TEXAS STATE VITA

Please note: For all entries, list most recent items first.

I. Academic/Professional Background

A. Name: Ravi Droopad Title: Professor

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
PhD	1989	Imperial College, London, UK.	Physics	MBE Growth and Characterisation of Narrow Gap Semiconductors
BSc	1982	University of Birmingham, UK.	Electronic & Communication Eng.	

C. University Experience

Position	*University*	*Dates*
Professor	Texas State University	6/2008-present
Research Scientist	Arizona State University, Tempe AZ	10/1989-02/1995
Lecturer	University of Guyana, Georgetown, Guyana	06/1984-08/1986

D. Relevant Professional Experience

Position	*Entity*	*Dates*
Member of Technical Staff	Motorola/Freescale, Tempe AZ	02/1995-04/2008

E. Other Professional Credentials (licensure, certification, etc.)

II. TEACHING

A. Teaching Honors and Awards:

B. Courses Taught:

PHYS 2435
PHYS 5326
EE 4353
EE 4392
ENGR 5100
EE 5360
EE 3355
EE 5355

C. Graduate Theses/Dissertations or Exit Committees (if supervisor, please indicate):

Thesis Committee: Jennifer Walters, MSc – Decembert 2009
Thesis Committee: Daniel Moody, MSc – August 2011
Thesis Committee: Dominic Chiroro, MSc – April 2012
Chair, Thesis Committee: Thiess Cunningham, MSc – November 2012
Thesis Committee: Rye Johnson, MSc – April 2013
Thesis Committee: Chad Waxler, MSc- April 2013
Thesis Committee: Nelson Simpson , MSc- May 2013
Chair: Thesis Committee: Rico Garza, MSc-December 2013
Chair: Thesis Committee: Hanu Arava MSc- June 2014
PhD Thesis Committee: Ray Cook- June 2014
PhD Thesis Committee: Paul Thomas, RIT – June 2015
Chair, PhD Thesis Committee: Kunal Bhatnagar- June 2015
Chair, PhD Thesis Committee: Javad Rezanezhad –April 2016
Chair, PhD Thesis Committee: Md Shafiqur Rahman – April 2017
Thesis Committee: Fidele Twagirayezu MSc – May 2017
Chair, PhD Thesis Committee: Susmita Ghose – July 2017
Thesis Committee: Mahmuda Akter Monne MSc – June 2017
Thesis Committee: Evarestus Enuka MSc – June 2017
Thesis Committee: Md Abdul Ahad Talukder MSc – June 2017
Thesis Committee: John Peterson, PhD – October 2017
Thesis Committee: Shelby Huff MSc – November 2017
Thesis Committee: Ooha Manda MSc – November 2017
Thesis Committee: Mohi Uddin Jewel MSc – June 2018
Thesis Committee: Liang Hong (U. Illinois, Chicago) PhD – July 2018
Chair, Thesis Committee: Brian Samuels MSc– August 2018
Chair, Thesis Committee: Sneha Kawal MSc – June 2019
Thesis Committee: Tarun Kadukuntla MSc – October 2019
Chair, Thesis Committee: Duy Nguyen MSc – April 2020
Chair, Thesis Committee: Sree Sourav Das MSc – April 2021
Co-Chair, Thesis Committee: Rony Saha PhD- June 2021
Thesis Committee: Mahmuda Akter Monne PhD – March 2022
Chair, Thesis Committee: Ahad Taludker PhD – June 2022
Chair, Thesis Committee: Jibesh Saha MSc – July 2022
Chair, Thesis Committee: Puja Saha MSc – October 2022
Thesis Committee: Pallab Sarkar MSc – April 2023
Thesis Committee: Tuhin Dey PhD- June 2023
Co-Chair, Thesis Committee: Saif Taqy MS- June 2023

Thesis Committee: Mohammad Nooruddin MS – June 2023
Thesis Committee: Inioluwa Obisakin MS – July 2023

D. Courses Prepared and Curriculum Development:

EE 5360: Thin Film Technology

III. SCHOLARLY/CREATIVE

A. Works in Print

1. Books (if not refereed, please indicate)

a. Scholarly Monographs:

b. Textbooks:

c. Edited Books:

Crystalline Oxide-Silicon Heterostructures and Oxide Optoelectronics, edited by D. Ginley, S. Guha, S. Carter, S.A. Chambers, R. Droopad, H. Hosono, D.C. Paine, D.G. Schlom, and J. Tate, Vol. 747 (Materials Research Society, Warrendale, 2003).

d. Chapters in Books:

High-K Crystalline Gate Dielectrics – An IC Manufacturer's Perspective – R. Droopad, K. Eisenbeiser, A.A. Demkov *"High Dielectric Constant Materials- VLSI MOSFET Applications"* – Springer Series in Advanced Microelectronic, 2004

Gallium Oxide on Gallium Arsenide: Atomic Structure, Materials and Devices – M. Passlack, Z. Yu, R. Droopad, J. Abrokwah, D. Braddock, S. Yi, M. Hale, J. Sexton, A. Kummel *"III-V Semiconductor Heterostructures: Physics and Devices"* – Research Signpost, 2003

f. Patents:

9,390,913 Semiconductor dielectric interface and gate stack
8,847,280 Insulated gate field effect transistors
8,105,925 Method for forming an insulated gate field effect device
7,799,647 MOSFET device featuring a superlattice barrier layer and method
7,692,224 MOSFET structure and method of manufacture
7,682,912 III-V compound semiconductor device with a surface layer in access regions having charge of polarity opposite to channel charge and method of making the same
7,442,654 Method of forming an oxide layer on a compound semiconductor structure
7,169,619 Method for fabricating semiconductor structures on vicinal substrates using a low temperature, low pressure, alkaline earth metal-rich process
7,105,886 High K dielectric film
7,105,866 Heterojunction tunneling diodes and process for fabricating same
7,067,856 Semiconductor structure, semiconductor device, communicating device, integrated circuit, and process for fabricating the same
7,045,815 Semiconductor structure exhibiting reduced leakage current and method of fabricating same
7,005,717 Semiconductor device and method
6,916,717 Method for growing a monocrystalline oxide layer and for fabricating a semiconductor device on a monocrystalline substrate
6,890,816 Compound semiconductor structure including an epitaxial perovskite layer and method for fabricating semiconductor structures and devices
6,885,065 Ferromagnetic semiconductor structure and method for forming the same
6,806,202 Method of removing silicon oxide from a surface of a substrate
6,750,067 Microelectronic piezoelectric structure and method of forming the same
6,709,989 Method for fabricating a semiconductor structure including a metal oxide interface with silicon
6,693,298 Structure and method for fabricating epitaxial semiconductor on insulator (SOI) structures and devices utilizing the formation of a compliant substrate for materials used to form same
6,693,033 Method of removing an amorphous oxide from a monocrystalline surface
6,673,646 Growth of compound semiconductor structures on patterned oxide films and process for fabricating same
6,667,196 Method for real-time monitoring and controlling perovskite oxide film growth and semiconductor structure formed using the method
6,590,236 Semiconductor structure for use with high-frequency signals
6,555,946 Acoustic wave device and process for forming the same
6,501,121 Semiconductor structure
6,493,497 Electro-optic structure and process for fabricating same
6,482,538 Microelectronic piezoelectric structure and method of forming the same
6,479,173 Semiconductor structure having a crystalline alkaline earth metal silicon nitride/oxide interface with silicon
6,472,276 Using silicate layers for composite semiconductor
6,432,546 Microelectronic piezoelectric structure and method of forming the same
6,392,257 Semiconductor structure, semiconductor device, communicating device, integrated circuit, and process for fabricating the same

