FERNANDO A. PONCE
Department of Physics, Arizona State University, Tempe, Arizona 85287-1504
Cell. (480) 862-9151, Email: ponce@asu.edu

WORK EXPERIENCE

Department of Physics, Arizona State University, Tempe, Arizona. Professor. (Since 1999)
Catholic University of Rio de Janeiro, Brazil. Visiting Professor. (2006-2019)
Xerox Palo Alto Research Center, Palo Alto, California. Member Research Staff. (1984-1998)
Hewlett-Packard Labs, Palo Alto, California. Member Technical Staff. (1980-1984)
Xerox Palo Alto Research Center, Palo Alto, California. Research Associate. (1978-1980)

EDUCATION

Ph. D., Materials Science and Engineering, Stanford University, 1981.
M. S., Solid State Physics, University of Maryland, 1975.
B. S., Physics, Universidad Nacional de Ingeniería, Lima, Peru, 1971.

PROFESSIONAL HONORS

Latin American Academy of Science, Fellow, elected 2018.
Co-Chair, 11th Int. Conf. on Nitride Semiconductors (ICNS-11). Beijing, China, 2015.
Honorary Professor, Universidad Jorge Basadre, Tacna, Peru, 2011
Doctor Honoris Causa, Universidad Nacional de Ingeniería. Lima, Peru, 2010.
Faculty Achievement Award for Defining Edge Research, Arizona State University, 2009.
Peruvian National Academy of Science, Corresponding Member. Lima, Peru, 2009.
Chair, 7th Int. Symp. on Blue Lasers and Light Emitting Devices. Phoenix, AZ, April 2008.
Tricentennial Medal, Universidad Nacional San Antonio Abad del Cusco. Peru, 2007.
Atomo de Oro Medal, Instituto Peruano de Energía Nuclear. Lima, Peru, 2006.
Co-Chair, Intel International Science and Engineering Fair. Phoenix, Arizona, 2005.
Antorcha de Habich Award, Universidad Nacional de Ingeniería. Lima, Peru, 2005.
Doctor Honoris Causa, Universidad Ricardo Palma. Lima, Peru, 2005.
Chair, International Conference on the Physics of Semiconductors (ICPS-27). Flagstaff, July 2004.
American Physical Society, Fellow, elected 2002.
Honorary Professor, Universidad Nacional de Ingeniería, Lima, Peru, 2002.
Chair, Fall Meeting of the Materials Research Society. Boston, Massachusetts, 1999.
Eduardo de Habich Medal, Universidad Nacional de Ingeniería. Lima, Peru, 1999.
Honorary Professor, Universidad Nacional San Antonio Abad. Cusco, Peru, 1990.
Ross M. Tucker AIME Electronics Materials Award, Palo Alto, CA, 1981.
Fellow, Organization of American States, 1973-1975.
Graduated Summa Cum Laude, Universidad Nacional de Ingeniería. Lima, Peru, 1971.
Who is Who in America and *Who is Who in the World,* listed since 2009.

PROFESSIONAL AFFILIATIONS

American Physical Society, Microscopy Society of America, Materials Research Society, American Association for Crystal Growth, Brazilian Materials Research Society, Colombian Society of Electron Microscopy, Brazilian Society of Electron Microscopy.

AREAS OF TECHNICAL EXPERTISE AND INTEREST

1. Semiconductor materials for solid-state lighting and for photovoltaic solar cells.
2. Properties of interfaces and defects in crystalline materials.
3. Determination of optical and electronic nanoscale properties of materials.
4. Materials analysis, including x-ray diffraction, microanalysis, and TEM.
5. III-V compounds and related epitaxial systems.
6. Double heterojunction laser diodes, optical coatings for optoelectronic applications.

PROFESSIONAL ACTIVITIES by FERNANDO A. PONCE:

PhD STUDENTS GRADUATED FROM ARIZONA STATE UNIVERSITY UNDER Prof. PONCE'S GUIDANCE

1. Juan Cai, 2002. Thesis Title: *Electrostatic Potential and Charge Distribution at Interfaces and Dislocations in Group III Nitrides*. Currently: Principal Scientist at Lumileds, San Jose, California.
2. Sridhar Srinivasan, 2003. Dissertation Title: *Optical Microcharacterization of Gallium Nitride and Indium Gallium Nitride Alloys*. Currently: Chief Executive Officer at Gallium Nitride Ecosystem Enabling Center and Incubator (GEECI), Indian Institute of Science, Malleswaram, Bangaluru, Karnataka, India.
3. Rong Liu, 2004. Dissertation Title: *Microstructure of Nitride Semiconductors for Ultra-Violet Emitters*. Founder and CEO, HC SemiTek Corporation, in Wuhan and Suzhou, the leading LED manufacturer in China.
4. Hiromasa Omiya, 2006. Dissertation Title: *Structural, Electrical, and Optical Characterization of High Brightness Phosphor-Free White Light Emitting Diodes*. Currently: Laser Division at Nichia Corporation, Anan, Japan.
5. Jin Mei, 2007. Dissertation Title: *Microstructure of III-Nitride Semiconductors*. Currently: HC SemiTek Corporation, in Wuhan and Suzhou, the leading LED manufacturer in China.
6. Jacob Brooksby, 2007. Dissertation Title: *III Nitride Alloys for Efficient Green and Longer Wavelength Light Emission*. Currently: Principal Engineer at Micron Technology, Boise, Idaho.
7. Zhihao Wu, 2008. Dissertation Title: *Structural and electronic properties of nitride semiconductors for solid-state lighting*. Currently: Research scientist at HC SemiTek Corporation, in Wuhan and Suzhou, the leading LED manufacturer in China.
8. Alec Fischer, 2009. Dissertation Title: *Optical Properties of Wide Gap Semiconductors studied by means of Cathodoluminescence.* Currently: Principal Scientist at Lawrence Semiconductor, Tempe, Arizona.
9. Yu Huang, 2011. Dissertation Title: *Optical Characterization of III-Nitride Semiconductors using Cathodoluminescence Techniques.* Currently: Software Engineer, Google, Sunnyvale, California.
10. Arlinda Hill, 2011. Dissertation Title: *Growth, Characterization, and Thermodynamics of III-Nitride Semiconductors*. Currently: Lecturer, Physics Department, Arizona State University, Tempe, Arizona.
11. Kewei Sun, 2011. Dissertation Title: *Structural and Optical Properties of Wide Bandgap Nitride Semiconductors Using Electron Microscopy Techniques*. Currently: Scientist at Ames Laboratory, Ames, Iowa.
12. Qiyuan Wei, 2013. Dissertation Title: *Polarization Effects in Group III-Nitride Materials and Devices*. Currently: Display Technologist, Apple, Cupertino, California.
13. Ti Li, 2013. Dissertation Title: *Optical Properties of Nitride Semiconductors for Visible Light Emission*. Currently: Reliability Engineer, i-Phone Department, Apple, Cupertino, California.
14. Reid Juday, 2013. Dissertation Title: *Optical Properties of Wurtzite Semiconductors Studied Using Cathodoluminescence Imaging and Spectroscopy*. Currently: Electron Beam Technology Manager at Intel Corporation, Hillsboro, Oregon
15. Jingyi Huang, 2013. Dissertation Title: *Structural and Optical Properties of II-VI and III-V Compound Semiconductors*. Currently: Sr Packaging Engineer, Qualcomm, Tempe, Arizona
16. Yong Wei, 2014. Dissertation Title: *Properties of Wide-Gap Semiconductors for Visible and Ultraviolet Light Emitting Devices*. Currently: Software Engineer, Google, San Francisco, California.
17. Hongen Xie, 2016. Dissertation Title: *Characterization of the Structural and Optical Properties of III-V Semiconductor Materials for Solar Cell Applications.* Currently: Defect metrology and Microcontamination Engineer, Intel Corporation, Chandler, Arizona.
18. Shuo Wang, 2018. Dissertation Title: *Microstructure of BAlN and InGaN Epilayers for Optoelectronic Applications*. Currently: Google, Sunnyvale, California.
19. Shanthan Reddy Alugubelli, 2019. Dissertation Title: *Nanoscale Electronic Properties in GaN-Based Structures for Power Electronics Using Electron Microscopy.* Currently: NVIDIA Hardware Enginneering, Hillsborough, Oregon.
20. Po-Yi Su, 2020. Dissertation Title*: Structural and Optical Properties of III-V Semiconductor Materials for Photovoltaics and Power Electronic Applications*. Currently: Sr. IC Reliability Engineer at NVIDIA, Santa Clara, California.
21. Hanxiao Liu, 2020. Dissertation Title: *Optical Properties of II-Nitride Semiconductors for Power Electronics and Photovoltaics*. Currently: Yield Enhancement Engineer, Qorvo Inc, Richardson, Texas.

CONFERENCE CHAIR: Chairing and organizing professional meetings.

1. Symposium on Frontiers of Electron Microscopy. April 1986. Palo Alto, California. Chair.
2. Conference on Spectroscopic Characterization Techniques for Semiconductor Technology. SPIE Conference, 14-16 March, 1988. Newport Beach, California. Chair.
3. Symposium on High Resolution Electron Microscopy, Materials Research Society. 28 Nov 1988. Boston, MA. Chair.
4. 6th Latin American Symposium on Surface Physics. 3-7 September 1990. Cuzco, Peru. Chair.
5. 1st Ibero-American Congress of Surface Science and its Applications, November 1992. Bariloche, Argentina. Co-chair.
6. Electronic Materials Symposium, 21 March 1994. San Jose, California. Chair.
7. 1st Int. Symp. on GaN and Related Compounds, Materials Research Society. 27 Nov 1995. Boston, MA. Chair.
8. Symposium on III-V Nitrides, Materials Research Society. 2-6 December 1996. Boston, MA. Chair.
9. Symposium on Nitride Semiconductors, Materials Research Society. 1-5 December 1997. Boston, MA. Chair.

10. Symposium on Nitrides and Related Wide Band Gap Materials, European Materials Research Society. 15-19 June 1998. Strasbourg, France. Chair.
11. Symposium on Semiconducting Materials, 14th International Congress on Electron Microscopy. 31 August – 4 September 1998. Cancun, Mexico. Chair
12. Fall Meeting Chair, Materials Research Society. 29 November - 3 December 1999. Boston, MA.
13. Focused Session on Widegap Semiconductors. American Physical Society, March Meeting, Seattle, Washington, March 2001. Chair.
14. Pan-American Advanced Studies Institute (PASI) Workshop on Nanoscience and Nanotechnology. June 2001, Costa Rica. Chair.
15. 10th Latin American Congress on Surface Physics, CLACSA-10. July 2001, San Jose, Costa Rica. Chair.
16. 4th International Conference on Nitride Semiconductors, ICNS-4, July 16-20, 2001, Denver, CO, Vice Chair.
17. Pan-American Advanced Studies Institute (PASI) Workshop on Physics at the Nanoscale. June 2003, Bariloche, Argentina. Chair
18. 27th International Conference on Physics of Semiconductors, ICPS-27. July 2004. Flagstaff, Arizona. Chair.
19. Intel International Science and Engineering Fair. May 2005. Phoenix, Arizona. Co-Chair.
20. 7th International Symposium on Semiconductor Light Emitting Devices (ISSLED-7), April 2008, Phoenix, Arizona. Chair.
21. 5th Asia-Pacific Workshop on Nitride Semiconductors (APWS-2009), 24-28 May 2009. Zhang Jia Jie, Hunan, China. Co-Chair. http://www.apws2009.com.cn
22. Symposium on Group III Nitride Semiconductors, European Materials Research Society Spring Meeting (E-MRS 2009), 8-12 June 2009. Strasbourg, France. Chair.
23. Symposium on Frontiers in Photonic and Photovoltaic Materials and Processes. 11th International Conference on Advanced Materials – ICAM 2009. 20-25 September 2009. Rio de Janeiro, Brazil. Chair. www.icam2009.com.
24. 5th Int. Symposium on Growth of Nitride Semiconductors (ISGN-5). Atlanta, Georgia, July 2014. Co-Chair. https://onlinelibrary.wiley.com/doi/10.1002/pssc.201570083.
25. 11th International Conference on Nitride Semiconductors (ICNS-11). Beijing, China, Aug 30 - Sep 3, 2015. Co-Chair. https://onlinelibrary.wiley.com/doi/epdf/10.1002/pssc.201670126.
26. 8th Int. Symposium on Growth of Nitride Semiconductors (ISGN-8). San Diego, California July 2020. Co-Chair. https://www.mrs.org/isgn-8.

