015).

133) Murat Serhatlıođlu, Bülend Ortaç, Çađlar Elbüken, Mehmet E. Solmaz, and Necmi Biyikli, "CO₂ Laser Polishing of Femtosecond Laser Irradiated Surfaces for Microfluidic Applications", 17. Ulusal Fotonik Çalıştay, Ankara, 18 September (2015).

132) Fatma Kayaci, Sesha Vempati, Cagla Ozgit-Akgun, Inci Donmez, Asli Celebioglu, Ali Haider, Necmi Biyikli and Tamer Uyar, "Core-shell nanofibers and hollow nanofibers: Combination of Electrospinning and Atomic Layer Deposition (ALD)", Nanofibers, Applications and Related Technologies (NART-2015), Liberec, Czech Republic, August 31- September 2 (2015).

131) Mehmet E. Solmaz, Barbaros Çetin, Besim Baranođlu, Murat Serhatlıođlu, and Necmi Biyikli, "Boundary element method for optical force calibration in microfluidic dual-beam optical trap", SPIE Optics + Photonics 2015, 9 – 13 August, San Diego, CA (2015).

130) **(invited)** Necmi Biyikli, Cagla Ozgit-Akgun, Hamit Eren, Ali Haider, Seda Kizir, Tamer Uyar, Sesha Vempati, Fatma Kayaci, Asli Celebioglu, Mustafa Ozgur Guler, Ruslan Garifullin, Ali K. Okyay, Gamze M. Ulusoy, and Eda Goldenberg, "Template-assisted synthesis of III-nitride and metal-oxide nanoheterostructures using low-temperature atomic layer deposition for energy, sensing, and catalysis applications", SPIE Optics + Photonics 2015, 9 – 13 August, San Diego, CA (2015).

129) Faruk Okur, Hamit Eren, Sagnak Sagkal, Necmi Biyikli, and Eda Yilmaz, "Thin Film Coatings on Multiwalled Carbon Nanotubes for Lithium-Oxygen Battery Cathodes: Eliminating the Carbon Surface", ECS Conference on Electrochemical Energy Conversion & Storage with SOFC-XIV, Glasgow, Scotland, 26 – 31 July (2015).

128) M. Alevli, N. Gungor, C. Ozgit-Akgun, A. Haider, S. Kizir, S. Leghari, S. Alkis, A. K. Okyay, and N. Biyikli, "Comparison of Trimethylgallium and Triethylgallium as "Ga" Source Materials for the Growth of Ultra-thin GaN Films via Hollow-cathode Plasma-assisted ALD", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).

127) A. Haider, S. Kizir, C. Ozgit-Akgun, E. Goldenberg, A. K. Okyay, and N. Biyikli, "Role of Surface Plasma Treatment on the Material Properties of Low Temperature ALD-Grown In_xGa_{1-x}N Alloys" 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).

- 126) S. Kizir, A. Haider, C. Ozgit-Akgun, E. Goldenberg, A. K. Okyay, and N. Biyikli, "Hollow Cathode Plasma-assisted Atomic Layer Deposition of Wurtzite InN Thin Films with Low Impurity Content", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 125) H. Eren, R. Garifullin, G. Ulusoy, A.K. Okyay, M.O. Guler, and N. Biyikli, "Improved Performance of Dye-sensitized Solar Cells Fabricated from Atomic Layer Deposited TiO₂ Photoanodes on Self-assembled Peptide Nanofiber Nanonetworks", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 124) H. Eren, F. Okur, S. Sagkal, E. Yilmaz, and N. Biyikli, "Atomic Layer Deposition of TiO₂ on Physically and Chemically Modified Multi-wall Carbon Nanotubes", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 123) F. Kayaci, S. Vempati, C. Ozgit-Akgun, I. Donmez, N. Biyikli, and T. Uyar, "Photocatalytic Activities of Polymer-ZnO Core-Shell and ZnO Hollow Electrospun Nanofibers", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 122) S. Bolat, C. Ozgit-Akgun, B. Tekcan, A. Haider, S. Kizir, N. Biyikli, and A. K. Okyay, "Thin Film Transistors with Atomic Layer Deposited GaN and InGaN Channels for Low-temperature Compatible Electronic Applications", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 121) H. Altuntas, C. Ozgit-Akgun, I. Donmez, and N. Biyikli, "Current Conduction Mechanisms in Plasma-Enhanced Atomic Layer Deposited AlN Thin Films on p-Si", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 120) A. Haider, C. Ozgit-Akgun, S. Kizir, E. Goldenberg, and N. Biyikli "Compositional-dependent Properties of B_xGa_{1-x}N and B_xIn_{1-x}N Alloy Thin Films Deposited by Hollow Cathode Plasma Assisted Sequential Pulsed CVD", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 119) B. Tekcan, C. Ozgit-Akgun, S. Bolat, A. Haider, S. Kizir, N. Biyikli, and A. K. Okyay, "Low Temperature Plasma-assisted ALD Grown In_xGa_{1-x}N Based Metal-semiconductor-metal Photodetectors", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 118) M. Alevli, N. Gungor, C. Ozgit-Akgun, S. Kizir, A. Haider, S. Leghari, S. Alkis, A. K. Okyay, and N. Biyikli, "Substrate Temperature Influence on the Properties of GaN Thin Films Grown by Hollow-cathode Plasma-assisted Atomic Layer Deposition", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 117) A. Celebioglu, S. Vempati, C. Ozgit-Akgun, N. Biyikli, and T. Uyar, "Water-Soluble Non-Polymeric Electrospun Cyclodextrin Nanofiber Template for the Synthesis of Metal Oxide Tubes by Atomic Layer Deposition", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 116) A. Haider, C. Ozgit-Akgun, K. Elmabruk, I. Yilmaz, and N. Biyikli, "Template Assisted Growth of GaN Nanostructures by Hollow Cathode Plasma-assisted Atomic Layer Deposition", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 115) R. Yuksel, S. Coskun, S. Sağkal, H. Eren, N. Biyikli, and H.E. Unalan, "Coaxial Capacitors with ALD Deposited Alumina on Silver Nanowires", 15th International Conference on Atomic Layer Deposition (ALD 2015), Portland, OR, 28 June – 2 July (2015).
- 114) **(invited)** Necmi Biyikli, Cagla Ozgit-Akgun, Hamit Eren, Ali Haider, Tamer Uyar, Fatma Kayaci, Mustafa Ozgur Guler, Ruslan Garifullin, Ali K. Okyay, Gamze M. Ulusoy, and Eda Goldenberg, "Atomic Layer Deposition:

An Enabling Technology for the Growth of Functional Nanoscale Semiconductors”, International Semiconductor Science and Technology Conference (ISSTC-2015), Aydin, Turkey, 11 – 13 May (2015).

113) E. Goldenberg, T. Bayrak, S.A. Leghari, and N. Biyikli, “Microstructure, Composition, Optical and Electrical Characteristics of RF Magnetron Sputtered Niobium doped TiO₂ Thin Films”, E-MRS Spring Meeting, Lille, France, May 11-15 (2015).

112) E. Goldenberg, T. Bayrak, S.A. Leghari, and N. Biyikli, “The Effect of Deposition Parameters and Annealing on Microstructure, Composition, Optical and Electrical Characteristics of Tantalum doped TiO₂ Thin Films”, E-MRS Spring Meeting, Lille, France, May 11-15 (2015).

111) T. Bayrak, Ali Haider, S.A. Leghari, N. Biyikli, and E. Goldenberg, “Effect of Deposition Pressure and RF Power on RF Magnetron Sputtered SrTiO₃ Thin Films: Structural, Optical and Electrical Characteristics”, E-MRS Spring Meeting, Lille, France, May 11-15 (2015).

110) T. Bayrak, Ali Haider, S.A. Leghari, N. Biyikli, and E. Goldenberg, “Low Temperature Grown BaSrTiO_x Thin Films Deposited by RF Magnetron Sputtering”, E-MRS Spring Meeting, Lille, France, May 11-15 (2015).

109) Necmi Biyikli, Cagla Ozgit-Akgun, Inci Donmez, Eda Goldenberg, Hamit Eren, Ali Haider, Seda Kizir, Fatma Kayaci, Asli Celebioglu, Sessa Vempati, Tamer Uyar, Ruslan Garifullin, M. O. Guler, Gamze M. Ulusoy, and Ali Kemal Okyay, “Template-assisted synthesis of III-nitride and metal-oxide nano-heterostructures using low-temperature atomic layer deposition”, SPIE Microtechnologies, Barcelona, Spain, May 4-6 (2015).

108) Anatolii Orlov, Veronika Ulianova, Oleksandr Bogdan, Genadzi Pashkevich, Necmi Biyikli, Eda Goldenberg and Ali Haider, “ZnO nanostructures via hydrothermal synthesis on atomic layer deposited seed-layers”, IEEE 35th International Conference on Electronics and Nanotechnology (IEEE-ELNANO), Kyiv, Ukraine, April 21-24 (2015).

107) **(invited)** Necmi Biyikli, Cagla Ozgit-Akgun, Eda Goldenberg, Ali Haider, Seda Kizir, Tamer Uyar, Sami Bolat, Burak Tekcan, and Ali Kemal Okyay, “Hollow-cathode plasma-assisted atomic layer deposition: a novel route for low-temperature synthesis of crystalline III-nitride thin films and nanostructures”, IEEE 35th International Conference on Electronics and Nanotechnology (IEEE-ELNANO), Kyiv, Ukraine, April 21-24 (2015).

106) E. Goldenberg, T. Bayrak, C. Ozgit-Akgun, A. Haider, S. A. Leghari, and N. Biyikli, “Structural, Optical and Electrical Characteristics of Low Temperature Grown BaSrTiO_x Thin Films Deposited by RF Magnetron Sputtering”, International Conference on Metallurgical Coatings and Thin Films (ICMCTF), San Diego, CA, April 20-24 (2015).

105) E. Goldenberg, T. Bayrak, C. Ozgit-Akgun, A. Haider, S. A. Leghari, M. Kumar, and N. Biyikli, “The Effect of O₂/Ar Ratio on Structural, Optical and Electrical Characteristics of SrTiO₃ Thin Films Deposited by Room-Temperature rf-Magnetron Sputtering”, International Conference on Metallurgical Coatings and Thin Films (ICMCTF), San Diego, CA, April 20-24 (2015).

104) H. V. Hunerli, H. Mopidevi, E. Cagatay, M. Imbert, J. Romeu, L. Jofre, B. A. Cetiner, and N. Biyikli, “Three Dimensional Microfabricated Broadband Patch and Multifunction Reconfigurable Antennae for 60 GHz Applications”, 9th European Conference on Antennas and Propagation (EUCAP), Lisbon, Portugal, April 12 – 17 (2015).

103) Necmi Biyikli, Ali Haider, Cagla Ozgit-Akgun, Fatma Kayaci, Sessa Vempati, Ali K. Okyay, and Tamer Uyar, “Core-Shell and Hollow III-Nitride/Metal-Oxide Nanofiber Networks Fabricated via Electrospun Templated Atomic Layer Deposition and Their Application in Photocatalysis”, MRS Fall Meeting, Boston, MA, November 30 – December 5 (2014).

102) Ruslan Garigullin, Turkan G. Ulusoy, Hamit Eren, Mustafa O. Guler, Necmi Biyikli, and Ali K. Okyay, "Peptide Nanofiber Network Templated ALD-Grown TiO₂ Nanostructures for Dye-Sensitized Solar Cell (DSSC) Anode", MRS Fall Meeting, Boston, MA, November 30 – December 5 (2014).