2. Articles

a. Refereed Journal Articles:

234 *Epitaxial Growth and Characterization of Magnesium Gallate ($MgGa_2O_4$) Thin Films by Pulsed Laser Deposition*, Md Abdul Hamid, Brian Samuels, Subrata Karmakar, Md Abdul Halim, Injamamul Hoque Emu, Pallab Kumar Sarkar, MFN Taufique, Ariful Haque, and Ravi Droopad, Journal of Alloys and Compounds 972 (2024) 172807, doi.org/10.1016/j.jallcom.2023.172807

234 *Temperature-driven complex dielectric and polaron-hopping mediated electrical conduction in aurivillius Gd2MoO6*, S. Karmakar, R. Droopad, A. Mathew, H.S. Mohanty, I. Rahaman, D. Behera, A. Haque, Journal of Alloys and Compounds 955 (2023) 170271 DOI: 10.1016/j.jallcom.2023.170271

233 *Tubular Diamond as an Efficient Electron Field Emitter*, S. Karmakar, P.K. Sarkar, C.D. Mistari, R.K. Trivedi, B. Chakraborty, M.A. More, R. Droopad, A. Haque, ACS APPLIED ELECTRONIC MATERIALS, 5, (7) 2023, 3592-3602 DOI: 10.1021/acsaelm.3c00317

232 *Demonstration of ferroelectricity in PLD grown HfO_2-ZrO_2 nanolaminates*, Sree Sourav Das, Zach Fox, Md Dalim Mia, Brian C Samuels, Rony Saha, Ravi Droopad, AIMS Materials Science, 10 (2), 2023, 342-355. doi: 10.3934/matersci.2023018

231. *Electric-field Emission Mechanism in Q-Carbon Field Emitters,* Ariful Haque, Subrata Karmakar, Ravi Kumar Trivedi, Bramananda Chakraborty, Ravi Droopad, ACS Omega, 8(10) (2023) 9307-9318

230. *Highly Stable Electrochemical Supercapacitor Performance of Self-Assembled Ferromagnetic Q-Carbon*, Subrata Karmakar, Saif Taqy, Ravi Droopad, Ravi Kumar Trivedi, Brahmananda Chakraborty, and Ariful Haque, ACS Applied Materials & Interfaces, (2023), 15(6), 8305-8318

229. *Molecular beam epitaxy of highly crystalline GeSnC using CBr4 at low temperatures*, Tuhin Dey, Md. Shamim Reza, Augustus Arbogast, Mark W. Holtz, Ravi Droopad, Seth R. Bank, and Mark A. Wistey, Appl. Phys. Letts. 121 (2022) 122104

228. *Single-crystal-like germanium thin films on large-area, compliant, light-weight, flexible, single-crystal-like substrates*, Kyunghoon Kim, Gokul Radhakrishnana,, Ravi Droopad and Amit Goyal, *PNAS Nexus*, 2022, 1, 1–7 https://doi.org/10.1093/pnasnexus/pgac098

227. *Theoretical and experimental study of $(Ga_{1-x}Fe_x)_2O_3$ ternary alloys*, Md Dalim Mia, Brian C Samuels, Md Abdul Ahad Talukder, Pablo D. Borges, Luisa Scolfaro, Wilhelmus J. Geerts, Ravi Droopad, J. Crystal Growth 575 (2021) 126353

226. *Growth and Characterization of $(Ga_{1-x}Fe_x)_2O_3$ thin films by pulse laser deposition for wide-bandgap and spintronics applications*, Md Dalim Mia, Brian C Samuels, Jonathan Anderson, Sree Sourav Das, Ariful Haque, Ravi Droopad, MRS Communications (2022). https://doi.org/10.1557/s43579-022-00194-5

225. *Growth and Characterization of $(Ga_{1-x}Gd_x)_2O_3$ by pulsed laser deposition for wide-bandgap applications*, Md Dalim Mia, Pablo D. Borges, Luisa Scolfaro, Anwar Siddique, Jibesh Kanti Saha, Md Abdul Ahad Talukder, Ravi Droopad, Applied Physics A: Materials Science and Processing, 128 (2022) DOI: 10.1007/s00339-022-05476-2

224. *Wide Bandgap Ga2O3 based alloys by Pulsed laser Deposition*, Md. Dalim Mia, Brian Samuels, Md. Abdul Talukder, Ravi Droopad, Abstract, 2020 Spring MRS symposium

223. *Magnetic field sensor based on varistor response,* R. K. Pandey, R. Droopad, H. Stern, IEEE Sensors Journal, 19 (2019) 8635

222. *Characterization of VO2/ferroelectric thin film heterostructures deposited on various complex oxide single crystal substrates,* A. Petraru, R. Droopad, H. Kohlstedt, J. Vac. Sci. Tech A37 (2019) 21514

221. *Scaling and mechanism of droplet array formation on a laser-ablated superhydrophobic grid*, Bahador Farshchian, Javad R. Gatabi, Steven M. Bernick, Gwan-Hyoung Lee, Ravindranath Droopad, Namwon Kim, Colloids and Surfaces A, 547 (2018) 49-55.