CONFERENCE COMMITTEES. Participation in various committees for organization of professional meetings.
(IAC = International Advisory Committee, OC = Organizing Committee, PC = Program Committee)

1. Electronic Materials Symposium, Northern California Section TMS. Santa Clara, California, March 1988-2001. PC
2. International Union of Vacuum Science Techniques and Applications (IUVSTA). Member of the Congress Planning Committee, and Vice-Chair of the Committee for Developing Countries, 1989-1994.
3. 10th Int. Conf. on Crystal Growth (ICCG-10). San Diego, California, August 1992. PC
4. 8th Latin American Congress on Surface Science & Applications. (CLACSA-8), Cancun, Mexico. Sept. 1994. OC
5. 3rd St. Louis Workshop on Nitrides. St. Louis, Missouri, March 1996. IAC
6. 1st European Workshop on GaN. Riggi, Switzerland, June 1996. IAC
7. 4th St. Louis Workshop on Nitrides. St. Louis, Missouri, March 1997. IAC
8. 2nd European Workshop on GaN. Valbonne, France, 11-13 June 1997. IAC
9. Symp. on III-V Nitrides Semiconductors, European Materials Res. Society. Strasburg, France, June 1997. IAC
10. 2nd Int. Conf. on Nitride Semiconductors. Tokushima, Japan, 26-30 October 1997. IAC
11. 10th Int. Conf. on Semiconducting and Insulating Materials (SIMC-X). Berkeley, California, June 1998. IAC
12. 3rd European Workshop on GaN. Warsaw, Poland, 21-24 June 1998. IAC
13. International Congress on Electron Microscopy. Cancun, Mexico, 31 August - 4 September 1998. IAC
14. 2nd International Symp. on Blue Laser and Light Emitting Diodes. Chiba, Japan, 29 Sept - 2 Oct 1998. PC
15. 9th Latin-American Congress on Surface Science and Applications (CLACSA-9). La Habana, Cuba, July 1999. IAC
16. 3rd Int. Conf. on Nitride Semiconductors. Montpelier, France, July 1999. IAC
17. 15th Latin-American Symp. on Solid State Physics (SLAFES-XV). Cartagena, Colombia, Nov 1999. PC
18. 4th European Workshop on GaN. Nottingham, England, 2-5 July 2000. IAC
19. 1st International Workshop on Nitride Semiconductors. Nagoya, Japan. September 2000. IAC
20. 4th International Symp. on Blue Laser and Light-Emitting Diodes. Cordoba, Spain, March 2002. IAC
21. 26th Int. Conf. on the Physics of Semiconductors (ICPS-26). Edinburgh, Scotland. July 2002. IAC
22. 2ndInternational Workshop on Nitride Semiconductors, Aachen, Germany. 21-25 July 2002. IAC
23. 16th Latin-American Symp. on Solid State Physics (SLAFES-XVI). Merida, Venezuela, 11-15 Dec, 2002. IAC
24. 1st Asia-Pacific Workshop on Widegap Semiconductors (APWS-2003). Hyogo, Japan, 9-12 March 2003. IAC
25. 5th Int. Conf. on Nitride Semiconductors. Nara, Japan, 25-30 May 2003. IAC
26. Int. Symp. on Compound Semiconductors. San Diego, 25-27 August 2003. IAC on Wide Bandgap Materials.
27. 11th Latin-American Congress on Surface Science and Applications (CLACSA-11). Pucón, Chile, Oct. 2003. OC
28. 5th Int. Symp. on Blue Laser and Light-Emitting Diodes (ISBLLED-2004). Geongju, Korea, 16 March, 2004. IAC
29. 17th Latin-American Symp. on Solid State Physics (SLAFES-XVII). Habana, Cuba, August 2004. IAC

30. 5th Int. Conf. on Low Dimensional Structures and Devices (LDSD 2004). Cancun, Mexico, 12-17 Dec 2004. IAC
31. 6th Int. Conf. on Nitride Semiconductors (ICNS-6). Bremen, Germany, August 2005. IAC
32. 12th Latin-American Congress on Surface Science & Appl. (CLACSA-12). Angra dos Reis, Brazil, Dec 2005. IAC
33. 6th Int. Symp. Blue Lasers & Light Emitting Diodes (ISBLLED-2006). Montpelier, France, May 2006. Chair IAC
34. 13th Winter Scientific Encounter, Lima, Peru. August 2006, Chair IAC
35. 4th International Workshop on Nitride Semiconductors (IWN 2006). Kyoto, Japan, 22-27 October 2006. IAC
36. 14th Summer Scientific Encounter, Lima, Peru. January 2007, Chair IAC
37. 1st International Conference on Display LEDs (ICDL 2007). Seoul, Korea, 31 Jan – 2 Feb 2007. IAC
38. Asian Pacific Workshop on Widegap Semiconductors 2007 (APWS 2007). Jeonju, Korea, March.2007. IAC
39. 7th International Conference on Nitride Semiconductors (ICNS-7). Las Vegas, NV. 16-21 Sept. 2007. IAC
40. 13th Latin American Congress on Surface Science & Applications. (CLACSA-13). Bogota Colombia, Oct. 2007. OC
41. 6th Int. Workshop on Technologies for Optoelectronic Semiconductors (IWITOS). Seoul, Korea, Jan. 2008. IAC
42. 2nd International Conference on Display and Solid State Lighting (DSSL-2008). Seoul, Korea, February 2008. IAC
43. 29th Int. Conference on Physics of Semiconductors, ICPS-29. Rio de Janeiro, Brazil, 27 July – 1 Aug. 2008. IAC
44. 5th Int. Workshop on Nitride Semiconductors (IWN 2008). Montreaux, Switzerland, 6-10 October 2008. IAC
45. 2nd Andean Workshop on Spectroscopy. Lima, Peru, 2-6 March 2009. IAC
46. International Conference on Spectroscopy and its Applications. Lima, Peru, 9-13 March 2009. IAC
47. International Union of Material Research Societies, ICAM-2009. Rio de Janeiro, Brazil, 20-25 Sept 2009. IAC
48. 8th International Conference on Nitride Semiconductors (ICNS-8). Jeju, Korea. 18-23 October 2009. IAC
49. 8th Int. Symp. on Semiconductor Light Emitting Devices (ISSLED-2010). Beijing, China, May 2010. Chair IAC
50. 3rd International Symposium on Growth of III-Nitrides (ISGN3). Montpellier, France, 4-8 July 2010. IAC
51. 6th International Workshop on Nitride Semiconductors (IWN-6). Tampa, Florida, 14-19 September 2010. IAC
52. Conf. on Solar Cells, Solid-State Lighting & Information Display Technol. (SSID). Wuhan, China, Oct. 2010. PC
53. Asian Pacific Workshop on Widegap Semiconductors 2011 (APWS 2011). Mie, Japan, May 2011. Co-Chair OC
54. 38th International Symposium on Compound Semiconductors (ISCS-2011). Berlin, Germany, May 2011. PC
55. 15th Int. Symp. on the Physics of Semiconductors and Applications (ISPSA-XV). Jeju, Korea. 5-8 July 2011. IAC
56. 9th International Conference on Nitride Semiconductors (ICNS-9). Glasgow, Scotland. 10-14 July 2011. IAC
57. 9th Int. Symp. on Semiconductor Light Emitting Devices (ISSLED-2012). Berlin, Germany, July 2012. Chair IAC
58. 4th Int. Symp. on Growth of III-Nitrides (ISGN-4), St. Petersburg, Russia, 16-19 July, 2012. IAC
59. 7th International Workshop on Nitride Semiconductors (IWN-2012). Sapporo, Japan, 14-19 October 2012. IAC
60. 10th International Conference on Nitride Semiconductors (ICNS-10). Washington DC. 23-27 August 2013. IAC
61. 8th International Workshop on Nitride Semiconductors (IWN-2014). Wroclaw, Poland, 24-29 August 2014. IAC
62. 10th Int. Symp. on Semiconductor Light Emitting Devices (ISSLED-2014). Kaohsiung, Taiwan, Dec. 2014. Chair IAC
63. 11th International Conference on Nitride Semiconductors (ICNS-11). Beijing, China. 31 August – 4 Sept. 2015. IAC
64. 14th Brazilian Materials Research Society Meeting (BMRS-14). Rio de Janeiro, Brazil, Sept 27 – Oct 1, 2015. IAC
65. 6th Int. Symposium on Growth of Nitride Semiconductors (ISGN-6). Hamamatsu, Japan, November 2015. IAC
66. 9th International Workshop on Nitride Semiconductors (IWN-2016). Orlando, Florida, October 2-7, 2016. IAC
67. 12th Int. Conference on Nitride Semiconductors (ICNS-12). Montpellier, France. July 2017. Chair IAC
68. 11th Int. Symp. on Semiconductor Light Emitting Devices (ISSLED-2017). Banff, Canada, 8-12 October 2017. IAC
69. 7th Int. Symposium on Growth of Nitride Semiconductors (ISGN-7). Warsaw, Poland, August 2018. IAC
70. 10th International Workshop on Nitride Semiconductors (IWN-2018). Kanazawa, Japan, October, 2018. IAC
71. 13th Int. Conference on Nitride Semiconductors (ICNS-13). Bellevue, Washington, USA. 7-12 July 2019. IAC
72. Asian Pacific Workshop on Widegap Semiconductors 2019 (APWS 2019). Okinawa, Japan, November 2019. IAC
73. 12th Int. Symp. Semiconductor Light Emitting Devices (ISSLED-2020). Magdeburg, Germany, 20-25 May 2020. IAC
74. Asian Pacific Workshop on Widegap Semiconductors 2021 (APWS 2021). Tainan, Taiwan, May 16-21, 2021. IAC
75. 11th International Workshop on Nitride Semiconductors (IWN-11). Berlin, Germany, October 9-14, 2022. IAC
76. 14th Int. Conference on Nitride Semiconductors (ICNS-14). Fukuoka, Japan. November 14-19, 2023. IAC

BOARDS AND ADVISORY COMMITTEE MEMBERSHIP

1. National Center for Electron Microscopy, Lawrence Berkeley Laboratory (1984-1991, 1994-1999). Member Steering Committee.
2. Xerox Corporation-Stanford University Technical Liaison Manager (1985-1992).
3. AIME Ross Tucker Memorial Award on Electronic Materials (1988-2002). Member of the Award Committee.
4. Latin-American Society of Surface Science and Applications (SLACS). Board of Directors (1990-2006).

PUBLICATIONS by FERNANDO A. PONCE

SUMMARY OF PUBLICATIONS

1. More than 384 refereed publications (See list beginning on page 6).
   Google Scholar*: 'Fernando Ponce'*, 583 entries, > 20,310 citations, i10-index 261, h-index 69.
   Web of Science*: 'Ponce* FA' + 'Ponce F', 346 entries, > 13,170 citations, h-index 54.
   SCOPUS, https://www.scopus.com/authid/detail.uri?authorId=24454566600; 362 entries, >13,860 citations, h-index 54
   Researcher ID: *M-8649-2013*; http://www.researcherid.com/rid/M-8649-2013.
   ORCID*:* 0000-0002-1275-9386 http://orcid.org/0000-0002-1275-9386
2. Editor of 12 books; inventor in 6 issued patents.
3. More than 340 technical talks; with over 220 invited talks (See list beginning on page 21).

PATENTS AND INVENTIONS

1. U. S. Patent # 4,280,107. *Apertured and unapertured reflector structures for electroluminescent devices.* D. R. Scifres, F. A. Ponce, G. A. N. Connell, and W. Streifer, Inventors. Issued 21 July 1981.
2. U. S. Patent # 5,317,586. *Buried Layer III-V Semiconductor Devices with Impurity Induced Layer Disordering.* R. L. Thornton and F. A. Ponce, Inventors. Issued 31 May 1994.
3. U. S. Patent # 5,766,981. R. L. Thornton, R. D. Bringans, G. A. N. Connell, D. W. Treat, D. P. Bour, F. A. Ponce, N. M. Johnson, and K. J. Beernink, Inventors. *Thermally-processed, phosphorus - or arsenic containing semiconductor laser with selective IILD.* Issued 16 June 1998.
4. U. S. Patent # 5,977,612. D. P. Bour, F. A. Ponce, G. A. N. Connell, R. D. Bringans, N. M. Johnson, W. K. Goetz, and L. T. Romano. Inventors. *Semiconductor Devices Constructed from Crystallites.* Issued 2 November 1999.
5. U. S. Patent # 7,255,844. F. A. Ponce, R. Garcia, A. Bell, A. C. Thomas, and M. Stevens, Inventors. *Systems and Methods for Synthesis of Gallium Nitride Powders*. Application Filed: 24 November 2004. Issued 14 August 2007
6. U. S. Patent # 8,529,698, F. A. Ponce and R. García, Inventors. *InGaN columnar nano-structures for solar cells*. Patent Application No. 12/616,634, filed 11 November 2009. Issued 10 September 2013.
7. U. S. Patent Application. F. A. Ponce, R. Garcia, and A. Thomas, Inventors. *Method to Synthesize Highly Luminescent Doped Gallium Nitride Powders*. Filed 27 April 2005; Publication number 20080025902 dated 31 Jan 2008.
8. U. S. Patent Application 20090159869. F. A. Ponce, Sridhar Srinivasan, Hiromasa Omiya, Inventors. *Solid State Light Emitting Device*. Filed 10 March 2006; Publication number 20090159869 dated 25 June 2009.
9. U. S. Patent Application. F. A. Ponce, S. Srinivasan, and H. Omiya, Inventors. *High efficiency light emitting devices*. Filed 10 March 2006; Publication number 20090159869 dated 25 June 1009.