101) Burak Tekcan, Sabri Alkis, Mustafa Alevli, Nikolaus Dietz, Bulend Ortac, , Necmi Biyikli, and Ali K. Okyay, "Indium Nitride Nanocrystals Obtained Through Laser Ablation for Large Area Optoelectronics", MRS Fall Meeting, Boston, MA, November 30 – December 5 (2014).

100) Sami Bolat, Cagla Ozgit-Akgun, Burak Tekcan, Necmi Biyikli, and Ali K. Okyay, "Gallium Nitride Thin Film Transistors Compatible with Ultra Low Temperature Processes", MRS Fall Meeting, Boston, MA, November 30 – December 5 (2014).

99) Ayse Ozcan, Sami Bolat, Cagla Ozgit-Akgun, Necmi Biyikli, and Ali K. Okyay, "Resistive Switching and Self-Compliance Behavior of Low-Temperature Atomic Layer Deposited Aluminum Nitride Thin Films", MRS Fall Meeting, Boston, MA, November 30 – December 5 (2014).

98) Burak Tekcan, Cagla Ozgit-Akgun, Sami Bolat, Necmi Biyikli, and Ali K. Okyay, "Gallium Nitride MSM Photodetectors Based on Low Temperature Atomic Layer Deposition", MRS Fall Meeting, Boston, MA, November 30 – December 5 (2014).

97) Cagla Ozgit-Akgun, Ali Haider, Ali Kemal Okyay, and Necmi Biyikli, "Atomic Layer Deposition of III-Nitride Alloys using Hollow-Cathode Plasma Source for Post-CMOS Processing and 3D Integration", AVS 61st International Symposium and Exhibition, Baltimore, MD, 9 – 14 November, (2014).

96) Ali Haider, Hilal Cansizoglu, Burak Tekcan, Mehmet Cansizoglu, Tansel Karabacak, Ali Kemal Okyay, and Necmi Biyikli, "Enhanced Photoresponsivity of Conformal TiO₂/Ag Nanorod Arrays Fabricated via (Successive) Glancing Angle and Atomic Layer Deposition", AVS 61st International Symposium and Exhibition, Baltimore, MD, 9 – 14 November, (2014).

95) Sesha Vempati, Fatma Kayaci, Cagla Ozgit-Akgun, Inci Donmez, Necmi Biyikli, and Tamer Uyar, "Core-shell structured ZnO–TiO₂ and TiO₂–ZnO nanofibers via electrospinning and atomic layer deposition", E-MRS 2014 FALL MEETING, Warsaw, Poland, 15 – 18 September (2014).

94) Fatma Kayaci, Sesha Vempati, Cagla Ozgit-Akgun, Inci Donmez, Necmi Biyikli, and Tamer Uyar, " Surface Functionalization of Electrospun Polymeric Nanofibers by Atomic Layer Deposition (ALD)", E-MRS 2014 FALL MEETING, Warsaw, Poland, 15 – 18 September (2014).

93) Ruslan Garifullin, Hamit Eren, Gamze Ulusoy, Ali K. Okyay, Mustafa O. Guler, and Necmi Biyikli, "Fabrication of Self-Assembled Peptide Nanofiber Templated TiO₂ Nanonetworks by ALD and Their Application in DSSCs", XII International Conference on Nanostructured Materials (NANO 2014), Moscow, Russia, July 13-18 (2014).

92) Ayse Ozcan, Sami Bolat, Cagla Ozgit-Akgun, Necmi Biyikli, and Ali Kemal Okyay, "Resistive Switching Behavior of Hollow Cathode Plasma-Assisted Atomic Layer Deposited AlN and GaN Thin Films at Low Temperature", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

91) Burak Tekcan, Cagla Ozgit-Akgun, Sami Bolat, Necmi Biyikli, and Ali Kemal Okyay, "Metal-semiconductor-metal ultraviolet photodetectors based on low-temperature atomic layer deposited GaN thin films", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

90) Sami Bolat, Cagla Ozgit-Akgun, Burak Tekcan, Necmi Biyikli, and Ali Kemal Okyay, "Thin Film Transistors with Atomic Layer Deposited GaN Channels", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

89) Ruslan Garifullin, Gamze Ulusoy, Hamit Eren, Ayse Ozcan, Mustafa O. Guler, Necmi Biyikli, and Ali Kemal Okyay, "Fabrication of Self-Assembled Peptide Nanofiber Templated TiO₂ Nanonetworks by ALD and Their Application in DSSCs", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

88) Eda Goldenberg, Ali Haider, Cagla Ozgit-Akgun, Ali Kemal Okyay, and Necmi Biyikli, "Optical Characteristics of Al_xGa_{1-x}N Thin Films Deposited by Hollow Cathode Plasma-Assisted Atomic Layer Deposition", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

87) Halit Altuntas, Inci Donmez, Cagla Ozgit-Akgun, Ali Haider, and Necmi Biyikli, "Effect of post-deposition annealing on the electrical characteristics of β -Ga₂O₃ thin films deposited by PEALD", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

86) Ali Haider, Cagla Ozgit-Akgun, Fatma Kayaci, Asli Celebioglu, Tamer Uyar, Ali Kemal Okyay, and Necmi Biyikli, "Synthesis of BN/AlN Core-Shell Hollow Nanofibers by Electrospinning and Hollow Cathode Plasma Assisted Atomic Layer Deposition", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

85) Ali Haider, Cagla Ozgit-Akgun, Eda Goldenberg, Ali Kemal Okyay, and Necmi Biyikli, "Structural and Optical Properties of Hexagonal Boron Nitride Thin Films Deposited by Sequential Exposures of Triethylboron and N₂/H₂ Plasma", 14th International Conference on Atomic Layer Deposition (ALD 2014), Kyoto, Japan, 15 – 18 June (2014).