220. *Bias temperature stress induced hydrogen depassivation from Al2O3/InGaAs interface defects*, Kechao Tang, Ravi Droopad, Paul C. McIntyre, J. Appl. Physics 123 (2018) 025708

219 *Structural, Optical, and Electrical Characterization of beta-Ga2O3 Thin Films Grown by Plasma-Assisted Molecular Beam Epitaxy Suitable for UV Sensing*, A. N. Nedev, S. Ghose, J. S. Rojas-Ramirez, D. Mateos, M. C. Alverez, O. Perez, M. Saurez, B. Valdez-Salas, R. Droopad, Adv. Mat. Sci & Eng (2018) 9450157

218. *Efficiency of broadband terahertz rectennas based on self-switching nanodiodes*, E. Briones, I. E. Cortes-Mestizo, J. Briones , R. Droopad, L. I. Espinosa-Vega, H. Vilchis, V. H. Mendez-Garcia, J. Photonics for Energy, 7 (2017) 25001

217. *Optical spectroscopy analysis of the near surface depletion layer in AlGaAs/GaAs heterostructures grown by MBE,* I. E. Cortes-Mestizo, E. Briones, C. M. Yee-Rendon, L. Zamora Peredo, L. I. Espinosa-Vega, R. Droopad, V. H. Mendez-Garcia, J. Cryst. Growth, 477 (2017) 59-64

216. *Growth and characterization of Ga2O3 thin films by molecular beam epitaxy for deep-UV photodetectors,* Susmita Ghose, Shafiqur Rahman, Liang Hong, Juan Salvador Rojas-Ramirez, Hanbyul Jin, Kibog Park, Robert Klie, and Ravi Droopad, J. Appl. Phys. 122, (2017) 095302

215. *Atomic-scale structural and electronic properties of SrTiO3/GaAs interfaces: A combined STEM-EELS and first-principles study*, Liang Hong, Kunal Bhatnagar, Ravi Droopad, Robert F. Klie, and Serdar Ögüt, Phys. Rev. B 96 (2017) 035311

214. *Tuning electrical properties of PZT film deposited by Pulsed Laser Deposition,* J.R.Gatabi, S. Rahman, A. Amaro, T. Nash, J. Rojas-Ramirez, R. K. Pandey, R. Droopad, Ceramics Intl. 43 (2017) 6008

213. *Self-limiting CVD of a passivating SiOx control layer on InGaAs(001)-(2x4) with the prevention of III-V oxidation,* M. Edmonds, S. Wolf, E. Chagarov, T. Kent, J.H. Park, R. Holmes, D. Alvarez, R. Droopad, A.C.Kummel, Surf. Sci. 660 (2017) 31

212. *Interface Defect Hydrogen Depassivation and Capacitance-Voltage Hysteresis of Al2O3/InGaAs Gate Stacks,* K.C.Tang, F.R. Palumbo, L.L.Zhang, R. Droopad, P.C. McIntyre, ACS Appl. Mat. & Interfaces 9 (2017) 7819

211. *A crystalline oxide passivation on In0.53Ga0.47As (100),* Xiaoye Qin, Wei-E Wang, Ravi Droopad, Mark S. Rodder, and Robert M. Wallace, J. of Appl. Phys. 121, 125302 (2017)

210. *Temperature Dependent Border Trap Response Produced by a Defective Interfacial Oxide Layer in Al2O3/InGaAs Gate Stacks*, Kechao Tang, Andrew C. Meng, Ravi Droopad, and Paul C. McIntyre, ACS Appl. Mater. Interfaces 2016, 8, 30601

209. *Laser-induced superhydrophobic grid patterns on PDMS for droplet arrays formation,* Bahador Farshchian, Javad R. Gatabi, Steven M. Bernicka, Sooyeon Park, Gwan-Hyoung Lee, Ravindranath Droopad, Namwon Kim, Applied Surface Science 396 (2017) 359

208. *The impact of forming gas annealing on the electrical characteristics of sulfur passivated Al2O3/In0.53Ga0.47As (110) metal-oxide-semiconductor capacitors*, Yen-Chun Fu, Uthayasankaran Peralagu, David A. J. Millar, Jun Lin, Ian Povey, Xu Li, Scott Monaghan, Ravi Droopad, Paul K. Hurley, and Iain G. Thayne, Appl. Phys. Lett. 110, 142905 (2017);

207. *InAs Nanowire GAA n-MOSFETs with 12-15 nm Diameter*, T. Vasen, P. Ramvall, A. Afzalian, C. Thelander, K. A. Dick, M. Holland, G. Doornbos, S. W. Wang, R. Oxland, G. Velliantis, M. J. H. van Dal, B. Duriez, J. Rojas-Ramirez, R. Droopad, L. E. Wernersson, L. Samuelson, T. K. Chen, Y. -C. Yeo, M. Passlack, 2016 IEEE SYMPOSIUM ON VLSI TECHNOLOGY

206. *In0.53Ga0.47As(001)-(2x4) and Si0.5Ge0.5(110)surface passivation by self-limiting deposition of silicon containing control layers,* M. Edmonds, T. J. Kent, S. Wolf, K. Sardashti, M. Chang, J. Kachian, R. Droopad, E. Chagarov, and A. C. Kummel, 2016 INTERNATIONAL SYMPOSIUM ON VLSI TECHNOLOGY, SYSTEMS AND APPLICATION (VLSI-TSA)

205. *A Nonlinear Circuit Simulation of Switching Process in Resonant Tunneling Diodes,* W.-D. Zhang, E. R. Brown, T. A. Growden, P. R. Berger, R. Droopad, IEEE Trans. on Elect. Device, 63 (2016)4993

204. *Integration of BiFeO3/La0.7Sr0.3MnO3 heterostructures with III-V semiconductors for low-power non-volatile memory and multiferroic field effect transistors,* Rahman, Md Shafiqur, Ghose, Susmita, Hong, Liang, Dhungana, Pradip, Fahami, Abbas, Gatabi, Javad R., Rojas-Ramirez, Juan S., Zakhidov, Alex, Klie, Robert F., Pandey, R. K., Droopad, Ravi, J. Mat. Chem. 4 (2016) 10386

203. *Temperature Dependent Border Trap Response Produced by a Defective Interfacial Oxide Layer in Al2O3/InGaAs Gate Stacks*, Tang, Kechao, Meng, Andrew C., Droopad, Ravi, McIntyre, Paul C., ACS Appl. Mat. & Interface 8 (2016) 30601

202. *Performance evaluation of broken gap Esaki tunnel diodes on Si and GaSb substrates*, P. M. Thomas, M. J. Filmer ; A. Gaur ; S. L. Rommel ; K. Bhatnagar (DST) ; R. Droopad, Electronic Letts. 52 (2016) 73