BOOKS EDITED

1. O. J. Blembocki, F. H. Pollack and F. A. Ponce, eds. *Spectroscopic Characterization Techniques for Semiconductor Technology.* Proceedings of SPIE Conference held on 1988 March 14-15, Newport Beach, California. (Bellingham, Washington, 1988); Vol. **946**, pp. 1-234 (ISBN 0-89252-981-4).
2. W. Krakow, F. A. Ponce and D. J. Smith, eds. *High Resolution Electron Microscopy of Materials*. Materials Research Society (Pittsburgh, Pennsylvania, 1989); Vol. **139**, pp. 1-440 (ISBN 1-55899-012-7).
3. F. A. Ponce and M. Cardona, eds. *Lectures on Surface Sciences and Applications.* Springer Proc. Phys. (Springer, Berlin, Heidelberg 1990); pp. 1-525 (ISBN 0-387-53604-3).
4. F. A. Ponce, R. D. Dupuis, S. Nakamura and J. A. Edmond, eds. *Gallium Nitride and Related Materials.* Materials Research Society (Pittsburgh, Pennsylvania, 1996); Vol. **395**, pp. 1-995 (ISBN 1-55899-298-7).
5. F. A. Ponce, T. D. Moustakas, I. Akasaki, B. Monemar, eds. *III-V Nitrides*. Materials Research Society (Pittsburgh, Pennsylvania, 1997); Vol. **449**, pp. 1-1251 (ISBN 1-55899-353-3).
6. F. A. Ponce, S. P. DenBaars, B. K. Meyer, S. Nakamura, S. Strite, eds. *Nitride Semiconductors*. Materials Research Society (Pittsburgh, Pennsylvania, 1998); Vol. **482**, pp. 1-1224 (ISBN 1-55899-387-8).
7. A. Hangleiter, J.-Y. Duboz, K. Kishino, F. A. Ponce, eds. *Nitrides and Related Wide Band Gap Materials*. Materials Science and Engineering B, Volume **59**. (Elsevier Science Ltd, 1999), pp. 1-412 (ISBN 0-08-043615-3).
8. F. A. Ponce and A. Bell, eds. *Advances in Nitride Semiconductors*, Proceedings of the Fourth International Conference on Nitride Semiconductors (Wiley-VCH, Berlin, 2002); Part A: pp. 1-916; Part B: pp.1-640 (ISBN 3-527-40347-7). Also, in Physica Status Solidi A, Vol. **188** (2001) and B Vol. **288** (2001).
9. S. E. Ulloa and F. A. Ponce, eds. *Physics and Technology at the Nanometer Scale*, Pan American Advanced Studies Institute (PASI), San Jose, Costa Rica, June 25-July 3, 2001. DOI: 10.1002/1521-3951(200204)230:2<307::AID-PSSB307>3.0.CO;2-Y. Also, in: Physica Status Solidi A, Vol. **230**, Number 2 (ISSN 0370-1972, April 2002).
10. A. Allerman, R. D. Dupuis, A. Khan, and F. A. Ponce, eds. *Semiconductor Light Emitting Device*: Proceedings of the Eight International Symposium on Semiconductor Light Emitting Devices, ISSLED-2008. (Wiley-VCH, 2009). Also, in Physica Status Solidi A Vol. **206**, pp. 193-219 (2009), C Vol. **6**, pp. 585-609 (2009). (ISBN 1862-6300).
11. O. Briot, A. Hoffmann, Y. Nanishi, and F. A. Ponce, eds. *Group III Nitride Semiconductors*. Proceedings of Symposium J, E-MRS 2009 Spring Meeting, Strasbourg, France, 8-12 June 2009. (Wiley-VCH, Feb. 2010). Also, in Physica Status Solidi A, Vol. **207**, pp. 9-48 (2010), and C Vol. **6**, pp. 9-120 (2010). (ISBN 1862-6300).
12. R. D. Dupuis and F. A. Ponce, eds. *Growth of III-Nitrides*. E-MRS 2014. (Wiley-VCH, Berlin 2015). DOI: 10.1002/pssc.201570083. Also, in Physica Status Solidi A, Vol. **212,** No 4-5, (2015).

BOOK CHAPTERS AND INVITED REVIEWS

1. F. A. Ponce, *Microstructure of epitaxial III-V nitride thin films*, Chapter 6 in GaN and Related Materials, S. J. Pearton, ed. (Gordon and Breach Publishers, 1996) 141-170. ISBN 9789056995171.
2. F. A. Ponce and D. P. Bour, *Nitride-based semiconductors for blue and green light emitting devices*. Nature, 27 March 1997, Vol. **386**: 351-359. (Invited Review Article).
3. F. A. Ponce, *Structural defects and materials performance in the III-V nitrides*, Chapter 4 in Group III Nitrides Semiconductor Compounds, B. Gil, ed. (Oxford University Press, 1998). 123-157. ISBN: 9780198501596
4. F. A. Ponce, *Nitride Semiconductors*, in Encyclopedia of Applied Physics, Annual Update (1999), pp. 483-501. (Wiley-VCH, Verlag-VCH) ISBN: 3527293078, 978-3527293070.
5. F. A. Ponce, *Crystal defects and device performance in LEDs and LDs*, Chapter 4, in Introduction to Nitride Semiconductor Blue Lasers and Light Emitting Diodes, S. Nakamura and S. F. Chichibu, eds. (Taylor and Francis Ltd., CRC Press, UK, 9 March 2000), pp. 105-152. ISBN 9780748408368.
6. F. A. Ponce, *Microstructure and polarization properties of III-N semiconductors*, Chapter 2, pp. 53-86, in Handbook of GaN Semiconductor Materials and Devices, W. Bi, H. Kuo, P.-C. Ku, and B. Shen, eds. (Taylor & Francis Ltd., CRC Press, UK, 20 October 2017) ISBN 9781498747134.
7. E. C. Weiner, R. Jakomin, D. N. Micha, R. M. S. Kawabata, R. T. Mourão, L. P. Dornelas, M. P. Pieres, H. Xie, A. M. Fischer, F. A. Ponce, P. L. Souza, *Desenvolvimento de células solares de banda intermediária no laboratório de semicondutores da PUC-Rio*. Chapter 7, pp. 69-80, in Energia no Brazil - Volume 1, D. F. Andrade, ed. (Poisson, Belo Horizonte, 2019). ISBN 978-85-7042-107-4, DOI: 10.5935/978-85-7042-107-4.
8. D. N. Michia, R. Jakomin, R. M. S. Kawabata, M. P. Pires, F. A. Ponce, P. L. Souza, *Nanostructured materials for high efficiency solar cells*, Chapter 7 in Sustainable Materials Solutions for Solar Energy Technologies, S. Sonmezoglu, ed. (Elsevier, 2021).

PUBLICATIONS IN ARCHIVAL REFEREED JOURNALS – In reverse chronological order

1. A. M. Fischer, T. A. Grotjohn, and F. A. Ponce, *Cathodoluminescence studies of band-A emission in thick undoped diamond epilayers grown on a large miscut substrate*. Journal of Applied Physics, 10 April 2025, Vol. **137**, 145704. DOI: 10.1063/5.0230723.
2. K. Fu, S. Luo, H. Fu, K. Hatch, S. R. Alugubelli, H. Liu, M. Xu, Z. Mei, Z. He, J. Zhou, C. Chang, F. A. Ponce, R. J. Nemanich, and Y. Zhao, *GaN based threshold switching selector devices working at 500^{o}C enabled by interface engineering for harsh environment memory applications*, IEEE Transactions on Electron Devices, March 2024, Vol. **71**, pp. 1641-1645. DOI: 10.1109/TED.2023.3321562.
3. A. M. Fischer, A. Bhattacharya, A. Hardy, T. A. Grotjohn, and F. A. Ponce, *The effect of step-flow growth on the surface morphology and optical properties of thick diamond films*. Diamond and Related Materials, 18 October 2023, Vol. **140**, 110507. DOI: 10.1016/j.diamond.2023.110507.
4. Y. Wang, S. Yang, A. M. Fischer, T. Grotjohn, F. A. Ponce, and P. A. Crozier, *Exploring the effect of diffraction conditions on off-axis phonon EELS*. Microscopy and Microanalysis, 1 August 2023, Vol. **29**, 653. DOI: 10.1093/micmic/ozad067.320
5. Y. Ando, F. Mehnke, H. Bouchard, Z. Xu, A. M. Fischer, S.-C. Shen, F. A. Ponce, T. Detchprohm, and R. D. Dupuis, *Non-planar growth of high Al-mole-fraction AlGaN on patterned GaN platforms for mitigating strain-induced cracks beyond the critical layer thickness*, Journal of Crystal Growth, 19 January 2023, Vol. **607**, 127100. DOI: 10.1016/j.jcrysgro.2023.127100.
6. R. D. Dupuis, F. Mehnke, A. M. Fischer, Z. Xu, H. K. Bouchard, T. Detchprohm, S.-C. Shen, and F. A. Ponce, *High Al mole fraction crack-free AlGaN on GaN for UV laser diodes by a non-planar growth approach*, Proc. SPIE PC12001, Gallium Nitride Materials and Devices XVII, PC1200103, 5 March 2022. DOI; 10.1117/12.2607411.
7. F. Mehnke, A. M. Fischer, Z. Xu, H. Bouchard, T. Detchprohm, S.-C. Shen, F. A. Ponce, and R. D. Dupuis. *Realizing crack-free high aluminum mole fraction AlGaN on patterned GaN beyond the critical layer thickness*. Journal of Applied Physics, 16 February 2022, Vol. **131**, 073103. DOI: 10.1063/5.0073489.
8. H. Fu, K. Fu, C. Yang, H. Liu, K. A. Hatch, S. R. Alugubelli, P.-Y. Su, D. C. Messina, P. Peri, B. Li, X. Deng, C.Y. Chen, R. V. Meidanshahi, X. Huang, H. Chen, T.-H. Yang, J. Zhou, E. Yu, A. M. Armstrong, A. A. Allerman, J. Han, S. M. Godnick, D. J. Smith, R. J. Nemanich, F. A. Ponce, and Y. Zhao. *Selective area regrowth and doping for vertical GaN power devices: Materials challenges and recent progress*. Materials Today, 1 October 2021, Vol, 49, pp. 296-323. DOI: 10.1016/j.mattod.2021.04.011.
9. K. Fu, H. Fu, X. Deng, P.-Y. Su, H. Liu, K. A. Hatch, C.-Y. Cheng, D. C. Messina, R. V. Meidanshahi, P. R. Peri, C. Yang, T.-H. Yang, J. Montes, J. Zhou, X. Qi, S. M. Goodnick, F. A. Ponce, D. J. Smith, R. J. Nemanich, and Y. Zhao. *The impact of interfacial Si contamination on GaN-on-GaN regrowth for high power vertical devices*. Applied Physics Letters, 2 June 2021, Vol. **118**, 222104. DOI: 10.1063/5.0049473.
10. D. N. Michia R. Jakomin, R. M. S. Kawabata, M. P. Pires, F. A. Ponce, and P. L. Souza. *Nanostructured materials for high efficiency solar cells*, Chapter 7 in Sustainable Material Solutions for Solar Energy Technologies (2021, Elsevier; pp 201-227) DOI: 10.1016/B978-0-12-821592-0.00016-9.
11. K. Fu, X. Qi, H. Fu, P.-Y. Su, H. Liu, T. Yang, C. Yang, J. Montes, J. Zhou, F. A. Ponce, and Y. Zhao. *Characterization of MOCVD regrown p-GaN and the interface properties for vertical GaN power devices*. Semiconductor Science and Technology, 25 November 2020, Vol. **36**, 014005. DOI: 10.1088/1361-6641/zbc7d1
12. P.-Y. Su, H. Liu, C. Yang, K. Fu, H. Fu, Y. Zhao, and F. A. Ponce. *Lateral and vertical growth of Mg-doped GaN on trench-patterned GaN films.* Applied Physics Letters, 11 September 2020, Vol. **117**, 102110. DOI: 10.1063/1.0019349.