84) **(invited)** Mustafa Alevli, Cagla Ozgit-Akgun, Inci Donmez, Ali K. Okyay, Necmi Biyikli, Sampath Gamage, Indika Senevirathna, and Nikolaus Dietz, "Effect of Reactor Pressure on The Optical and Electrical Properties of HPCVD Grown InN Films", MRS – 5th International Symposium on Growth of III-Nitrides, Atlanta, GA, May 18 – 22 (2014).

83) Cagla Ozgit-Akgun, Fatma Kayaci, Sami Bolat, Burak Tekcan, Ali Kemal Okyay, Tamer Uyar, and Necmi Biyikli, "Low-Temperature Hollow Cathode Plasma-Assisted Atomic Layer Deposition of Nanocrystalline III-Nitride Thin Films and Nanostructures", MRS – 5th International Symposium on Growth of III-Nitrides, Atlanta, GA, May 18 – 22 (2014).

82) Yasin Damgaci, Engin Cagatay, Necmi Biyikli, and Bedri Artug Cetiner, "Digital Microfluidics for Reconfigurable Antennas", 8th European Conference on Antennas and Propagation (EUCAP 2014), The Hague, Netherlands, April 6 – 11 (2014).

81) Fatma Kayaci, Sessa Vempati, Cagla Ozgit-Akgun, Necmi Biyikli, and Tamer Uyar, "ZnO Nanostructures on Electrospun Nanofibers by Atomic Layer Deposition/Hydrothermal Growth and Their Photocatalytic Activity", MRS Spring Meeting, San Francisco, CA, April 21 – 25 (2014).

80) **(invited)** C. Ozgit-Akgun, E. Goldenberg, A. K. Okyay, and N. Biyikli, "Low-Temperature Plasma-enhanced Atomic Layer Deposition of Crystalline III-Nitride Thin Films" ISSTC 2014, Istanbul, Turkey, January 13-15 (2014).

79) A. Karabulut, K. Ejderha, A. Haider, N. Biyikli, A. Turut, "Illumination Impact On The Electrical Characteristics of Sputtered Au/Ti/Al₂O₃/N-GaAs Schottky Diodes With Atomic Layer Deposited Al₂O₃ Interfacial Layer", ISSTC 2014, Istanbul, Turkey, January 13-15 (2014).

78) H. Ceylan, C. Ozgit-Akgun, T.S. Erkal, I. Donmez, R. Garifullin, A.B. Tekinay, N. Biyikli, and M. O. Guler, "Size-Controlled Conformal Nanofabrication of Biotemplated Three-Dimensional TiO₂ and ZnO Nanonetworks", MRS Spring Meeting, San Francisco, CA, April 21 – 25 (2014).

77) **(invited)** Cagla Ozgit-Akgun, Inci Donmez, and Necmi Biyikli, “Plasma-Enhanced Atomic Layer Deposition of III-Nitride Thin Films”, 224th ECS Meeting, San Francisco, CA, October 27 – November 1 (2013).

76) N. Biyikli, C. Ozgit-Akgun, A. Haider, H. Cansizoglu, M.F. Cansizoglu, and T. Karabacak, “GLAD-ALD Core-Shell Nanorod Arrays for Solar Cell Applications”, AVS 60th International Symposium and Exhibition, Long Beach, CA, October 27 – November 1, (2013).

75) H. Ceylan, C. Ozgit-Akgun, T.S. Erkal, I. Donmez, R. Garifullin, F. Genisel, A.B. Tekinay, A.K. Okyay, M.O. Guler, and N. Biyikli, “Highly Conformal and Size-Controlled Nanofabrication of Macro-scale Three-Dimensional Biotemplated Inorganic Nanonetworks”, AVS 60th International Symposium and Exhibition, Long Beach, CA, October 27 – November 1, (2013).

74) Fatma Kayaci, Cagla Ozgit-Akgun, Necmi Biyikli and Tamer Uyar, “Surface-Decoration of Zinc Oxide (ZnO) Nanoparticles or Nanocoatings onto Electrospun Polymeric Nanofibrous Membranes by Atomic Layer Deposition”, International Porous and Powder Materials Symposium and Exhibition (PPM), Izmir, Turkey, 3 – 6 September (2013).

73) Necmi Biyikli and Cagla Ozgit-Akgun, “Atomic Layer Deposition: Opportunities and Challenges for Renewable Energy Applications”, International Workshop on Solid State Lighting Technologies and Research: LEDs and OLEDs, Istanbul, Turkey, 20-21 August (2013).

72) C. Ozgit-Akgun, I. Donmez, H. Ceylan, F. Kayaci, M.O. Guler, T. Uyar, and N. Biyikli “Photocatalytic Activities of ZnO and TiO₂ Nanostructures Fabricated by Atomic Layer Deposition Using Organic Templates”, 13th International Conference on Atomic Layer Deposition (ALD 2013), San Diego, CA, 28 – 31 July (2013).

71) H. Altuntas, I. Donmez, C. Ozgit-Akgun, and N. Biyikli “Electrical Characteristics of Ga₂O₃ Thin Films Deposited by Plasma-enhanced Atomic Layer Deposition”, 13th International Conference on Atomic Layer Deposition (ALD 2013), San Diego, CA, 28 – 31 June (2013).

70) C. Ozgit-Akgun, I. Donmez, D. Kocaay, F. Bozkurt-Oruc, A. Dana, A.K. Okyay, and N. Biyikli, “Characterization and Electronic Device Applications of III-nitride Thin Films Deposited by Plasma-enhanced ALD”, 13th International Conference on Atomic Layer Deposition (ALD 2013), San Diego, CA, 28 – 31 July (2013).