201. *InAs FinFETs With H-fin=20 nm Fabricated Using a Top-Down Etch Process*, R. Oxland , X. Li ; S. W. Chang ; S. W. Wang ; T. Vasen ; P. Ramvall ; R. Contreras-Guerrero ; J. Rojas-Ramirez ; M. Holland ; G. Doornbos ; Y. S. Chang ; D. S. Macintyre ; S. Thoms ; R. Droopad ; Y. -C. Yeo ; C. H. Diaz ; I. G. Thayne ; M. Passlack, IEEE Elect. Dev. Letts. 37 (2016) 261

200. *Determination of the depletion layer width and effects on the formation of double-2DEG in AlGaAs/GaAs heterostructures*, Irving Eduardo Cortes-Mestizo, Leticia Ithsmel Espinosa-Vega, Jose Angel Espinoza-Figueroa, Alejandro Cisneros-de-la-Rosa, Eric Eugenio-Lopez, Victor Hugo Mendez-Garcia, Edgar Briones, Joel Briones, Luis Zamora-Peredo, Ravindranath Droopad and Cristo Yee-Rendon, J. Vac. Sci. Tech. B34 (2016) 02L110-1

199. *Structural and optical properties of beta-Ga2O3 thin films grown by plasma-assisted molecular beam epitaxy*, S. Ghose, M.S. Rahman, J. S. Rojas-Ramirez, M. Caro, R. Droopad, A. Arias, N. Nedev, J. Vac. Sci. Tech. B34 (2016) 02L109-1

198. *Study of InAlAs/InGaAs self-switching diodes for energy harvesting applications*, Irving Eduardo Cortes-Mestizo, Edgar Briones, Joel Briones, Ravindranath Droopad, Manuel Perez-Caro, Stefan McMurtry, Michel Hehn, François Montaigne, and Victor Hugo Mendez-Garcia, Japanese Journal of Applied Physics 55, 014304 (2016)

197. *Terahertz harvesting with shape-optimized InAlAs/InGaAs self-switching nanodiodes*, Irving Cortes-Mestizo, Victor H. Méndez-García, Joel Briones, Manuel Perez-Caro, Ravi Droopad, Stefan McMurtry, Michel Hehn, François Montaigne, and Edgar Briones, AIP Advances 5, 117238 (2015)

196. *The influence of surface preparation on low temperature HfO2 ALD on InGaAs (001) and (110) surfaces*, Tyler Kent, Kechao Tang, Varistha Chobpattana, Muhammad Adi Negara, Mary Edmonds, William Mitchell, Bhagawan Sahu, Rohit Galatage, Ravi Droopad, Paul McIntyre, and Andrew C. Kummel, J. of Chem. Phys. 143, 164711 (2015).

195. *Integration of broken-gap heterojunction InAs/GaSb Esaki tunnel diodes on silicon*, Kunal Bhatnagar, Manuel P. Caro, Juan S. Rojas-Ramirez, Ravi Droopad, Paul M. Thomas, Abhinav Gaur, Matthew J. Filmer, and Sean L. Rommel, J.Vac. Sci. & Technol. B 33, 062203 (2015)

194 *Direct observation of oxygen-vacancy-enhanced polarization in a SrTiO3-buffered ferroelectric BaTiO3 film on GaAs*, Qiao Qiao, Yuyang Zhang, Rocio Contreras-Guerrero, Ravi Droopad, Sokrates T. Pantelides, Stephen J. Pennycook, Serdar Ogut, and Robert F. Klie, Appl. Phys. Letts. 107, 201604 (2015)

193. *Border trap reduction in Al2O3/InGaAs gate stacks*, Kechao Tang, Roy Winter, Liangliang Zhang, Ravi Droopad, Moshe Eizenberg, and Paul C. McIntyre, Appl. Phys. Letts. 107, 202102 (2015)

192. *Experimental determination of quantum-well lifetime effect on large-signal resonant tunneling diode switching time*, Tyler A. Growden, E. R. Brown, Weidong Zhang, Ravi Droopad, and Paul R. Berger, Appl. Phys. Letts. 107, 153506 (2015)

191. *Field-Effect Mobility of InAs Surface Channel nMOSFET With Low D-it Scaled Gate-Stack*, S.W. Wang, T. Vasen, G. Doornbos, R. Oxland, S. W. Chang, X. Li, R. Contreras-Guerrero, M. Holland, C. H. Wang, M. Edirisooriya, J. S. Rojas-Ramirez, P. Ramvall, S. Thoms, D.S. Macintyre, G. Vellianitis, G.C.H. Hsieh, Y.S. Chang, K.M. Yin, Y.C. Yeo, C.H. Diaz, R. Droopad, I.G. Thayne, M. Passlack, IEEE Trans. Electron. Devices, 62 (1015) 2429

190. *Performance Evaluation of In0.53Ga0.47As Esaki Tunnel Diodes on Silicon and InP Substrates*, P. Thomas, M. Filmer, A. Gaur, D.J. Pawlik, B. Romanczyk, E. Marini, S.L. Rommel, K. Majumdar, W.Y. Loh, M.H. Wong, C. Hobbs, K. Bhatnagar, R. Contreras-Guerrero, R. Droopad, IEEE Trans. Electron. Devices, 62 (2015) 2450

189. *Passivation of InGaAs(001)-(2 x 4) by Self-Limiting Chemical Vapor Deposition of a Silicon Hydride Control Layer*, M. Edmonds, T. Kent, E. Chagarov, K. Sardashti, R. Droopad, M. Chang, J. Kachian, J.H. Park, A. Kummel, J. Am. Chem. Soc. 137 (2015) 8526

188. *Dual Passivation of Intrinsic Defects at the Compound Semiconductor/Oxide Interface Using an Oxidant and a Reductant*, T. Kent, E. Chagarov, M. Edmonds, R. Droopad, A.C. Kummel, ACS Nano 9 (2015) 4843-4849

187. *Fabrication and characterization of sub-micron In0.53Ga0.47As p-i-n diodes*, A. Gaur, M. Filmer, P. Thomas, K. Bhatnagar, R. Droopad, S. Rommel, Solid State Electronics, 111 (2015) 234-237

186. *Functional materials integrated on III–V semiconductors*, Javad Gatabi, Kevin Lyon, Shafiqur Rahman, Manuel Caro, Juan Rojas-Ramirez, Joelson Cott-Garcia, Ravi Droopad, Byounghak Lee, Microelectronic Engineering 147 (2015) 117–121