13. C. Yang, H. Fu, K. Fu, H. Liu, X. Huang, T.-H. Yang, H. Chen, J, Zhou, X. Deng, J. Montes, F. A. Ponce, D. Vasileska, and Y. Zhao. *GaN Vertical-Channel Junction Field-Effect Transistors with Regrown p-GaN by MOCVD*. IEEE Transactions on Electron Devices, October 2020, Vol. **67**, pp. 3972-3977, DOI: 10.1109/TED.2020.3010183.
14. C. Yang, H. Fu, P.-Y. Su, H. Liu, K. Fu, X. Huang, T.-H. Yang, H. Chen, Jingan Zhou, X. Deng, J. Montes, X. Qi, F. A. Ponce, and Yuji Zhao. *Demonstration of GaN-based metal-insulator-semiconductor junction by hydrogen plasma treatment*. Applied Physics Letters, 6 August 2020, Vol. **117**, 052105. DOI: 10.1063/5.0018473
15. P.-Y. Su, H. Liu, S. Wang, Z. Wu, R. Liu, and F. A. Ponce. T*he effect of low-angle off-axis GaN substrate orientation on the surface morphology of Mg-doped GaN epilayers*. Journal of Applied Physics, 3 August 2020, Vol. **128**, 055301. DOI: 10.1063/5.0016036.
16. X. Huang, D. Li, P.-Y. Su, H. Fu, H. Chen, J. Montes, T.-H. Yang, C. Yang, J. Zhou, X. Qi, X. Deng, K. Fu, S. P. DenBaars, S. Nakamura, F. A. Ponce, C.-Z. Ning, and Yuji Zhao. *High temperature polarization-free III-nitride solar cells with self-cooling effects.* Nano Energy, 19 June 2020, Vol. 76, 105013. DOI: 10.1016/j.nanoen.2020.105013
17. H. Liu, P.-Y. Su, Z. Wu, R. Liu, and F. A. Ponce. *Influence of substrate misorientation on the optical properties of Mg-doped GaN epilayers*. Journal of Applied Physics, 15 May 2020, Vol. **127**, 195701. DOI: 10.1063/5.0001482.
18. A. Chikhalkar, A. Gangopadhyay, H. Liu, C. Zhang, F. A. Ponce, D. J. Smith, C. Honsberg, and R. R. King. *Investigation of polycrystalline GaInP for potential use as a solar cell absorber with tunable bandgap.,* Journal of Applied Physics, 18 February 2020, Vol. **127**, 073102. DOI: 10.1063/1.5125676.
19. H. Fu, K. Fu, S. R. Alugubelli, C.-H Cheng, X. Huang, H. Chen, T.-H. Yang, C. Yang, J. Zhou, J. Montes, X. Deng, X. Qi, S. M. Goodnick, F. A. Ponce, and Y. Zhao. *High voltage vertical GaN p-n diodes with hydrogen-plasma based guard rings*. IEEE Electron Device Letters, January 2020, Vol. **41**, pp. 127-130. DOI: 10.1109/LED.2019.2954123.
20. S. R. Alugubelli, H. Fu, K. Fu, H. Liu, Y. Zhao, M. R. McCartney, and F. A. Ponce, *Determination of electronic band structure by electron holography of etched-and-regrown interfaces in GaN p-i-n diodes,* Applied Physics Letters, 11 November 2019, Vol. **115**, 201602. DOI: 10.1063/1.5127014.
21. E. Vadiee, E. A. Clinton, A. M. Fischer, H. Mcfavilen, A. Patadia, C. Arena, F. A. Ponce, R. R. King, C. Honsberg, and W. A. Doolittle. *Evaluating the performance of InGaN/GaN multi-quantum-well solar cells operated at elevated temperatures via DC and small-signal AC analysis*. Japanese Journal of Applied Physics. 1 October 2019, Vol. **58**, 101003. DOI: 10.7567/1347-4065/ab3b66.
22. S. R. Alugubelli, H. Fu, K. Fu, H. Liu, Y. Zhao, and F. A. Ponce, *Dopant profiling in p-i-n GaN structures using secondary electrons,* Journal of Applied Physics, 2 July 2019, Vol. **126**, 015704. DOI: 10.1063/1.5096273.
23. H. Fu, K. Fu, H. Liu, S. R. Alugubelli, X. Huan, H. Chen, J. Montes, T.-H. Yang, C. Yang, J. Zhou, F. A. Ponce, and Y. Zhao, *Implantation-and etching-free high voltage vertical GaN p-n diodes terminated by plasma-hydrogenated p-GaN: Revealing the role of thermal annealing*. Applied Physics Express, 1 May 2019, Vol. **12**,051015. DOI: 10.7567/1882-0786/ab1813.
24. S. Wang, K. March, F. A. Ponce, and P. Rez, Erratum: *Identification of point defects using high-resolution electron energy loss spectroscopy*. Physical Review B, 18 April 2019, Vol. **99**, 169906. DOI: 10.1103/PhysRevB.99.169906.
25. S. Wang, K. March, F. A. Ponce, and P. Rez, *Identification of point defects using high-resolution electron energy loss spectroscopy*. Physical Review B, 18 March 2019, Vol. **99**, 115312. DOI: 10.1103/PhysRevB.99.115312.
26. Y. J. Park, T. Detchprohm, K. Mehta, J. Wang, H. Jeong, Y. S. Liu, P. Chen, S. Wang, S. C. Shen, P. D. Yoder, F. A. Ponce, R. Dupuis, *Optically-pumped vertical-cavity surface-emitting lasers at 375 nm with air-gap/Al0.05Ga0.95N distributed Bragg reflectors*, Proc. SPIE 10938, Vertical-Cavity Surface-Emitting Lasers XXIII, 109380A, 1 March 2019. DOI: 10.1117/12.2510268.
27. H. Liu, H. Fu, K. Fu, S. R. Alugubelli, P.-Y. Su, Y. Zhao, and F. A. Ponce, *Non-uniform Mg distribution in GaN epilayers grown on mesa structures for applications in GaN power electronics*, Applied Physics Letters, 26 February 2019, Vol. **114**, 082102. DOI: 10.1063/1.5088168.
28. P.-Y. Su, H. Liu, R. M. S. Kawabata, E. C. Weiner, R. Jakomin, M. P. Pires, R. R. King, P. L. Souza, and F. A. Ponce, *Effect of InAs quantum dots capped with GaAs on ordering in* $Ga_{0.5}In_{0.5}P$, Journal of Applied Physics, 7 February 2019, Vol. **125**, 053104. DOI: 10.1063/1.5063941.
29. F. A. Ponce, *Novel semiconductors for sustainable solar energy technologies*, Journal of Physics: Conf. Series, February 2019, Vol. **1173**, 012001. DOI: 10.1088/1742-6596/1173/1/012001.
30. K. Fu, H. Fu, H. Liu, S. R. Alugubelli, T.-H. Yang, X. Huang, H. Chen, I. Baranowski, J. Montes, F. A. Ponce, and Y. Zhao, *Investigation of GaN-on-GaN vertical* p-n *diode with regrown* p-*GaN by metalorganic chemical vapor deposition*. Applied Physics Letters, 3 December 2018, Vol. **113**, 233502. DOI: 10.1063/1.5052479.
31. K. Mehta, Y.S. Liu, J. Wang, H. Jeong, T. Detchprohm, Y. J. Park, S. R. Alugubelli, S. Wang, F. A. Ponce, S.-C. Shen, R. D. Dupuis, and P. D. Yoder. *Theory and Design of Electron Blocking Layers for III-N Based Laser Diodes by Numerical Simulation*, IEEE Journal of Quantum Electronics, December 2018, Vol. **54** (6), 2001310. DOI: 10.1109/JQE.2018.2876662.
32. H. Fu, X. Zhang, K. Fu, H. Liu, S. R. Alugubelli, X. Huan, H. Chen, I. Baranowski, T.-H. Yang, K. Xu, F. A. Ponce, B. Zhang, and Y. Zhao, *Nonpolar vertical GaN-on-GaN p-n didodes grown on free-standing (10-10) m-plane GaN substrates*. Applied Physics Express, 16 October 2018, Vol. **11**, 111003. DOI: 10.7567/APEX.11.111003.
33. S. Wang, H. Xie, H. Liu, A. M. Fischer, H. McFavilen, and F. A. Ponce, *Dislocation baskets in thick* $In_xGa_{1-x}N$ *epilayers.* Journal of Applied Physics, 11 September 2018, Vol. **124**, 105701. DOI: 10.1063/1.5042079.
34. K. March, S. Wang, F. A. Ponce, and P. Rez. *High resolution EELS of point defects in a nitride semiconductor*. Microscopy and Microanalysis, August 2018, Vol. **24** (Suppl. 1), 430-431. DOI: 10.1017/S1431927618002647.
35. K. Mehta, Y. S. Liu, J. Wang, H. Jeong, T. Detchprohm, Y. J. Park, S. R Alugubelli, S. Wang, F. A. Ponce, S. C. Shen, R. D. Dupuis, and P. D. Yoder. *Lateral current spreading in III-N ultraviolet vertical-cavity surface-emitting lasers using*

modulation-doped short period superlattices. IEEE Journal of Quantum Electronics. August 2018, Vol. **54** (4), 2400507. DOI: 10.1109/JQE.2018.2836667.