69) D. Kocaay, C.O. Akgun, I. Donmez, O.O. Ekiz, M. Urel, N. Biyikli, and A. Dana, “High Performance Floating Gate Flash Memories Using Reduced Graphene Oxide As Charge Storage Medium and Atomic Layer Deposited High-k Dielectric Layers as Tunnel Barrier”, 13th International Conference on Atomic Layer Deposition (ALD 2013), San Diego, CA, 28 – 31 July (2013).

68) Fatma Kayaci, Cagla Ozgit-Akgun, Necmi Biyikli And Tamer Uyar “Preparation Of Polymer-ZnO Electrospun Nanofibrous Composites By Using Atomic Layer Deposition And Their Photocatalytic Activity”, 9th National Nanoscience & Nanotechnology Conference (NanoTR-9), Erzurum, Turkey, 24-28 July, 2013. (Best Poster Award)

67) Abdulkerim Karabulut, Ali Haider, Kadir Ejderha, Mehmet Alican Noyan, Çağla Özgüt-Akgün, Betül Güzeldir, Necmi Biyikli, Abdulmecit Türüt, “The Effect Of Ultra-Thin Al₂O₃ Interfacial Layer Grown By Atomic Layer Deposition On Gaas-Based Schottky-Barrier Diode Characteristics”, 9th National Nanoscience & Nanotechnology Conference (NanoTR-9), Erzurum, Turkey, 24-28 June (2013).

66) **(invited)** Necmi Biyikli, Cagla Ozgit-Akgun, Inci Donmez, Mehmet Alican Noyan, Ali Haider, Fatma Kayaci, Hakan Ceylan, Fatih Genisel, Feyza Bozkurt-Oruc, Deniz Kocaay, Fatih Bayansal, Mustafa Ozgur Guler, Tamer Uyar, Ali Kemal Okyay, and Aykutlu Dana, “Atomic Layer Deposition: Opportunities and Challenges for Functional Thin-film Coatings & Template-based Nanostructures”, 3rd International Advances in Applied Physics and Materials Science Congress (APMAS), Antalya, Turkey 24-28 April (2013).

- 65) Fatma Kayaci, Cagla Ozgit-Akgun, Inci Donmez, Necmi Biyikli and Tamer Uyar, "Surface-Decoration of Inorganic Nanoparticles and Nanocoatings on Electrospun Polymeric Nanofibers by Atomic Layer Deposition (ALD)" International Workshop of COST Action FA0904 on Development of new safe polymer nanomaterials for food packaging, Prague, Czech Republic, 7-8 February (2013).
- 64) Bedri A. Cetiner and Necmi Biyikli, "Intelligent Antenna Systems, Applications and Enabling Technologies", MEMSWAVE 2012, Antalya, Turkey 2-4 July (2012).
- 63) C. Ozgit-Akgun, F. Kayaci, I. Donmez, T. Uyar and N. Biyikli, "Template-based synthesis of AlN hollow nanofibers via plasma-enhanced atomic layer deposition", Nanotech Conference & Expo 2012, Santa Clara, CA 18-21 June (2012).
- 62) F. Kayaci, C. Ozgit-Akgun, I. Donmez, N. Biyikli, and T. Uyar, "Flexible Organic-Inorganic Core-Shell Nanofibers by Electrospinning and Atomic Layer Deposition", Nanotech Conference & Expo 2012, Santa Clara, CA 18-21 June (2012).
- 61) Engin Cagatay, Mehmet Alican Noyan, Yasin Damgaci, Bedri A. Cetiner, and Necmi Biyikli, "Fabrication and characterization of liquid metal-based micro-electromechanical DC- contact switch for RF applications", Microtech Conference & Expo 2012, Santa Clara, CA 18-21 June (2012).
- 60) M. Alevli, C. Ozgit-Akgun, and N. Biyikli, "The impact of increasing number of growth cycles on the properties of AlN thin films grown at low temperature by plasma enhanced atomic layer deposition", 12th International Conference on Atomic Layer Deposition (ALD 2012), Dresden, Germany 17-20 June (2012).
- 59) F. Bozkurt-Oruc, C. Ozgit-Akgun, I. Donmez, N. Biyikli, and A. K. Okyay, "GaN-based thin-film-transistor structures grown by low-temperature plasma-enhanced atomic layer deposition", 12th International Conference on Atomic Layer Deposition (ALD 2012), Dresden, Germany 17-20 June (2012).
- 58) I. Donmez, C. Ozgit-Akgun, and N. Biyikli, "Plasma-enhanced atomic layer deposition of gallium oxide and indium gallium oxide (IGO) thin films", 12th International Conference on Atomic Layer Deposition (ALD 2012), Dresden, Germany 17-20 June (2012).
- 57) C. Ozgit-Akgun, F. Kayaci, I. Donmez, T. Uyar and N. Biyikli, "Functional nanofibers synthesized by electrospinning and atomic layer deposition", 12th International Conference on Atomic Layer Deposition (ALD 2012), Dresden, Germany 17-20 June (2012).
- 56) Fatma Kayaci, Cagla Ozgit-Akgun, Inci Donmez, Necmi Biyikli and Tamer Uyar, "Fabrication of Polymeric-Metal oxide Core-Shell Nanofibers by Electrospinning and Atomic Layer Deposition and Their Photocatalytic Properties" Electrospin 2012 – 2nd International Conference on Electrospinning, Jeju, South Korea, May 29-June 1 (2012).
- 55) **(invited)** Necmi Biyikli, Cagla Ozgit-Akgun, I. Donmez, Fatma Kayaci, and Tamer Uyar, "Atomic Layer Deposition of Functional III-Nitride Thin Films & Nano-structures", 2nd Advances in Applied Physics and Materials Science (APMAS) Congress, Antalya, Turkey 26-29 April (2012).
- 54) Fatma Kayaci, Cagla Ozgit-Akgun, I. Donmez, Necmi Biyikli, and Tamer Uyar, "Functional Polymeric-Metal oxide Core-Shell Nanofibers by Electrospinning and Atomic Layer Deposition", 2nd Advances in Applied Physics and Materials Science (APMAS) Congress, Antalya, Turkey 26-29 April (2012).
- 53) C. Ozgit, F. Kayaci, I. Donmez, T. Uyar and N. Biyikli, "Preparation of Al₂O₃ and AlN Nanotubes by Atomic Layer Deposition", MRS Fall Meeting, Boston, MA, November 28 – December 2 (2011).