185. *Electrical and Optical Properties of $LiNbO_3/CaCu_3Ti_4O_{12}$ heterostructures on Si*, Javad R. Gatabi, Kevin A. Lyon, Shafiqur Rahman, Hanu Arava, Juan S Rojas-Ramirez, R. K. Pandey, Ravi Droopad, to be published in MRS proceedings, 2015

184. *In-situ monitoring during MBE growth of InAs based heterostructures*, Kunal Bhatnagar, Juan Rojas-Ramirez, Manuel Caro, Rocio Contreras, Bernd Henninger, Ravi Droopad, Journal of Crystal Growth. Volume 425, (2015) 16–20

183. *$Al_xIn_{1-x}As_ySb_{1-y}$ alloys lattice matched to InAs(1 0 0) grown by molecular beam epitaxy*, J.S. Rojas-Ramirez, S. Wang, R. Contreras-Guerrero, M. Caro, K. Bhatnagar, M. Holland, R. Oxland, G. Doornbos, M. Passlack, C.H. Diaz, R. Droopad, Journal of Crystal Growth, Volume 425, (2015),33–38

182. *Heterointegration of III– V on silicon using a crystalline oxide buffer layer,* K. Bhatnagar, J.S. Rojas-Ramirez, R. Contreras-Guerrero, M. Caro, R. Droopad, Journal of Crystal Growth Volume 425, (2015), 262–267

181. *Raman scattering study of LO phonon-plasmon coupled modes in p-type InGaAs,* Cusco, R , Domenech-Amador, Nuria Hung, P. Y. Loh, Wei-Yip Droopad, R. Artus, Luis J. Alloys and Compounds, 634, (2015) 87

180. *Surface treatments to reduce leakage current in In0.53Ga0.47As p-i-n diodes,* Gaur, Abhinav; Manwaring, Ian; Filmer, Matthew J.); Thomas, Paul M.; Rommel, Sean L.; Bhatnagar, Kunal; Droopad, Ravi, J. Vac. Sci Tech B33 (2015) 021210

179. *Electrical and physical characterization of the Al2O3/p-GaSb interface for 1%, 5%, 10%, and 22% (NH4)(2)S surface treatments,* U. Peralagu, I. M. Povey, P. Carolan, J. Lin, R. Contreras-Guerrero, R. Droopad, P. K. Hurley, I. G. Thayne, Appl. Phys. Lett. 105 (2014) 162907

178. *Lifting the off-state bandgap limit in InAs channel metal-oxide-semiconductor heterostructures of nanometer dimensions,* Matthias Passlack, Shih-Wei Wang, Gerben Doornbos, Chien-Hsun Wang, Rocio Contreras-Guerrero, Madhavie Edirisooriya, Juan Rojas-Ramirez, Chih-Hua Hsieh, Ravi Droopad, and Carlos H. Diaz, Appl. Phys. Letts. 104, 223501 (2014)

177. *Mapping Defect Density in MBE Grown In0.53Ga0.47As Epitaxial Layers on Si Substrate Using Esaki Diode Valley Characteristics,* Kausik Majumdar, Paul Thomas, Wei-Yip Loh, Pui-Yee Hung, Ken Matthews, David Pawlik, Brian Romanczyk, Matthew Filmer, Abhinav Gaur, Ravi Droopad, Sean L. Rommel, Chris Hobbs, and Paul D. Kirsch, IEEE Trans. Electron Devices, 61 (2014) 2049

176. *High-k dielectrics on (100) and (110) n-InAs: Physical and electrical characterizations,* C. H. Wang, G. Doornbos, G. Astromskas, G. Vellianitis, R. Oxland, M. C. Holland, M. L. Huang, C. H. Lin, C. H. Hsieh, Y. S. Chang, T. L. Lee, Y. Y. Chen, P. Ramvall, E. Lind, W. C. Hsu, L.-E. Wernersson, R. Droopad, M. Passlack, C. H. Diaz, AIP Advances 4, (2014) 047108

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7. *A Generalised Model for the Reconstruction of {001} Surfaces of III-V Compound Semiconductors Based on a RHEED Study of InSb(001),* A. d'Oliveira, S. D. Parker, R. Droopad, B. A. Joyce, Surf. Sci. 227 (1990) 150-156.

6. *Far Infrared Magneto-optical Studies of Free and Bound Carriers in High Purity MBE InAs,* P. D. Wang, S. N. Holmes, R. A. Stradling, R. Droopad, I. Ferguson, A. d'Oliveira, S. D. Parker, R. L. Williams, Mat. Sci. Forum Vol 65-66 (1990) 381-388

5. *RHEED Intensity Oscillations observed during MBE Growth of InSb(001),* R. Droopad, R. L. Williams, S. D. Parker, Semicond. Sci. & Tech. 4 (1989) 111-113

4. *Magneto-optical and Transport Studies of Ultrahigh Mobility Films of InAs Grown by Molecular Beam Epitaxy on GaAs,* S. N. Holmes, R. A. Stradling, P. D. Wang, R. Droopad, S. D. Parker, R. L. Williams, Semicond. Sci. & Tech. 4 (1989) 303-308.

3. *Observation and Control of the Amphoteric Behaviour of Si-Doped InSb Grown on GaAs by MBE,* S. D. Parker, R. L. Williams, R. Droopad, R. A. Stradling, K. W. J. Barnham, S. N. Holmes, J. Laverty, C. C. Phillips, E. Skuras, R. Thomas, X. Zhang, A. Staton-Bevan, D. W. Pashley Semicond. Sci. & Tech. 4 (1989) 663-675

2. *Parallel and Perpendicular Field Magnetotransport Studies of MBE Grown GaAs Doping Superlattices and Slab Doped InSb Formed by Selective Doping with Silicon,* R. Droopad, S. D. Parker, E. Skuras, R. L. Williams, R. A. Stradling, R. B. Beall, J. J. Harris, High Magnetic Fields in Semiconductor Physics II (Springer-Verlag) 1989, 199-206

1. *Residual Donor Contamination in MOCVD, MOMBE and MBE GaAs Studied by Far Infrared Spectroscopy,* S. N. Holmes, C. C. Phillips, R. A. Stradling, Z. Wasilewski, R. Droopad, S. D. Parker, W. T. Yuen, P. Balk, A. Brauers, H. Heinecke, C. Plass, M. Weyers, C. T. Foxon, B. A. Joyce, G. W. Smith, C. T. Whitehouse, Semicond. Sci. & Tech. 4 (1989) 782-790