36. D. Swanson, C. Reich, A. Abbas, T. Shimpi, H. Liu, F. A. Ponce, J. M. Walls, Y.-H. Zhang, W. K. Metzger, W. S. Sampath, and Z. C. Holman. *$CdCl_2$ passivation of polycrystalline CdMgTe and CdZnTe absorbers for tandem photovoltaic cells*. Journal of Applied Physics. 22 May 2018, Vol. **123**, 203101. DOI: 10.1063/1.5023811.
37. E. C. Weiner, R. Jakomin, D. N. Micha, H. Xie, P.-Y. Su, L. D. Pinto, M. P. Pires, F. A. Ponce, and P. L. Souza, *Effect of capping procedure on quantum dot morphology: Implications on optical properties and efficiency of InAs/GaAs quantum dot solar cells.* Solar Energy Materials and Solar Cells. 22 January 2018, Vol. **178**, 240-248. DOI: 10.1016/j.solmat.2018.01.028.
38. K. Mehta, T. Detchprohm, Y. J. Park, Y. S. Liu, O. Moreno, S. R Alugubeli, S. Wang, S. C. Shen, F. A. Ponce, R. D. Dupuis, and P. D. Yoder. *High reflectivity hybrid AlGaN/silver distributed Bragg reflectors for use in the UV-visible spectrum*. IEEE Journal of Quantum Electronics. 25 October 2017, Vol. **53**, 2100208. DOI: 10.1109/JQE.2017.2766288.
39. S. Zhao, J. Gao, S. Wang, H. Xie, F. A. Ponce, S. Goodnick, and S. Chowdhury. *Stability of alloyed and nonalloyed ohmic contacts to n-type GaN at high temperature in air.* Japanese Journal of Applied Physics, 15 November 2017, Vol. **56**, 126502. DOI: 10.7567/JJAP.56.126502.
40. J. J. Williams, H. Macfavilen, A. M. Fischer, D. Ding, S. Young, E. Vadlee, F. A. Ponce, C. Arena, C. B. Honsberg, and S. Goodnick. *Refractory $In_xGa_{1-x}N$ solar cells for high temperature applications*. IEEE Journal of Photovoltaics, 16 October 2017. Vol. **7** (6) pp. 1646-1652. DOI: 10.1109/JPHOTOV.2017.2756057
41. E. A Clinton, E. Vadiee, C. A. M. Fabien, M. W. Moseley, B. P. Gunning, W. A. Doolittle, A. M Fischer, Y. O. Wei, H. Xie, and F. A. Ponce. *A review of the synthesis of reduced defect density $In_xGa_{1-x}N$ for all indium compositions.* Solid-State Electronics, 1 October 2017, Vol. **136**, 3-11. DOI: 10.1016/j.sse.2017.06.020.
42. S. Wang, X. Li, A. M. Fischer, T. Detchprohm, R. D. Dupuis, and F. A. Ponce. *Crystal structure and composition of BAlN thin films: Effect of boron concentration in the gas flow*. Journal of Crystal Growth. 20 July 2017, Vol. **475**, pp.334-340. DOI: 10.1016/j.jcrysgro.2017.07.013.
43. A. M Fischer, S. Wang, F. A. Ponce, B. Gunning, C. Fabian, and W. A. Doolittle. *Origin of high hole concentration in Mg-doped GaN films.* Phys. Status Solidi B, 19 April 2017, Vol. **254**, 1600668. DOI: 10.1002/pssb.201600668
44. H. Xie, R. Prioli, G. Torelly, H. Liu, A. M. Fischer, R. Jakomin, R. Mourão, R. M. S. Kawabata, M. P. Pires, P. L. Souza, and F. A. Ponce. *Correlation between size distribution and luminescence properties of spool-shaped InAs quantum dots.* Semiconductor Science and Technology, 12 April 2017, Vol. **32**, 055013. (6pp) DOI: 10.1088/1361-6641/aa6471.
45. P. G. Caldas, R. Prioli, E. S. Martins, R. Juday, J. Y. Huang, A. M. Fischer, and F. A. Ponce. *Plasticity and optical properties of GaN under highly-localized nanoindentation stress fields.* Journal of Applied Physics, 23 March 2017, Vol. **121**, 125105. DOI: 10.1063/1.4978018.
46. T. Detchprohm, Y. S. Liu, K. Mehta, S. Wang, H. Xie, t. T. Kao, S. C. Shen, P. D. Yoder, F. A. Ponce, and R. D. Dupuis. *Sub 250nm deep-UV AlGaN/AlN distributed Bragg reflector.* Applied Physics Letters, 4 January 2017, Vol. **110**, 011105. DOI: 10.1063/1.4973581.
47. X. Li, S. Wang, H. Liu, F. A. Ponce, T. Detchprohm, and R. D. Dupuis. *100-nm thick single-phase wurtzite BAlN films with boron contents over 10%.* Physica Status Solidi B, 11 January 2017, Vol. **254**, 1600699. DOI: 10.1002/pssb.201600699
48. E. Vadlee, C. Zhang, N. N. Faleey, S. Addamane, S. Wang, F A. Ponce, G. Balakrishnan, and C. B. Honsberg. *AlGaSb based solar cells grown on GaAs by molecular beam epitaxy.* 2016 IEEE 43rd Photovoltaic Specialists Conference (PVSC), 2313-2316. DOI: 10.1109/PVSC.2016.7750050
49. J. J. Williams, H. McFavilen, A. M. Fischer, D. Ding, S. R. Young, E. Vadlee, F. A. Ponce, C. Arena, C. B. Honsberg, and S. M. Goodnick, *Development of a high-band-gap high-temperature III-nitride solar cell for integration with concentrated solar power technology.* Photovoltaic Conference (PVSC). 2016 IEEE 43rd Proc. pp. 2313-2316.
50. Y. S. Liu, A. F. M. Saniul Haq, K. Mehta, T. T. Kao, S. Wang, H. Xie, S. C. Shen, P. D. Yoder, F. A. Ponce, T. Detchprohm, and R. D. Dupuis. *Optically pumped vertical-cavity surface-emitting laser at 374.5 nm with electrically conducting n-DBR.* Applied Physics Express, 12 October 2016, Vol. **9**, 111002. DOI: 10.7567/APEX.9.111002.
51. Y. S. Liu, S. Wang, H. Xie, T. T. Kao, K. Mehta, X. J. Jia, S. C. Shen, P. D. Yoder, F. A. Ponce, T. Detchprohm, and R. D. Dupuis. *Strain management of AlGaN-based distributed Bragg reflectors with GaN interlayer grown by metalorganic chemical vapor deposition.* Applied Physics Letters, 22 August 2016, Vol. **109**, 081103. DOI: 10.1063/1.4961634.
52. H. Xie, R. Prioli, A. M. Fischer, F. A. Ponce, R. M. S. Kawabata, L. D. Pinto, R. Jakomin, M. P. Pires, and P. L. Souza. *Improved optical properties of InAs quantum dots for intermediate band solar cells by suppression of misfit strain relaxation.* Journal of Applied Physics, 21 July 2016, Vol. **120**, 034301. DOI: 10.1063/1.4958871.
53. Y. S. Liu, A. F. M. S. Haq, T. T. Kao, K. Mehta, S. C. Shen, T. Detchprohm, P. D. Yoder, R. D. Dupuis, H. G. Xie and F. A. Ponce. *Electrically conducting n-type AlGaN/GaN distributed Bragg reflectors grown by metalorganic chemical vapor deposition*. Journal of Crystal Growth, 1 June 2016, Vol. **443**, pp. 81-84. DOI: 10.1016/j.jcrysgro.2016.03.027.
54. S. Zhao, H. McFavilen, S. Wang, F. A. Ponce, C. Arena, S. Goodnick, and S. Chowdhury. *Temperature dependence and high-temperature stability of annealed Ni/Au ohmic contact to p-type GaN in air*. Journal of Electronic Materials, April 2016, Vol. **45**, pp. 2087-2091. DOI: 10.1007/s11664-015-4278-3.
55. A. Maros, N. Faleev, R. R. King, C. B. Honsberg, D. Convey, H. Xie, and F. A. Ponce. *Critical thickness investigation of MBE-grown GaInAs/GaAs and GaAsSb/GaAs heterostructures.* Journal of Vacuum Science & Technology B, 2 March 2916; Vol. **34**, 02L113. DOI: 10.1116/1.4942897.

56. Y.-S. Liu, T.-T. Kao, K. Mehta, S.-C. Shen, P. D. Yoder, T. Detchprohm, R. D. Dupuis, and F. A. Ponce. *Development for ultraviolet vertical cavity surface emitting lasers*, Proc. SPIE 9748, Gallium Nitride Materials and Devices XI, 974815, 26 February 2016.; DOI:10.1117/12.2212617.
57. G. Torelly, R. Jakomin, L. D. Pinto, M. P. Pires, J. Ruiz, P. G. Caldas, R. Prioli, H. Xie, F. A. Ponce, and P. L. Souza. *Early nucleation stages of low density InAs quantum dots nucleation on GaAs by MOVPE.* Journal of Crystal Growth, 15 January 2016, Vol. **434**, pp. 47-54. DOI: 10.1016/j.jcrysgro.2015.10.031.
58. X.-H. Li, H. Xie, F. A. Ponce, J. H. Ryou, T. Detchprohm, and R. D. Dupuis. *Onset of surface stimulated emission at 260 nm from AlGaN multiple quantum wells*. Applied Physics Letters, 18 December 2015, Vol. **107**, 241109. DOI: 10.1063/1.4938136.
59. G. Torelly, R. Jakomin, M. P. Pires, L. P. Dornelas, R. Prioli, P. G. Caldas, H. Xie, F. A. Ponce, and P. L. Souza. *From InAs extended monolayer flat 2D terraces to 3D island grown on GaAs substrates.* 30th Symp. Microelectronics Technology and Devices (SBMicro), 13 October 2015, Vol. **434**, pp. 1-4. DOI: 10.1109/SBMicro.2015.7298133.
60. J. Kim, M.-H. Ji D. Theeradetch, R. D. Dupuis, A. M. Fischer, F. A. Ponce, and J.-H. Ryou. *Effect of group-III precursors on unintentional gallium incorporation during epitaxial growth of InAlN layers by metalorganic chemical vapor deposition*. Journal of Applied Physics, 28 September 2015, Vol. **118**, 125303. DOI: 10.1063/1.4931456.
61. C. A. M. Fabien, B. P. Gunning, W. A. Doolittle, A. M. Fischer, Y. O. Wei, H. Xie, and F. A. Ponce. *Low-temperature growth of InGaN films over the entire composition range by MBE*. Journal of Crystal Growth, 1 September 2015, Vol. **425**, pp 115-118. DOI: 10.1016/j.jcrysgro.2015.02.014.
62. Y.-S. Liu, T.-T. Kao, Md. M. Satter, Z. Lochner, S.-C. Shen, T. Detchprohm, P. D. Yoder, R. D. Dupuis, J.-H. Ryou, A. M. Fischer, Y. O. Wei, H. Xie, and F. A. Ponce. *Inverse-tapered p-waveguide for vertical hole transport in high-[Al] AlGaN emitters.* IEEE Photonics Technology Letters 15 August 2015, Vol. **27**, pp 1768-1771. DOI: 10.1109/LPT.2015.2443053.
63. R. W. Carpenter, H. Xie, T. Aoki, and F. A. Ponce. *High energy and spatial resolution band gap measurements: delocalization and other effects in a monochromated cold FEG Nion dedicated STEM*. Microscopy and Microanalysis. 15 August 2015. Vol. **21**, pp. 657-658. DOI: 10.1017/S1431927615004080.
64. X.-H. Li, Y. O. Wei, S. Wang, H. Xie, T.-T. Kao, M. M. Satter, S.-C. Shen, P. D. Yoder, T. Detchprohm, R. D. Dupuis, A. M. Fischer, and F. A. Ponce. *Temperature dependence of the crystalline quality of AlN layer grown on sapphire substrates by metalorganic chemical vapor deposition*. Journal of Crystal Growth, 15 March 2015, Vol. **414**, pp 76-80. DOI: 10.1016/j.jcrysgro.2014.10.007.
65. X.-H. Li, T.-T. Kao, M. M. Satter, Y. O. Wei, S. Wang, H. Xie, S.-C. Shen, P. D. Yoder, A. M. Fischer, F. A. Ponce, T. Detchprohm, and R. D. Dupuis. *Demonstration of transverse-magnetic dominant deep-ultraviolet stimulated emission from AlGaN multiple-quantum-well lasers on sapphire substrates*. Applied Physics Letters, 30 January 2015, Vol. **106**, 041115. DOI: 10.1063/1.4906590.
66. B. P. Gunning, C. Fabien, J. J. Merola, E. A. Clinton, W. A. Doolittle, S. Wang, A. M. Fischer, and F. A. Ponce. *Comprehensive Study of the Electronic and Optical Behavior of Highly Degenerate p-type Mg-Doped GaN and AlGaN*. Journal of Applied Physics, 26 January 2015, Vol. **117**, 045710. DOI: 10.1063/1.4906464.
67. X.-H. Li, S. Wang, H. Xie, Y. O. Wei, T.-T. Kao, Md Satter, S.-C. Shen, P. D. Yoder, T. Detchprohm, R. D. Dupuis, A. M. Fischer, and F. A. Ponce. *Growth of high-quality AlN layers on sapphire substrates at relatively low temperatures by metalorganic chemical vapor deposition.* Physica Status Solidi B, 20 January 2015, Vol. **252**, pp. 1089-1095. DOI: 10.1002/pssb.201451571.
68. X.-H. Li, T. Detchprohm, Y.-S. Liu, T.-T. Kao, M. M. Satter, S.-C. Shen, P. D. Yoder, R. D. Dupuis, S. Wang, Y. O. Wei, H. Xie, A. M. Fischer, F. A. Ponce, T. Wernicke, C. Reich, M. Martens, and M. Kneissl. *Low-threshold stimulated emission at 249 nm and 256 nm from AlGaN-based multiple-quantum-well lasers grown on sapphire substrate.* Applied Physics Letters, 8 October 2014, Vol. **105**,141106. DOI: 10.1063/1.4897527.
69. R. Jakomin, R. M. S. Kawabata, R. T. Mourão, D. N. Micha, M. P. Pires, H. Xie, A. M. Fischer, F. A. Ponce, and P. L. Souza. *InAs quantum dot growth on $Al_xGa_{1-x}As$ by MOVPE for intermediate band solar cells.* Journal of Applied Physics, 4 September 2014, Vol. **116**, 093511. DOI: 10.1063/1.4894295.
70. D. Cherns, R. F. Webster, S. V. Novikov, C. T. Foxon, A. M. Fischer, F. A. Ponce, and S.J. Haigh, *Compositional variations in $In_{0.5}Ga_{0.5}N$ nanorods grown by molecular beam epitaxy*, Nanotechnology, 2 May 2014, Vol. **25** 215705. DOI:10.1088/0957-4484/25/21/215705.
71. C. A. M. Fabien, M. Moseley, B. Gunning, W. A. Doolittle, A. M. Fischer, Y. O. Wei, and F. A. Ponce. *Simulations, practical limitations, and novel growth technology for InGaN-based solar cells*. IEEE Journal of Photovoltaics, March 2014, Vol. **4**, pp. 601-606. DOI: 10.1109/JPHOTOV.2013.2292748.
72. J. Kim, Z. Lochner, M.-H. Ji, S. Choi, H.-J. Kim, J.-S. Kim, R. D. Dupuis, A. M. Fischer, R. Juday, Y. Huang, T. Li, J. Y. Huang, F. A. Ponce, and J.-H. Ryou. *Origins of unintentional incorporation of gallium in InAlN layers during epitaxial growth, Part II: Effects of underlying layers and growth chamber conditions*, Journal of Crystal Growth, January 2014, Vol. **388**, pp. 143-149. DOI: 10.1016/j.jcrysgro.2013.09.046.
73. Y. S. Liu, T. T. Kao, M. M. Satter, Z. Lochner, X. H. Li, S. C. Shen, P. D. Yoder, T. Detchprohm, R. D. Dupuis, Y. Wei, H. Xie, A. M. Fischer, F. A. Ponce, *Optically pumped deep-ultraviolet AlGaN multi-quantum-well lasers grown by metalorganic chemical vapor deposition*, Proc. SPIE 9002, Novel In-Plane Semiconductor Lasers XIII, 90020H, 27 February 2014.DOI: 10.1117/12.2036835
74. S. Choi, H. J. Kim, Z. Lochner, J. Kim, R. D. Dupuis, A. M. Fischer, R. Juday, Y. Huang, T. Li, J. Y. Huang, F. A. Ponce, and J.-H. Ryou. *Origins of unintentional incorporation of gallium in AlInN layers during epitaxial growth, Part I.* Journal of Crystal Growth, January 2014, Vol. **388**, pp. 137-142. DOI: 10.1016/j.jcrysgro.2013.10.006.