- 52) O. Hanoglu, H. Acar, S. Sulek, F. Yilmaz, M. Yuksel, S. Agan, N. Biyikli, M. O. Guler and A. K. Okyay, "Design, Fabrication, and Characterization of Nanogap Capacitive Sensors for Ultrasensitive Biosensing Applications", MRS Fall Meeting, Boston, MA, November 28 – December 2 (2011).
- 51) E. Cagatay, Y. Damgaci, B. A. Cetiner, and N. Biyikli, "Actuation of Liquid Metal Droplets Using Electrowetting-on-Dielectric (EWOD) for Reconfigurable Antenna Applications", MRS Fall Meeting, Boston, MA, November 28 – December 2 (2011).
- 50) C. Ozgit, I. Donmez, M. Alevli, and N. Biyikli, "Self-limiting growth of GaN at low temperatures", E-MRS Fall 2011 Meeting, Warsaw, Poland, 19 – 23 September (2011).
- 49) M. Alevli, C. Ozgit, I. Donmez, and N. Biyikli, "The Influence of Growth Temperature on the Properties of Plasma Enhanced Atomic Layer Deposition Grown AlN films", E-MRS Fall 2011 Meeting, Warsaw, Poland, 19 – 23 September (2011).
- 48) C. Ozgit, H. Acar, I. Donmez, M.O. Guler, and N. Biyikli, "Self-assembly of peptide nanostructures by atomic layer deposition", 7th Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 27 June-1 July (2011).
- 47) M. Alevli, C. Ozgit, I. Donmez, and N. Biyikli, "Nano-scale surface, structural and optical characterization of AlN layers grown by self-limiting atomic layer deposition", 7th Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 27 June-1 July (2011).
- 46) C. Ozgit, I. Donmez, M. Alevli, and N. Biyikli, "Sub-nanometer-scale-controlled-growth of III-nitride thin films using plasma-enhanced atomic layer deposition", 7th Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 27 June-1 July (2011).
- 45) E. Cagatay, Y. Damgaci, B. A. Cetiner, and N. Biyikli, "Actuation of liquid metal droplets using electrowetting-on-dielectric (EWOD)", 7th Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 27 June-1 July (2011).
- 44) M. Alevli, C. Ozgit, I. Donmez, R. Ozalp, M. Urel, A. Dana, and N. Biyikli, "The Influence of N₂/H₂ and NH₃ group "V" source materials on optical and structural properties of AlN films grown by atomic layer deposition", 11th International Conference on Atomic Layer Deposition, Cambridge, MA, 26-29 June (2011).
- 43) M. Alevli, C. Ozgit, I. Donmez, R. Ozalp, M. Urel, A. Dana, and N. Biyikli, "Atomic layer deposition of AlN thin films in three different growth regimes", 11th International Conference on Atomic Layer Deposition, Cambridge, MA, 26-29 June (2011).
- 42) C. Ozgit, I. Donmez, M. Alevli, and N. Biyikli, "Self-limiting growth of GaN using plasma-enhanced atomic layer deposition", 11th International Conference on Atomic Layer Deposition, Cambridge, MA, 26-29 June (2011).
- 41) D. Rodrigo, Y. Damgaci, N. Biyikli, B. A. Cetiner, J. Romeu, L. Jofre, "Genetic Impedance & Radiation Reconfigurability of a NEMS Bi-Clustered Pixelled Antenna", MEMSWAVE 2009 International Symposium, Trento, Italy July 6-8 (2009).
- 40) N. Biyikli and B. A. Cetiner, "Low-voltage double-arm miniaturized MEMS/NEMS actuators", 5th Nanoscience and Nanotechnology Conference, Eskisehir, Turkey, June 8-12 (2009).
- 39) Yasin Damgaci, Necmi Biyikli, and B. A. Cetiner, "RF-NEMS Integrated Frequency Reconfigurable Antenna for Waveform Diversity Schemes", URSI/USNC-2009 National Radio Science Meeting, Boulder, CO, USA, 5-8 January (2009).