B. Works not in Print

1. Papers Presented at Professional Meetings:

Crystalline Oxides on Compound Semiconductors by MBE, 2018 International Conference on Molecular Beam Epitaxy Shanghai, China

Deposition of wide bandgap Ga2O3 and related alloys by MBE and PLD, Susmita Ghose, Md. Shafiqur Rahman, Liang Hong, Khem Baral, Sneha Kawal, Juan Salvador Rojas-Ramirez, Robert Klie and Ravi Droopad, 2nd International workshop on Ga2O3 and related materials, 2017

Growth and Characterization of β-Ga_2O_3 by Molecular Beam Epitaxy, Susmita Ghose, Md. Shafiqur Rahman, Juan Rojas-Ramirez, Ravi Droopad, North American MBE Conference, 2016

Growth and Characterization of Multifunctional Epitaxial Oxide Heterostructures with III-V Semiconductors, Shafiqur Rahman, Susmita Ghose, Javad R. Gatabi, Juan S Rojas-Ramirez, R. K. Pandey, Liang Hong, Robert F. Klie, Ravi Droopad, North American MBE Conference, 2016

First demonstration of cluster tool based ICP etching of (100) and (110) InGaAs MOSCAPs followed by in-situ ALD deposition of HfO2 including nitrogen and hydrogen plasma passivation for non-planar III-V MOSFETs, Y.-C. Fu1, U. Peralagu1, X. Li1, D. Millar1,O. Ignatova1,H. Zhou1,M. Steer1,R. Droopad, and I. Thayne, *SISC 2015*

Border trap reduction in Al2O3/InGaAs gate stacks by low temperature atomic layer deposition of the dielectric, K. Tang, R. Winter, R. Droopad, M. Eizenberg2, and P. C. McIntyre,. *SISC 2015*

Surface passivation and functionalization of In0.53Ga0.47As(001)-(2x4) and Si0.5Ge0.5(110) surfaces by silicon containing control layers, M. Edmonds, T. J. Kent, S. Wolf, M. Chang, J. Kachian, R. Droopad, SISC 2015

Border Trap Analysis and Reduction forALD High-k InGaAs Gate Stacks, Kechao Tang, R.Winter, T. Kent, M.Negara, R. Droopad, A.C. Kummel, P. McIntyre,Stanford, 2015 AVS Symposiun, San Jose, CA

Self-LIMITING CVD of an Air Stable Silicon Oxide Bilayer for Preparation of Subsequent Silicon or GateOxide ALD on InGaAs(001)-(2x4), Mary Edmonds, T. Kent, S. Wolf, D. Alverez, R. Droopad, A.C. Kummel, 2015 AVS Symposium, San Jose, CA

Lower Temperature Silicon Nitride ALD on Si0.5Ge0.5(110) with No Solid By-product Formation, Steven Wolf, M. Edmonds, T. Kent, D. Alvarez, R. Droopad, A.C. Kummel, 2015 AVS Symposiun, San Jose, CA

Functional Materials Integrated onto (III-V) Semiconductors, R. Droopad, Javad Gatabi, Kevin Lyon, Shafiqur Rahman, Manuel Caro, Juan Rojas-Ramirez, Joelson Cott-Garcia, Ravi Droopad, Byounghak Lee, 2015 INFOS, Italy

Towards a Vertical and Damage Free Post-Etch InGaAs Fin Profile: Dry Etch Processing, Sidewall Damage Assessment and Mitigation Options, U. Peralagu, X. Li, O. Ignatova, Y. C. Fu, D. A. J. Millar, M. J. Steer , I. M. Povey, K. Hossain, M. Jain, T. G. Golding, R. Droopad, P. K. Hurley. I.Thayne, 2015 Electrochemical Society

Border Trap Analysis and Reduction in ALD-high-k InGaAs Gate Stacks, Kechao Tang ,Muhammad Adi Negara, Tyler Kent, Ravi Droopad, Andrew Kummel, Paul McIntyre, Compound Semiconductor Week 2015, Santa Barbara

Self-Limiting CVD and ALD of An Electrically Passivating Silicon Seed Layer on InGaAs(001)-(2x4), Mary E. Edmonds, Tyler Kent, Mei Chang, Jessica Kachian, Ravi Droopad, Evgueni Chagarov, Andrew C. Kummel, 2015 Spring MRS Meeting, San Francisco

The Effect of ALD Temperature on Border Traps in Al_2O_3 InGaAs Gate Stack, Kechao Tang, Muhammad Adi Negara, Ravi Droopad, Paul C. McIntyre, 2015 Spring MRS Meeting, San Francisco

Electrical and Optical Properties of $CaCu_3Ti_4O_{12}/LiNbO_3$ Heterostructures on Si, Javad Gatabi, Kevin A Lyon, Shafiqur Rahman, Hanu Arava, Juan Rojas-Ramirez, R. K. Pandey, Ravi Droopad. 2015 Spring MRS Meeting, San Francisco

Carrier Mediated Ferromagnetism in Fe-doped SrTiO3, Chun-Lan Ma , Rocio Contreras-Guerrero, Ravi Droopad , Byounghak Lee, APS March Meeting 2015, San Antonio

Thermodynamic stability and band alignment at SrTiO3/GaAs(001) interface, Joelson Cott, Ravi Droopad, Byounghak Lee, APS March Meeting 2015, San Antonio

*High-k/InAs Interface Metrics and Comparison with GaAs***,** M. Passlack1, G. Doornbos1, T. Vasen1, C. H.Wang1, S. W. Wang1, R. Contreras-Guerrero2, J. Rojas-Ramirez2, P. Ramvall1, G. Vellianitis1, R. Oxland1, M. C.Holland1, R. Droopad2, and C.H. Diaz, *TSMC, Belgium, Texas State U., TSMC, Taiwan, SISC 2014*

Surface passivation of InGaAs(001)-(2x4) by self-limiting CVD of a silicon control monolayer, M. Edmonds1, T. J. Kent1, M. Chang2, J.Kachian2, R. Droopad2, E. Chagarov1, and A. C. Kummel1, *1UC San Diego, 2Applied Materials, 3Texas State U. SISC 2014*

*Border trap reduction and analysis for ALD high-k InGaAs gate stacks***,** K. Tang1, A. Negara1, T. Kent2, R. Droopad3, A. C. Kummel2, and P. C. McIntyre1, *1Stanford U., 2UC San Diego, 3Texas State U. SISC 2014*