75. D. Cherns, R. F. Webster, S. V. Novikov, C. T. Foxon, A. M. Fischer, and F. A. Ponce. *The growth of $In_{0.5}Ga_{0.5}N$ and InN layers on (111) silicon using nanorod intermediate arrays*. Journal of Crystal Growth, 1 December 2013, Vol. **384**, pp. 55-60. DOI: 10.1016/j.jcrysgro.2013.09.012.
76. J. Y. Huang, F. A. Ponce, P. G. Caldas, R. Prioli, and C.M. Almeida. *The effect of nanoscratching direction on the plastic deformation and surface morphology of InP crystals*. Journal of Applied Physics, 22 November 2013, Vol. **114**, 203503. DOI:10.1063/1.4833237.
77. T.-T. Kao, Y.-S. Liu, M. M. Satter, X.-H. Li, Z. Lochner, P. D. Yoder, T. Detchprohm, R. D. Dupuis, S.-C. Shen, J.-H. Ryou, A. M. Fischer, Y. O. Wei, H. Xie, and F. A. Ponce. *Sub-250 nm, low-threshold deep-ultraviolet AlGaN-based heterostructure laser employing HfO_2/SiO_2 dielectric mirrors.* Applied Physics Letters, 18 November 2013, Vol. **103**, 211103. DOI: 10.1063/1.4829477.
78. J.-H. Ryou, R. D. Dupuis, P. D. Yoder, and F. A. Ponce. *Diminishing droop with superior electron-blocking layers.* Compound Semiconductors, October 2013, pp. 48-52.
79. A. M. Fischer, Y. O. Wei, F. A. Ponce, M. Moseley, B. Gunning, and W. A. Doolittle. *Highly luminescent, high-indium-content InGaN film with uniform composition and full misfit-strain relaxation.* Applied Physics Letters, 24 September 2013. Vol. **103**, 131101. DOI: 10.1063/1.4822122.
80. J. Kim, M.-H. Ji, Z. Lochner, S. Choi, N. Sebkhi, J. Liu, Md. M. Satter, J.-S. Kim, P. D. Yoder, R. D. Dupuis, R. Juday, A. M. Fischer, F. A. Ponce, and J.-H. Ryou. *Improved hole transport by p-InGaN layer in multiple quantum wells of visible LEDs*. IEEE Photonics Technology Letters, 15 September 2013, Vol. **25**, 1789-1792. DOI: 10.1109/LPT.2013.2275791.
81. Z. Lochner, X.-H. Li, T.-T. Kao, M. M. Satter, H. J. Kim, S.-C. Shen, P. D. Yoder, J.-H. Ryou, R. D. Dupuis, K. W. Sun, Y. O. Wei, T. Li, A. M. Fischer, and F. A. Ponce. *Stimulated emission at 257 nm from an optically-pumped AlGaN/AlN heterostructure on AlN substrate*. Physica Status Solidi A, 9 September 2013. Vol. **210**, pp 1768-1770. DOI: 10.1002/pssa.201329013.
82. R. Juday, A. M. Fischer, Y. Huang, J. Y. Huang, H. J. Kim, J.-H. Ryou, R. D. Dupuis, D. P. Bour, and F. A. Ponce. *Hydrogen-related, deeply bound excitons in Mg-doped GaN films.* Applied Physics Letters, 19 August 2013, Vol. **103**, 082103. DOI: 10.1063/1.4819029.
83. D. J. As, A. Zado, Q. Y. Wei, T. Li, J. Y. Huang, and F. A. Ponce. *Capacitance voltage characteristics and electron holography on cubic AlGaN/GaN heterojunctions*. Japanese Journal of Applied Physics, 20 May 2013, Vol. **52**, 08JN04. DOI: 10.7567/JJAP.52.08JN04.
84. R. Juday, E. M. Silva, J. Y. Huang, P. G. Caldas, R. Prioli, and F. A. Ponce. *Strain-related optical properties of ZnO crystals due to nanoindentation on various surface orientations*. Journal of Applied Physics, 9 May 2013, Vol. **113**, 183511. DOI: 10.1063/1.4804309.
85. Z. Lochner, T.-T. Kao, Y.-S. Liu, X.-H. Li, M. M. Satter, S.-C. Shen, P. D. Yoder, J.-H. Ryou, R. D. Dupuis, Y. O. Wei, H. Xie, A. M. Fischer, and F. A. Ponce. *Room-temperature optically pumped AlGaN-AlN multiple-quantum –well lasers operating at < 260 nm grown by metalorganic chemical vapor deposition*. Proceedings of SPIE, 11 April 2013, Vol. **8625**, 862519. DOI: 10.1117/12.2008830.
86. Z. Lochner, T.-T. Kao, Y.-S. Liu, X.-H. Li, M. M. Satter, S.-C. Shen, P. D. Yoder, J.-H. Ryou, R. D. Dupuis, Y. O. Wei, H. Xie, A. M. Fischer, and F. A. Ponce. *Deep-ultraviolet lasing at 243 nm from photo-pumped AlGaN/AlN heterostructure on AlN substrate*. Applied Physics Letters, 14 March 2013, Vol. **102**, 101110. DOI: 10.1063/1.4795719.
87. T. Li, Q. Y. Wei, A. M. Fischer, J. Y. Huang, Y. Huang, F. A. Ponce, J. P. Liu, Z. Lochner, J.-H. Ryou, and R. D. Dupuis. *The effect of InGaN underlayers on the electronic and optical properties of InGaN/GaN quantum wells.* Applied Physics Letters, 1 February 2013, Vol. **102**, 041115. DOI: 10.1063/1.4789758.
88. S. Choi, M.-H. Ji, J. Kim, H. J. Kim, J. M. Satter, P. D. Yoder, J.-H. Ryou, R. D. Dupuis, A. M. Fischer, and F. A. Ponce. *Efficiency droop due to electron spill-over and limited hole injection in III-nitride visible light-emitting diodes employing lattice-matched InAlN electron blocking layers.* Applied Physics Letters, 17 October 2012, Vol. **101**, 161110. DOI: 10.1063/1.4759044.
89. C. M. Almeida, R. Prioli, Q. Y. Wei, and F. A. Ponce. *Early stages of mechanical deformation in indium phosphide with the zinc blende structure.* Journal of Applied Physics, 19 September 2012, Vol. **112**, 063514. DOI: 10.1063/1.4752881.
90. Q. Y. Wei, T. Li, J. Y. Huang, F. A. Ponce, E. Tschumak, A. Zado, and D. J. As, *Free carrier accumulation at cubic AlGaN/GaN heterojunctions,* Applied Physics Letters, 3 April 2012, Vol. **100**, 142108. DOI: 10.1063/1.3700968.
91. Q. Y. Wei, T. Li, Y. Huang, J. Y. Huang, Z. T. Chen, T. Egawa, and F. A. Ponce. *Compositional instability in InAlN/GaN lattice-matched epitaxy*. Applied Physics Letters, 27 February 2012, Vol. **100**, 092101. DOI: 10.1063/1.3690890.
92. A. M. Fischer, K. W. Sun, F. A. Ponce, R. Songmuang, and E. Monroy. *Correlated structural, electronic, and optical properties of AlN/GaN multiple quantum disks in GaN nanowires.* Applied Physics Express, 17 January 2012, Vol. **5**, 025001. DOI: 10.1143/APEX.5.025001.
93. J. Y. Huang, F. A. Ponce, P. G. Caldas, C. M. Almeida, and R. Prioli. *Microstructure of nanoscratched semiconductors*. J. Phys.: Conf. Ser. **326**, 012001 (2011).
94. F. A. Ponce. *Microstructure and polarization fields in nitride semiconductors*. J. Phys.: Conf. Ser. **326**, 012061 (2011).
95. R. Oshima, J. Y. Huang, N. Miyashita, K. Matsubara, Y. Okada, and F. A. Ponce. *Transmission electron microscopy study of GaInNAs(Sb) thin films grown by atomic-hydrogen-assisted molecular beam epitaxy.* Applied Physics Letters, 9 November 2011, Vol. **99**, 191907. DOI: 10.1063/1.3660232.
96. Y. Huang, K. W. Sun, A. M. Fischer, Q. Y. Wei, R. Juday, F. A. Ponce, R. Kato, and T. Yokogawa. *Effect of misfit dislocations on luminescence in m-plane InGaN quantum wells*. Applied Physics Letters, 30 June 2011, Vol. **98**, 261914. DOI: 10.1063/1.3605253.