- 38) B. A. Cetiner and N. Biyikli, "Penta-Band Planar Inverted F-Antenna (PIFA) Integrated by RF-NEMS Switches", IEEE UGIM 2008 (University, Government, Industry Micro/Nano Symposium, Louisville, KY, July 13-16. pp. 116-119 (2008).
- 37) H. Cheng, Ç. Kurdak, N. Biyikli, J. Xie, and H. Morkoç, "Energy Relaxation in the Bloch-Grüneisen Regime Probed by Weak Antilocalization Measurements in GaN Heterostructures", APS March Meeting, New Orleans, Louisiana, March10-14 (2008).
- 36) Ç. Kurdak, H. Cheng, N. Biyikli, Ü. Özgür, H. Morkoç, and V. I. Litvinov, "Spin-orbit coupling in AlGa_xN/GaN heterostructures with a polarization induced two-dimensional electron gas", SPIE Photonics West meeting, San Jose, CA (2008).
- 35) Y. Fu, J. Xie, S. A. Chevtchenko, N. Biyikli, X. Ni, U. Ozgur, Hadis Morkoç, Y. Ke, R. P. Devaty, W. J. Choyke, C. K. Inoki, and T. Kuan, "Polarity control and growth of GaN and AlN grown on carbon-face SiC by metalorganic vapor phase epitaxy", SPIE Photonics West meeting, San Jose, CA (2007).
- 34) Y. Fu, U. Ozgur, J. Xie, S. A. Chevtchenko, X. Ni, N. Biyikli, Hadis Morkoç, Y. Ke, R. P. Devaty, W. J. Choyke, C. K. Inoki, T. Kuan, J. V. Foreman, and H. O. Everitt, "Dislocation reduction in GaN layers grown on nanoscale columnar SiC substrates by metalorganic vapor phase epitaxy", SPIE Photonics West meeting, San Jose, CA (2007).
- 33) Necmi Biyikli, H. Cheng, Ç. Kurdak, X. Ni, Y. Fu, J. Xie, I. Vurgaftman, J. Meyer, and H. Morkoç, "Magneto-transport properties of MOVPE-grown Al_xGa_{1-x}N/AlN/GaN heterostructures with high-mobility two-dimensional electron gas", SPIE Photonics West meeting, San Jose, CA (2007).
- 32) Y. Fu, X. Ni, N. Biyikli, J. Xie, U. Ozgur, and Hadis Morkoç, "Growth and polarity control of GaN and AlN on carbon-face SiC by metalorganic vapor phase epitaxy", MRS Fall Meeting, Boston, MA (2006).
- 31) Xianfeng Ni, Umit Özgür, Yi Fu, Necmi Biyikli, Hadis Morkoç, and Zuzanna Liliental-Weber, "Defect reduction in (11-20) a-plane GaN by two-step epitaxial lateral overgrowth", MRS Fall Meeting, Boston, MA (2006).
- 30) Ç. Kurdak, N. Biyikli, H. Cheng, Ü. Özgür, H. Morkoç, and V. I. Litvinov, "Spin-Orbit Coupling and Zero-Field Electron Spin Splitting in AlGa_xN/AlN/GaN Heterostructures with a Polarization Induced Two-Dimensional Electron Gas", MRS Fall Meeting, Boston, MA (2006).
- 29) N. Biyikli, Ç. Kurdak, Ü. Özgür, X. Ni, Y. Fu, and H. Morkoç, "Persistent Photoconductivity in High-mobility Al_xGa_{1-x}N/AlN/GaN Heterostructures Grown by Metal-organic Vapor-phase Epitaxy", MRS Fall Meeting, Boston, MA (2006).
- 28) K. -A. Son, Y. Liu, P. P. Ruden, J. Xie, N. Biyikli, Y. T. Moon, N. Onojima, and Hadis Morkoc, "GaN-based Micro Pressure Sensor for Extreme Environments," IEEE Sensors 2005 Conference Proceedings, p. 1259 (2005).
- 27) N. Biyikli, C. W. Litton, J. Xie, Y.-T. Moon, F. Yun, C.-G. Stefanita, S. Bandyopadhyay, J.R. Meyer, and H. Morkoç, "Quantitative Mobility Spectrum Analysis of AlGa_xN/GaN Heterostructures Using Variable-Field Hall Measurements", International Conference on SiC and Related Materials, Pittsburgh, PA, September 28-30 (2005).
- 26) **(invited)** N. Biyikli, I. Kimukin, T. Tut, B. Butun, and E. Ozbay, "High Performance Solar-Blind AlGa_xN Photodetectors," IEEE LEOS Annual Meeting, Rio Mar, Puerto Rico, November 7-11 (2004).

- 25) N. Biyikli, T. Kartaloglu, O. Aytur, T. Tut, I. Kimukin, and E. Ozbay, "Fabrication and Characterization of Solar-Blind $\text{Al}_{0.6}\text{Ga}_{0.4}\text{N}$ MSM Photodetectors with Low Dark Current," 62nd Annual Device Research Conference, Notre Dame, Indiana, June 21-23 (2004).
- 24) Y. Dikme, P. van Gemmern, Ch. Giesen, N. Biyikli, H. Kalisch, E. Ozbay, R. H. Jansen, and M. Heuken, "Investigation of MOVPE grown AlGa_N buffer layers on sapphire for electronic and optoelectronic applications," 7th Expert Evaluation & Control of Compound Semiconductor Materials & Technologies (EXMATEC), Montpellier, France, June 1-4 (2004).
- 23) Y. Dikme, P. van Gemmern, N. Biyikli, H. Kalisch, E. Ozbay, R. H. Jansen, M. Heuken, "Investigation of AlGa_N buffer layers on sapphire grown by MOVPE," SPIE Photonics West meeting, San Jose, CA, Proceedings of the SPIE, vol. 5366 (2004).
- 22) Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High-speed solar-blind AlGa_N-based p-i-n photodiodes with high detectivity", 8th Wide-Bandgap III-Nitride Workshop (IWN-8), Richmond, VA, September 29 – October 1st (2003).
- 21) **(invited)** Ekmel Ozbay, Ibrahim Kimukin, and Necmi Biyikli, "Ultrafast and highly efficient resonant-cavity-enhanced photodiodes", in Proceedings of SPIE Vol. 5246 Active and Passive Optical Components for WDM Communications III, Orlando, FL (2003).
- 20) Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High-speed solar-blind AlGa_N-based metal-semiconductor-metal photodetectors", 5th International Conference on Nitride Semiconductors, Nara, Japan 25-30 May (2003).
- 19) Ibrahim Kimukin, Necmi Biyikli, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High-Performance AlGa_N-based Visible-Blind Resonant Cavity Enhanced Schottky Photodiodes", MRS Spring Meeting, San Francisco, CA (2003).
- 18) Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High-Speed Solar-Blind AlGa_N Schottky Photodiodes", MRS Spring Meeting, San Francisco, CA (2003).
- 17) Necmi Biyikli, Ibrahim Kimukin, Turgut Tut, Orhan Aytur, and Ekmel Ozbay, "Solar-Blind AlGa_N-based Schottky Photodiodes with High Detectivity and Low Noise", MRS Fall Meeting, Boston, MA, MRS Symp. Proceedings Vol. 743 (2002).
- 16) Ibrahim Kimukin, Necmi Biyikli, and Ekmel Ozbay, "High-performance 1.55 μm Resonant Cavity Enhanced Photodetector," Optical Fiber Communication Conference (OFC), Anaheim, CA, USA 17-22 March 2002, Technical Digest, p. 155 (2002).
- 15) Necmi Biyikli, Ibrahim Kimukin, Tolga Kartaloglu, Orhan Aytur, and Ekmel Ozbay, "High-speed visible-blind Ga_N-based ITO-Schottky photodiodes," SPIE Photonics West meeting, San Jose, CA, Proceedings of the SPIE, vol. 4650 (2002).
- 14) Ibrahim Kimukin, Necmi Biyikli, and Ekmel Ozbay, "High-Speed InGaAs-Based Resonant Cavity Enhanced p-i-n Photodiodes," IEEE LEOS annual meeting (2001).
- 13) **(invited)** Ekmel Ozbay, Ibrahim Kimukin, and Necmi Biyikli, "Ultrafast & Highly Efficient Resonant Cavity Enhanced Photodiodes", 11th Int. Symp. on Ultrafast Phenomena in Semiconductors, UFPS-11 Vilnius, Lithuania, 26-29 August (2001).