Native oxide removal techniques and their effects on HfO2 nucleation on InGaAs (001) and (110), T. Kent1, K.Tang 2, V. Chobpattana3, M. A. Negara2, R. Droopad4, P. McIntyre2, and A. C. Kummel1, *1UC San Diego, 2Stanford U., 3UC Santa Barbara, 4Texas State U. SISC 2014*

AlInAsSb Alloys Lattice Matched to InAs(100) Grown by Molecular Beam Epitaxy J. Rojas-Ramirez, R. Contreras-Guerrero, M. Caro, K. Bhatnagar, R. Droopad, 2014 Int. MBE Conference, AZ

In-situ Monitoring During MBE Growth of InAs Based Heterostructures, K. Bhatnagar, J. Rojas, M. Caro, R. Contreras, Texas State Univ.; B. Henninger, LayTec AG; R. Droopad, Texas State Univ, 2014 Int. MBE Conference, AZ

Heterointegration of III-V on Silicon Using a Crystalline Oxide Buffer Layer K. Bhatnagar, J.S. Rojas-Ramirez, R. Contreras-Guerrero, M. Caro, R. Droopad, 2014 Int. MBE Conference, AZ

Perovskite Oxides Integration onto Si and III-V, Hanu Arava, Rocio Contreras-Guerrero, Juan Salvador-Rojas, Maclyn Compton, Ravi Droopad, 2014 Spring MRS Meeting,

Al2O3/InGaAs Interface and Bulk Oxide Defect Passivation, Kechao Tang, Jaesoo Ahn, Tyler Kent, Evgueni Chagarov, Andrew Kummel, Paul McIntyre, 2014 Spring MRS Meeting

Self-Limiting and Saturating CVD of a Silicon Seed Layer on InGaAs(001)-(2x4), Mary Edmonds, Tyler Kent, Ravi Droopad, Evgueni Chagarov, Andrew Kummel, 2014 Spring MRS Meeting

An Atomic View of In-Situ Cleaning and ALD for Scaled Devices, Andrew Kummel, Tyler Kent, Tobin Kaufman-Osborn, Mary Edmonds, Sang Wook Park, Ravi Droopad, 2014 Spring MRS Meeting

Direct Observation of Film Polarization and Oxygen Vacancies at the BaTiO3/SrTiO3/GaAs Interfaces, Qiao Qiao, Rocio Contreras-Guerrero, Ravi Droopad, Stephen Pennycook, Sokrates Pantelides, Serdar Ogut, Robert Klie, 2014 Spring MRS Meeting

Interface Characterization of Epitaxial SrTiO3 on GaAs, R. Contreras-Guerrero, R. Droopad, Q. Qaio, R. Klie, 40th Conference on the Physics and Chemistry of Surfaces and Interfaces, 2013 Hawaii

Characterization of Heteroepitaxial Multiferroic Interface $BiFeO_3/SrTiO_3/Si$ by Cs-corrected STEM; J Cantu Valle, A Ponce, M Jose-Yacaman, R Droopad, R Contreras-Guerrero, Microscopy & Microanalysis 2012 Meeting, Phoenix, AZ

High-k/InAs and -GaSb Interfaces for Future CMOS, C. H. Wang, S. W. Wang, R. Contreras-Guerrero, O. C. Noriega, G. Doornbos,W. Priyantha, M. Edirisooriya, G. Astromskas, G. Vellianitis, R. Oxland, C. H. Hsieh, M. C. Holland, K. Bhuwalka, M. J. H. van Dal, B. Duriez, P. Ramvall, E. Lind, L.-E. Wernersson, R. Droopad, M. Passlack, and C. H. Diaz, 43rd IEEE Semiconductor Interface Specialists Conference, December 2012, San Diego

The Atomic and Electronic Structure of Trimethylaluminum on GaAs/InGaAs (110) Surfaces, T. Kent, M. Edmonds, A. C. Kummel, and R. Droopad, , 43rd IEEE Semiconductor Interface Specialists Conference, December 2012, San Diego

Integration of Multifunctional Oxides with Semiconductors, R. Droopad, 7th Multifunctional Meeting, 2012, Panama.

Comparison of Crystalline Oxides Grown on GaAs using Molecular and Atomic Oxygen, R. Contreras-Guerrero, M. Edirisooriya, O. C. Noriega, R. Droopad, 29th North American Conference on Molecular Beam Epitaxy, 2012

Growth of Heterostructures on InAs for High Mobility Device Applications, R. Contreras-Guerrero, S. Wang, M. Edirisooriya, W. Priyantha, J. S. Rojas-Ramirez, K. Bhuwalka, G. Doornbos, M. Holland, R. Oxland, G. Vellianitis, M. Van Dal, B. Duriez, M. Passlack, C.H. Diaz, R. Droopad, 17th International Conference on Molecular Beam Epitaxy, 2012

Interface Properties of MBE Grown Epitaxial Oxides on GaAs, R. Contreras-Guerrero, M. Edirisooriya, O. C. Noriega, R. Droopad, 17th International Conference on Molecular Beam Epitaxy, 2012

Benchmarking and Improving III-V Esaki Diode Performance With A Record 2.2 MA/cm^2 Peak Current Density to Enhance TFET Drive Current, D. Pawlik, B. Romanczyk, P. Thomas, S. L. Rommel, M. Edirisooriya, R. Contreras-Guerrero, R. Droopad, W-Y Loh, M. H. Wong, K. Majumdar, W.-E Wang, P. D. Kirsch, and R. Jammy, 2012 IEDM, San Francisco

Mechanism of Dangling Bond Elimination on As-Rich InGaAs Surface, W. Melitz, E. Chagarov, T. Kent, R. Droopad, J. Ahn, R. Long, P. McIntyre, A.C. Kummel, 2012 IEDM, San Francisco

Low kV Analysis of the Atomic Structure and Bonding at SrTiO3/GaAs Hetero-interfaces, Qiao Qiao, Serdar Ogut, Robert F Klie, Ravi Droopad, Rocio Contreras-Guerrero, 2012 MRS Fall Meeting, Boston.

Effect of MBE Deposition Conditions on Interfacial Properties of STO/Si, North American Molecular Beam Epitaxy Conference, August 2011, San Diego.