97. B. Wang, D. Bliss, M. Suscavage, S. Swider, R. Lancto, C. Lynch, D. Weyburne, T. Li, and F. A. Ponce. *Ammonothermal growth of high-quality GaN crystals on HVPE template seeds*. Journal of Crystal Growth, 1 March 2011, Vol. **318**, pp. 1030-1033. DOI: 10.1016/j.jcrysgro.2010.10.080.
98. Y. Huang, J.-H. Ryou, R. D. Dupuis, C. Pfluegl, F. Capasso, K. Sun, A. M. Fischer, and F. A. Ponce. *Optimization of growth conditions for InGaAs/InAlAs/InP quantum cascade lasers by metalorganic chemical vapor deposition*. Journal of Crystal Growth, 1 February 2011, Vol. **316**, 75-80. DOI: 10.1016/j.jcrysgro.2010.12.028.
99. J.-P. Liu, Y. Zhang, Z. Lochner, S.-S. Kim, H. Kim, J.-H. Ryou, S.-C. Shen, P. D. Yoder, R. D. Dupuis, Q. Y. Wei, K. W. Sun, A. M. Fischer, and F. A. Ponce. *Performance characteristics of InAlGaN laser diodes depending on electron blocking layer and waveguiding layer design grown by metalorganic chemical vapor deposition.* Journal of Crystal Growth, 15 January 2011, Vol. **315**, 272-277. DOI: 10.1016/j.jcrysgro.2010.09.071.
100. Y. Q. Sun, Z. H. Wu, J. Yin, Y. Y. Fang, H. Wang, C. H. Yu, X. Hui, C. Q. Chen, Q. Y. Wei, T. Li, K. W. Sun, and F. A. Ponce. *High quality a-plane GaN films grown on cone-shaped patterned r-plane sapphire substrates.* Thin Film Solids, January 2011, Vol. **519**, 2508-2512. DOI: 10.1016/j.tsf.2010.12.005.
101. Z. H. Wu, Y. Q. Sun, J. Yin, Y. Y. Fang, J. Dai, C. Q. Chen, Q. Y. Wei, T. Li, K. W. Sun, A. M. Fischer, and F. A. Ponce. *Reduction of structural defects in a-plane GaN epitaxy by use of periodic hemispherical patterns in r-plane sapphire substrates.* Journal of Vacuum Science and Technology B, 24 January 2011, Vol. **29** (02), 021005. DOI: 10.1116/1.3545801.
102. P. G. Caldas, R. Prioli, C. M. Almeida, J. Y. Huang, and F. A. Ponce. *Plastic hardening in cubic semiconductors by nanoscratching*. Journal of Applied Physics, 1 January 2011, Vol. **109** (01), 013502. DOI: 10.1063/1.3517459.
103. F. A. Ponce. *Electrostatic energy profiles at nanometer-scale in group-III nitride semiconductors using electron holography*. Annalen der Physik, 1 January 2011, Vol. **523** (1-2), pp 75-86. DOI: 10.1002/andp.201000112.
104. Z. H. Wu, K. Nonaka, Y. Kawai, T. Asai, F. A. Ponce, C. Q. Chen, M. Iwaya, S. Kamiyama, H. Amano, and I. Akasaki. *Strain relaxation mechanisms in AlGaN epitaxy on AlN templates.* Applied Physics Express, 29 October 2010, Vol. **3**, 111003. DOI: 10.1143/APEX.3.111003.
105. Q. Y. Wei, T. Li, Z. H. Wu, and F. A. Ponce. *In-plane polarization of GaN-based heterostructures with arbitrary crystal orientation.* Physica Status Solidi A, 10 June 2010, Vol. **207**, 2226-2232. DOI: 10.1002/pssa.200925632.
106. S. Choi, H. J. Kim, S.-S. Kim, J. P. Liu, J.-M. Kim, J. H. Hyun, R. D. Dupuis, A. M. Fischer, and F. A. Ponce. *Improvement of peak quantum efficiency and efficiency droop in III-nitride visible light-emitting diodes with an InAlN electron blocking layer.* Applied Physics Letters, 3 June 2010, Vol. **96**, 221105. DOI: 10.1063/1.3441373**.**
107. Q. Y. Wei, Z. H. Wu, F. A. Ponce, J. Hertkorn, and F. Scholz. *Polarization effects in 2-DEG and 2-DHG AlGaN/AlN/GaN multi-heterostructures measured by electron holography.* Physica Status Solidi B, July 2010, Vol. **247** (7), pp 1722-1724. DOI: 10.1002/pssb.201046198.
108. H. D. Fonseca-Filho, C. M. Almeida, R. Prioli, M. P. Pires, P. L. Souza, Z. H. Wu, Q. Y. Wei, and F. A. Ponce. *Growth of linearly ordered arrays of InAs nanocrystals on scratched InP*. Journal of Applied Physics, 8 March 2010, Vol. **107**, 054313. DOI: 10.1063/1.3309836.
109. H. J. Kim, S. Choi, S. S. Kim, J. H. Ryou, P. D. Yoder, R. D. Dupuis, A. M. Fischer, K. E. Sun, and F. A. Ponce. *Improvement of quantum efficiency by employing active-layer-friendly lattice-matched InAlN electron blocking layer in green light-emitting diodes.* Applied Physics Letters, 8 March 2010, Vol. **96**, 101102. DOI: 10.1063/1.3353995.
110. A. M. Fischer, K. W. Sun, R. Juday, F. A. Ponce, J.-H. Ryou, H. J. Kim, S. Choi, S.-S. Kim, and R. D. Dupuis. *Effect of growth temperature on the electron-blocking performance of InAlN layers in green emitting diodes*. Applied Physics Express, 26 February 2010, Vol. **3**, 031003. DOI: 10.1143/APEX.3.031003.
111. Z. H. Wu , K. W. Sun, Q. Y. Wei, A. M. Fischer, F. A. Ponce, Y. Kawai, M. Iwaya, S. Kamiyama, H. Amano, and I. Akasaki. *Misfit strain relaxation in m-plane epitaxy of InGaN on ZnO.* Applied Physics Letters, 18 February 2010, Vol. **96**, 071909. DOI: 10.1063/1.3315944.
112. T. Li, A. M. Fischer, Q. Y. Wei, F. A. Ponce, T. Detchprohm, and C. Wetzel. *Carrier localization and non-radiative recombination in yellow emitting InGaN quantum wells.* Applied Physics Letters, 20 January 2010, Vol. **96**, 031906. DOI: 10.1063/1.3293298.
113. Q. Y. Wei, Z. H. Wu, K. W. Sun, F. A. Ponce, J. Hertkorn, and F. Scholz. *Evidence of two-dimensional hole gas in p-type AlN/GaN heterostructures.* Applied Physics Express, 27 November 2009, Vol. **2**, 121001. DOI: 10.1143/APEX.2.121001.
114. F. A. Ponce, Z. H. Wu, Q. Y. Wei, H. D. Fonseca-Filho, C. M. Almeida, R. Prioli, and D. Cherns. *Nanoscale dislocation patterning by scratching in an atomic force microscope.* Journal of Applied Physics, 15 October 2009, Vol. **106**, 076106. DOI: 10.1063/1.3245321.
115. F. A. Ponce. *Materials Challenges for InGaN based light emitting devices*. Optics and Optoelectronics Technology, October 2009, Vol. **7**, 05-0001-04. (In Chinesse).
116. J. N. Dai, X. H. Wu, C. H. Yu, Q. Zhang, Y. Q. Sun, Y. K. Xiong, X. Y. Han, L. Z. Tong, Q. H. He, F. A. Ponce, and C. Q. Chen. *Comparative study on MOCVD growth of a-plane GaN films on r-plane sapphire substrates using GaN, AlGaN, and AlN buffer layers*. Journal of Electronic Materials, September 2009, Vol. **38**, pp. 1938-1943. DOI: 10.1007/s11664-009-0847-7.
117. J. Hertkorn, S. B. Thapa, T. Wunderer, F. Scholz, Z. H. Wu, Q. Y. Wei, F. A. Ponce, M. A. Moram, C. J. Humphreys, C. Vierheilig, and U. T. Schwarz. *Highly conductive modulation doped composition graded p-AlGaN/(AlN)/GaN multi-heterostructures grown by MOVPE.* Journal of Applied Physics, 14 July 2009, Vol. **106**, 013720. DOI: 10.1063/1.3160312.
118. R. Li, J. M. Zhang, L. Chen, H. Zhao, Z. Yang, T. Yu, D. Li, Z. C. Liu, W. H. Chen, Z. J. Yang, G. Y. Zhang, Z. Z. Gan, X. D. Hu, Q. Y. Wei, T. Li, and F.A. Ponce. *Donor-related cathodoluminescence of p-AlGaN electron blocking layer embedded in ultraviolet laser diode structure*. Applied Physics Letters, 13 May 2009, Vol. **94**, 211103. DOI: 10.1063/1.3143606.

119. A. M. Fischer, Z. H. Wu, K. W. Sun, Q. Y. Wei, Y. U. Huang, R. Senda, D. Iida, M. Iwaya, H. Amano, and F. A. Ponce. *Misfit strain relaxation by stacking fault generation in InGaN quantum wells grown on m-plane GaN.* Applied Physics Express, 3 April 2009, Vol. **2**, 041002. DOI: 10.1143/APEX.2.041002.
120. A. A. Allerman, R. D. Dupuis, M. A. Khan, and F. A. Ponce. *Papers presented at the International Symposium on Semiconductor Light Emitting Devices*, Physica Status Solidi A, January 2009, Vol. **206**, pp- 193-194. DOI: 10.1002/pssa.200880416.
121. R. Garcia, B. Ren, A. C. Thomas, and F. A. Ponce. *Measurement of the solubility of ammonia and nitrogen in gallium at atmospheric pressure*. Journal of Alloys and Compounds, 7 January 2009, Vol. **467**, pp. 611-613. DOI: 10.1016/j.jallcom.2008.03.075.
122. C. M. Almeida, R. Prioli, and F. A. Ponce. *Effect of native oxide mechanical deformation on InP nanoindentation.* Journal of Applied Physics, 2 December 2008, Vol. **104**, 113509. DOI: 10.1063/1.3028261.
123. A. M. Fischer, S. Srinivasan, F. A. Ponce, B. Monemar, F. Bertram, and J. Christen. *Time-resolved cathodoluminescence of Mg doped GaN.* Applied Physics Letters, 13 October 2008, Vol. **93**, 1551901. DOI: 10.1063/1.3000383.
124. J. P. Liu, J.-H. Ryou, Z. Lochner, J. Limb, D. Yoo, R. D. Dupuis, Z. H. Wu, A. M. Fischer, and F. A. Ponce. *Surface morphology control of green LEDs with p-InGaN layers grown by metalorganic chemical vapor deposition*. Journal of Crystal Growth, 15 November 2008, Vol. **310**, (23), pp. 5166-5169. DOI: 10.1016/j.jcrysgro.2008.07.033.
125. S. Myhajlenko, A. S. Luby, A. M. Fischer, F. A. Ponce, and C. Tracy. *SEM characterization of silicon nanostructures: can we meet the challenge?* Scanning, July/August 2008, Vol. **30**, (4), pp. 310 – 316. DOI: 10.1002/sca.20115.
126. Z. H. Wu, A. M. Fischer, F. A. Ponce, T. Yokogawa, S. Yoshida, and R. Kato. *Role of the buffer layer thickness on the formation of basal plane stacking faults in a-plane GaN epitaxy on r-sapphire.* Applied Physics Letters, 7 July 2008, Vol **93**, 011901. DOI: 10.1063/1.2953082.
127. O. E. Contreras, F. Ruiz-Zepeda, A. Dadgar, A. Krost, and F. A. Ponce. *Atomic arrangement at the AlN/Si (110) interface*. Applied Physics Express, 13 June 2008, Vol. **1**, 061104. DOI: 10.1143/APEX.1.061104.
128. R. Garcia, A. C. Thomas, and F. A. Ponce. *Growth of free–standing highly luminescent undoped and Mg-doped GaN thick films with a columnar structure.* Journal of Crystal Growth, 1 June 2008, Vol. **310**, pp. 3131-3134. DOI: 10.1016/j.jcrysgro.2008.03.030.
129. Z. H. Wu, A. M. Fischer, F. A. Ponce, B. Bastek, J. Christen, T. Wernicke, M. Weyers, and M. Kneissl. *Structural and optical properties of non-polar GaN thin films*. Applied Physics Letters, 5 May 2008, Vol. **92**, 171904. DOI: 10.1063/1.2918834.
130. J.-H. Ryou, W. Lee, J. Limb, D. Yoo, J. P. Liu, and R. D. Dupuis, Z. H. Wu, A. M. Fischer, and F. A. Ponce. *Control of quantum-confined Stark effect in InGaN/GaN multiple quantum well active region by p-type layer for III-nitride-based visible light emitting diodes.* Applied Physics Letters, 10 March 2008, Vol. **92**, (10) 101113. DOI: 10.1063/1.2894514.
131. J. Li, S. Srinivasan, G. N. He, J. Y. Kang, S. T. Wu, and F. A. Ponce. *Synthesis and luminescence properties of ZnO nanostructures produced by the sol-gel method. Journal of Crystal Growth*. Journal of Crystal Growth, 1 February 2008, Vol. **310**, (3) 559-603. DOI: 10.1016/j.jcrysgro.2007.11.054.
132. L. T. Tan, R. W. Martin, K. P. O'Donnell, I. M. Watson, Z. H. Wu, and F. A. Ponce. *Photoluminescence of near-lattice-matched GaN/AlInN quantum wells grown on free-standing GaN and on sapphire substrates.* Applied Physics Letters, 25 January 2008, Vol. **92**, 031907. DOI: 10.1063/1.2837630.
133. J. P. Liu, J. B. Limb, J.-H. Ryou,a_ D. Yoo, C. A. Horne, R. D. Dupuis, Z. H. Wu, A. M. Fischer, F. A. Ponce, A. D. Hanser, L. Liu, E. A. Preble, and K. R. Evans. *Blue light-emitting diodes grown on freestanding (11-20) a-plane GaN substrates*. Applied Physics Letters, 8 January 2008, Vol. **92**, 011123. DOI: 10.1063/1.2832645.
134. R. Garcia, S. Srinivasan, O. D. Contreras, A. C. Thomas, and F. A. Ponce. *$Al_xGa_{1-x}N$ ($0 \le x \le 1$) nanocrystalline powder by pyrolysis route.* Journal of Crystal Growth, 1 October 2007, Vol. **308** (1), p.198-203. DOI: 10.1016/j.jcrysgro.2007.07.048.
135. Z. H. Wu, F. A. Ponce, J. Hertkorn, and F. Scholz. *Determination of the electronic band structure for a graded modulation-doped AlGaN/AlN/GaN superlattice*. Applied Physics Letters, 5 October 2007, Vol. **91**, 142121. DOI: 10.1063/1.2795794.
136. H. D. Fonseca-Filho, R. Prioli, M. P. Pires, A. S. Lopes, P. L. Souza, and F. A. Ponce. *Growth of InAs nanostructures on InP using atomic-force nanolithography.* Applied Physics A, December 2007, Vol. **89**, 945-949. DOI: 10.1007/s00339-007-4250-z.
137. A. M. Fischer, S. Srinivasan, R. Garcia, F.A. Ponce, S. E. Guaño, B. C. Di Lello, F. J. Moura, and I. G. Solórzano. *Optical properties of highly luminescent zinc oxide tetrapod powders.* Applied Physics Letters, 17 September 2007, Vol. **91**, 121905. DOI: 10.1063/1.2787875.
138. Q. Fareed, V. Adivarahan, M. Gaevski, T. Katona, J. Mei, F. A. Ponce, and M. A. Khan. *Metal-organic hydride vapor phase epitaxy of AlN films over sapphire*. Japanese Journal of Applied Physics, Part 2, August 2007, Vol. **46** (29-32), l752-l754. DOI: 10.1143/JJAP.46.L752.
139. Z. H. Wu, A. M. Fischer, F. A. Ponce, W. Lee, J. H. Ryou, D. Yoo, and R. D. Dupuis. *Effect of internal electrostatic potential on light emission in a green LED with multiple InGaN quantum wells.* Applied Physics Letters, 27 July 2007, Vol. **91**, 041915. DOI: 10.1063/1.2760160.
140. R. Garcia, A. Bell, A. C. Thomas, and F. A. Ponce. *Synthesis of highly luminescent, undoped, Mg-doped, and Si-doped GaN powders.* Journal of Crystal Growth, 1 June 2007, Vol. **304**, 225-232. DOI: 10.1016/j.jcrysgro.2007.01.033.
141. J. C. Brooksby, J. Mei, and F. A. Ponce, *Correlation of spectral luminescence with threading dislocations in green-light-emitting InGaN quantum wells.* Applied Physics Letters, 4 June 2007, Vol. **90**, 231901. DOI: 10.1063/1.2746062.
142. J. Mei, F. A. Ponce, R. S. Qhalid Fareed, J. W. Yang, and M. Asif Khan. *Dislocation generation at the coalescence of aluminum nitride lateral epitaxy on shallow-grooved sapphire substrates*. Applied Physics Letters, 28 May 2007, Vol. **90**, (22) 221909. DOI: 10.1063/1.2745207.