- 12) Necmi Biyikli, Ibrahim Kimukin, Orhan Aytur, Ekmel Ozbay, Mutlu Gokkavas, and Selim Unlu, "45 GHz bandwidth-efficiency resonant cavity enhanced ITO-Schottky photodiodes", Optical Fiber Communication Conference (OFC), Anaheim, CA, USA 17-22 March, Technical Digest (2001).
- 11) Necmi Biyikli, Ibrahim Kimukin, Ekmel Ozbay, Mutlu Gokkavas, and Selim Unlu, "High-Speed Transparent Indium-Tin-Oxide Based Resonant Cavity Schottky photodiode with Si₃N₄/SiO₂ top Bragg mirror", OSA Topical Meetings, Ultrafast Electronics and Optoelectronics, Lake Tahoe, NV (2001).
- 10) Ibrahim Kimukin, Ekmel Özbay, Necmi Biyikli, Tolga Kartaloglu, Orhan Aytur, and Gary Tuttle, "High-Speed 1.3 um GaAs Based Internal Photoemission Resonant Cavity Enhanced Photodetector", IEEE LEOS annual meeting, (2000).
- 9) Necmi Biyikli, Ibrahim Kimukin, Orhan Aytur, Ekmel Ozbay, Mutlu Gokkavas, and Selim Unlu, "High-speed transparent indium-tin-oxide based resonant cavity Schottky photodiode with Si₃N₄/SiO₂ top Bragg mirror," OSA CLEO annual meeting, Tech. Digest p.468 (2000).
- 8) Necmi Biyikli, Ibrahim Kimukin, Ekmel Ozbay, and Gary Tuttle, "1.3 um GaAs based resonant cavity enhanced Schottky barrier internal photoemission photodetector," OSA CLEO annual meeting, Technical Digest p.368 (2000).
- 7) Ekmel Ozbay, Ibrahim Kimukin, Necmi Biyikli, and Gary Tuttle, "High-Speed GaAs Based Resonant Cavity Enhanced 1.3 Micron Photodetector", SPIE Photonics West meeting, San Jose, CA, Proceedings of the SPIE, vol. 3948 (2000).
- 6) **(invited)** Ekmel Özbay, Necmi Biyikli, Ibrahim Kimukin, and Orhan Aytur, "High-Performance ITO-AIAs/GaAs based Resonant Cavity Enhanced Schottky Photodiodes", IEEE LEOS annual meeting (1999).
- 5) G. Ulu, M. Gokkavas, M. S. Unlu, N. Biyikli, I. Kimukin, E. Ozbay, R. P. Mirin, K. A. Bertness, and D. H. Christensen, "High-Speed Resonant Cavity Enhanced Photodiodes with Near-Unity Quantum Efficiency", OSA Topical Meetings, Ultrafast Electronics and Optoelectronics, Snowmass, CO April (1999).
- 4) **(invited)** Ekmel Ozbay, Necmi Biyikli, Ibrahim Kimukin, "High-Speed High-Efficiency Resonant Cavity Enhanced Photodiodes," SPIE Photonics West meeting, San Jose, CA, Proceedings of the SPIE, vol. 3629, p. 298 (1999).
- 3) G. Ulu, M. Gokkavas, M.S. Unlu, N. Biyikli, E. Ozbay, O. Aytur, R.P. Mirin, and D.H. Christensen, "Ultrafast photodetectors with near-unity quantum efficiency," SPIE Photonics West meeting, San Jose, CA, Proceedings of the SPIE, vol. 3629, (1999).
- 2) N. Biyikli, E. Özbay, I. Kimukin, O. Aytur, M. Gokkavas, S. Unlu, R. Mirin, and D. H. Christensen, "High-Speed Widely-Tunable >90% Quantum-Efficiency Resonant Cavity Enhanced p-i-n Photodiodes", IEEE LEOS annual meeting, Orlando, FL (1998).
- 1) Erhan Ata, Necmi Biyikli, Ekrem Demirel, E. Özbay, Mutlu Gokkavas, Bora Onat, Selim Unlu, and Gary Tuttle, "High-speed resonant cavity enhanced Schottky photodiodes", OSA CLEO annual meeting, Technical Digest p. 500 (1998).