Functional Oxides Integrated Epitaxially onto Semiconductors, International Conference on Solid State Devices and Materials, September 2011, Japan

Integration of Multifunctional Oxides with Semiconductors, Multifunctional Materials Meeting, August 2011, Alaska

Role of Oxide-Semiconductor Interfaces on Material Properties, Materials Science and Technology Conference, Pittsburgh, October 2008

Oxide-Semiconductor Heterostructures: Challenges and Opportunities, APS Texas and Four Corners Section Meeting, El Paso, October 17-18, 2008

2. Invited Talks, Lectures, and Presentations:

Invited Talk: Developing Materials for Next Generation Device Applications, Electrical Engineering Dept. Kyungpook University, Korea March 2017

Plenary Talk: Integration of Functional Oxides with Semiconductors, 3rd international Symposium on Nanoscience and Manomaterials, March 2014, Ensenada, Mexico

Plenary Talk: Oxide-Semiconductor Heterostructures: Challenges and Opportunities, VI International Conference on Surfaces, Materials and Vacuum, September 23 -27, 2013 Mérida, Yucatán

Invited Talk: Growth of Oxides for Negative Capacitance Gate Dielectrics, 60th AVS Symposium, Long Beach, October 2013

Short Course: Basics of Molecular Beam Epitaxy, VI International Conference on Surfaces, Materials and Vacuum, Sept. 2013, Merida Mexico

High-k Dielectrics on III-V Semiconductors, 2010 International Symposium on Integrated Functionalities, June 13-16, 2010 Puerto Rico

High-k Dielectrics on III-V Semiconductors, 2010 International Symposium on Integrated Functionalities, June 13-16, 2010 Puerto Rico

Oxide-Semiconductor Heterostructures: Challenges and Opportunities, IEEE Electron Device Society-Central Texas Chapter, October 2009

Oxide-Semiconductor Heterostructures: Challenges and Opportunities, APS Texas and Four Corners Section Meeting, El Paso, October 17-18, 2008

Oxide-Semiconductor Interfaces, Materials Science & Technology 2008; October 5-9, 2008, Pittsburgh, PA, USA

Development of GaAs-based MOSFET using Molecular Beam Epitaxy, 14th International Conference on Molecular Beam Epitaxy, Toyko, Japan, September 2006

GaAs-based MOSFET: An MBE approach, 24th North American Conference on Molecular Beam Epitaxy, North Carolina, October 2006

Gate Dielectrics on Compound Semiconductors, , 23th North American Conference on Molecular Beam Epitaxy, Santa Barbara, September 2005

Gate Dielectrics on Compound Semiconductors, Insulating Films on Semiconductors, Leuven, Belgium, June 2005

Oxides on Semiconductors: An MBE Approach, 13th International Conference on Molecular Beam Epitaxy, Edinburgh, August 2004

Integrated Oxide-Based Heterostructures on Silicon, International Conference on Electroceramics, Cambridge, Massachusetts, August 2003

Development of Oxides on Silicon by Molecular Beam Epitaxy, European MRS Meeting, Strasbourg, France, June 2003

Oxides on Semiconductors by Molecular Beam Epitaxy, ONR Workshop on Epitaxial Heterogeneous Interfaces – Formation & Stability, Tenaya Lodge, Fish Camp, CA, May 2003

Development of Oxides on Silicon by Molecular Beam Epitaxy, Phoenix Section IEEE Waves and Devices, April 2003

GaAs on silicon using an oxide buffer layer, 29th International Symposium on Compound Semiconductors, Lausanne, Switzerland, October 2002.

Development of Integrated Heterostructures on Silicon by MBE, 12th International Conference on Molecular Beam Epitaxy, San Francisco, Sept. 2002

Epitaxial Oxides on Silicon: Challenges and Opportunities, ONR Workshop on Ferroelectric Semiconductor Interfaces, Aston Keauhou, Kailua-Kona, Hawaii, April 2002

Challenges and Opportunities for Epitaxial Oxides on Silicon: From Gate Dielectrics to III-V Semiconductors, Philips Research Lab. Materials Colloquium, Eindhoven, Netherlands, Feb. 2002

D. Fellowships, Awards, Honors:

2016 *Fellow, Institute of Electrical and Electrical Engineers*

2006 *Senior Member, Institute of Electrical and Electrical Engineers*

2006 Engineer of the Year Award – IEEE Phoenix Section
.."for contributions towards the development of high mobility MOSFET technology"

2003 *Master Innovator, Motorola Labs*
2002 Elected to Motorola's Scientific Advisory Board as an associate member (less than 1% of Motorola's engineers are elected to this Board)
..in recognition of creative and innovative technical contributions and in particular "for the development of crystalline oxides and compound semiconductors on silicon"

IV. SERVICE

A. University:

B. Departmental:

2008/9	Member search Committee: Asst/Assoc Professor (Engineering)
2009/10	Member search Committee: Asst/Assoc Professor (Physics)
2012	Chair, Dept. of Physics graduate degree program
2012	Chair, Dept. of Physics policy on annual evaluation
2011-13	Personnel Committee, Physics
2014	REP Committee Dept. Rep.
2015-19	Chair, Personnel Committee, Engineering
2016-20	MSEC Admissions Committee
2022-	MS Graduate Advisor

C. Community:

D. Professional:

2009	Committee Member: 2009 North American MBE conference
2010	Committee Member: 2010 North American MBE conference
2011	Organizer and co-chair: 6th Multifunctional Materials Meeting, Alaska
2012	Organizer and co-chair: 7th Multifunctional Materials Meeting, Panama
2012	Session organizer and co-chair: International Symposium of Integrated Functionalities, Hong Kong
2013	Session Chair: 40th Conference on the Physics and Chemistry of Surfaces and Interfaces
2014	Co-chair, 9th Multifunctional Materials Meeting, India

2014 Organizing Committee, 18th International Conference on Molecular Beam Epitaxy, AZ
2014 Session Chair, 18th International Conference on Molecular Beam Epitaxy, AZ
2015 Organizing Committee, North American Molecular Beam Epitaxy Conference, Mexico
2016 Member, Program Committee, International Conference on Molecular Beam Epitaxy

Reviewer for:

Journal of Crystal Growth
IEEE Electron Device Letters
Applied Physics Letters
National Science Foundation
Journal of Vacuum Science and Technology
Department of Defense
Dept of Energy
Swiss NSF
J. Materials Chemistry
J. Applied Physics
Israeli Pazy Foundation
Dept. of Energy

E. Organizations

1. Honorary:

2. Professional:

Fellow, Institute of Electrical and Electrical Engineers