143. J. Mei, R. Liu, F. A. Ponce, H. Omiya, and T. Mukai. *Basal-plane slip in InGaN/GaN heterostructures in the presence of threading dislocations*. Applied Physics Letters, 26 April 2007, Vol. **90**, 171922. DOI: 10.1063/1.2732817.
144. Z. H. Wu, M. Stevens, F. A. Ponce, W. Lee, J. H. Ryou, D. Yoo, and R. D. Dupuis. *Mapping the electrostatic potential across AlGaN/AlN/GaN heterostructures using electron holography.* Applied Physics Letters, 16 January 2007, Vol. **90**, 032101. DOI: 10.1063/1.2431716.
145. H. D. Fonseca-Filho, R. Prioli, M. P. Pires, A. S. Lopes, P. L. Souza, and F. A. Ponce. *Atomic force nanolithography of InP for site control growth of InAs nanostructures.* Applied Physics Letters, 5 January 2007, Vol. **90**, 013117. DOI: 10.1063/1.2430039.
146. S. Srinivasan, M. Stevens, and F. A. Ponce, H. Omiya, and T. Mukai. *Carrier dynamics and electrostatic potential variation in InGaN quantum wells grown on {1122} GaN pyramidal planes.* Applied Physics Letters, 5 December 2006, Vol. **89**, 231908. DOI: 10.1063/1.2397566.
147. R. Liu, J. Mei, S. Srinivasan, F. A. Ponce, H. Omiya, Y. Narukawa, and T. Mukai. *Generation of misfit dislocations by basal-plane slip in InGaN/GaN heterostructures*. Applied Physics Letters, 17 November 2006, Vol. **89**, 201911. DOI: 10.1063/1.2388895.
148. R. Garcia, G. A. Hirata, A. C. Thomas, and F. A. Ponce. *Structure and luminescence of nanocrystalline gallium nitride synthesized by a novel polymer pyrolysis route.* Optical Materials, October 2006, Vol. **29**, 19-23. DOI: 10.1016/j.optmat.2006.03.004.
149. Z. Chen, R. S.Qhalid Fareed, M. Gaevski, V. Adivarahan, J. W. Yand, A. Khan, J. Mei, and F. A. Ponce. *Pulsed lateral epitaxial overgrowth of aluminum nitride on sapphire substrates*. Applied Physics Letters, 21 August 2006, Vol. **89**, 081905. DOI: 10.1063/1.2245436.
150. R. Liu, J. Mei, S. Srinivasan, F. A. Ponce, D. Cherns, Y. Narukawa, and T. Mukai. *Misfit dislocation generation in InGaN epilayers on free-standing GaN.* Japanese Journal of Applied Physics, 6 June 2006, Vol. **45**, L549-L551. DOI: 10.1143/JJAP.45.L549.
151. J. Mei, S. Srinivasan, R. Liu, F. A. Ponce, Y. Narukawa, and T. Mukai. *Prismatic stacking faults in epitaxially laterally overgrown GaN.* Applied Physics Letters, 5 April 2006, Vol. **88**, 141912. DOI: 10.1063/1.2193352.
152. W. H. Sun, J. P. Zhang, J. W. Yang, H. P. Maruska, M. A. Khan, R. Liu, F. A. Ponce. *Fine structure of AlN/AlGaN superlattice grown by pulsed atomic-layer epitaxy for dislocation filtering*. Applied Physics Letters, 21 November 2005, Vol. **87**, 211915. DOI: 10.1063/1.2136424.
153. S. Srinivasan, M. Stevens, F. A. Ponce, and T. Mukai. *Polychromatic light emission from single InGaN quantum wells grown on pyramidal GaN facets.* Applied Physics Letters, 26 September 2005, Vol. **87** (13), 131911. DOI: 10.1063/1.2067693.
154. E. Trybus, G. Namkoong, W. Henderson, W. A. Doolittle, R. Liu, J. Mei, F. Ponce, M. Cheung, F. Chen, M. Furis, A. Cartwright. *Growth of InN on Ge substrate by molecular beam epitaxy*. Journal of Crystal Growth, 1 June 2005, Vol. **279** (3-4), 311-315. DOI: 10.1016/j.jcrysgro.2005.02.041.
155. S. L. Sahonta, D. Cherns, R. Liu, F. A. Ponce, H. Amano, and I. Akasaki. *CBED study of grain misorientation in AlGaN epilayers.* Ultramicroscopy, April 2005, Vol. **103** (1) 23-32. DOI: 10.1016/j.ultramic.2004.11.013.
156. J. Tolle, J. Kouvetakis, D. W. Kim, S. Mahajan, A. V. G. Chizmeshya, C. W. Hu, A. Bell, F. A. Ponce, and I. S. T. Tsong. *Epitaxial growth of ZrB_2 (0001) on Si (111) for III-nitride applications: A review.* Chinese Journal of Physics, February 2005, Vol. **43** (1) 233-248.
157. R. Liu, A. Bell, F. A. Ponce, C. Q. Chen, J. W. Yang, and M. A. Khan. *Luminescence from stacking faults in gallium nitride.* Applied Physics Letters, 16 January 2005, Vol. **86** (3), 021908. DOI: 10.1063/1.1852085.
158. S. Myhajlenko, A. Bell, F. Ponce, J. L. Edwards, Y. Wei, B. Craigo, D. Convey, H. Li, R. Liu, and J. Kulik. *Optoelectronic and microstructure attributes of epitaxial SrTiO3 on Si.* Journal of Applied Physics, 1 January 2005, Vol. **97** (1) 014101. DOI: 10.1063/1.1821643.
159. F. A. Ponce. *The 27th International Congress on the Physics of Semiconductors - Opening Address*, in "Physics of Semiconductors," J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, lxii-lxiv (2005).
160. M. Stevens, A. Bell, H. Marui, S. Tanaka, and F. A. Ponce. *Electrostatic fields and compositional fluctuations in InGaN quantum wells*. In "Physics of Semiconductors," J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, 213-214 (2005).
161. R. Liu, J. Mei, F. A. Ponce, Y. Narukawa, H. Omiya, and T. Mukai. *Strain relaxation mechanisms in InGaN epilayers*. In "Physics of Semiconductors", J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, 215-216 (2005).
162. R. Liu, A. Bell, V. R. D'Costa, F. A. Ponce, C. Q. Chen, J. W. Yang, and M. A. Khan. *The nature of crystalline defects in α-plane GaN films*. In "Physics of Semiconductors", J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, 217-218 (2005).
163. S. Srinivasan, H. Omiya, F. A. Ponce, S. Tanaka, H. Marui, and T. Mukai. *The electronic nature of metal/p-GaN junctions*. In "Physics of Semiconductors", J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, 279-280 (2005).
164. A. Bell, J. Christen, F. Bertram, M. Stevens, F. A. Ponce, H. Marui, and S. Tanaka. *Localization versus carrier-screening effects in InGaN quantum wells – A time-resolved cathodoluminescence study*. In "Physics of Semiconductors", J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, 301-302 (2005).

165. H. Omiya, S. Srinivasan, F. A. Ponce, S. Tanaka, H. Marui, and T. Mukai. *Crystal structure of low-resistance Au-Ni/p-GaN contacts*. In "Physics of Semiconductors", J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, 421-422 (2005).
166. R. Garcia, A. Bell, A. C. Thomas, and F. A. Ponce. *Light emission from GaN microcrystals*. In "Physics of Semiconductors", J. Menendez and C. G. Van de Walle, editors. AIP Conference Proceedings, Volume **272**, 863-864 (2005).
167. R. Garcia, A. Thomas, A. Bell, and F. A. Ponce, *A novel method to synthesize blue-luminescent doped GaN powders*. MRS Proc. Vol. **864**, E6.10 (2005). DOI: 10.1557/PROC-864-E6.10.
168. H. Omiya, F. A. Ponce, H. Marui, S. Tanaka, and T. Mukai. *Atomic arrangement at the Au/p-GaN interface in low-resistance contacts.* Applied Physics Letters, 20 December 2004, Vol. **85** (25), 6143-6145. DOI: 10.1063/1.1840105.
169. D. C. Chapman, G. B. Stringfellow, A. Bell, F. A. Ponce, J. W. Lee, and T. Y. Seong. *Nitrogen surfactant effects in GaInP*. Journal of Applied Physics, 15 December 2004. Vol. **96** (12), 7229-7234. DOI: 10.1063/1.1814808.
170. D. Cherns, S.-L. Lahonta, R. Liu, F. A. Ponce, H. Amano, and I. Akasaki. *The generation of misfit dislocations in facet-controlled growth of AlGaN/GaN films.* Applied Physics Letters, 22 November 2004, Vol. **85** (21), 4923-4925. DOI: 10.1063/1.1814808.
171. H. Amano, A. Miyazaki, K. Iida, T. Kawashima, M. Iwaya, S. Kamiyama, I. Akasaki, R. Liu, A. Bell, F. A. Ponce, S. Sahonta, and D. Cherns. *Defects and stress control of AlGaN for fabrication of high performance UV light emitters.* Physica Status Solidi (a), December 2004, Vol. **201** (12), 2679-2685. DOI: 10.1002/pssa.200405044.
172. M. Stevens, A. Bell, M. R. McCartney, F. A. Ponce, H. Marui, and S. Tanaka. *Effect of layer thickness on the electrostatic potential in InGaN quantum wells.* Applied Physics Letters, 15 November 2004, Vol. **85** (20), 4651-4653. DOI: 10.1063/1.1815376.
173. A. Bell, R. Liu, U. K. Parasuraman, F. A. Ponce, S. Kamiyama, H. Amano, and I. Akasaki. *Spatial variation of luminescence from AlGaN grown by facet controlled epitaxial lateral overgrowth.* Applied Physics Letters, 18 October 2004, Vol. **85** (16) 3417-3419. DOI: 10.1063/1.1807950.
174. L. Shi, F. A. Ponce, J. Menendez. *Raman line shape of the A(1) longitudinal optical phonon in GaN.* Applied Physics Letters, 3 May 2004, Vol. **84** (18), 3471-3473. DOI: 10.1063/1.1737792.
175. J. Tolle, J. Kouvetakis, D. W. Kim, S. Mahajan, A. Bell, F. A. Ponce, I. S. T. Tsong, M. L. Kottke, Z. H. D. Chen. *Epitaxial growth of AlxGa1-xN on Si(111) via a ZrB2(0001)buffer laye*r. Applied Physics Letters, 3 May 2004, Vol. **84** (18), 3510-3512A. DOI: 10.1063/1.1738944.
176. A. Bell, S. Srinivasan, C. Plumlee, H. Omiya, F. A. Ponce, J. Christen, S. Tanaka, A. Fujioka, and Y. Nakagawa. *Exciton freeze-out and thermally activated relaxation at local potential fluctuations in thick AlGaN layers.* Journal of Applied Physics, 1 May 2004, Vol. **95** (9), 4670-4674. DOI: 10.1063/1.1689736.
177. A. Bell, J. Christen, F. Bertram, F. A. Ponce, H. Marui, and S. Tanaka. *Localization versus field effects in single InGaN quantum wells.* Applied Physics Letters, 5 January 2004, Vol. **84** (1), 58-60. DOI: 10.1063/1.1638880.
178. A. Dadgar, M. Poschenrieder, I. Daumiller, M. Kunze, A. Strittmatter, T. Riemann, F. Bertram, J. Bläsing, F. Schulze, A. Reiher, A. Krtschil, O. Contreras, A. Kaluza, A. Modlich, M. Kamp, L. Reißmann, A. Diez, J. Christen, F.A. Ponce, D. Bimberg, E. Kohn, and A. Krost. *Gallium-nitride-based devices on silicon*. Physica Status Solidi C, September 2003, Vol. **0** (6), 1940-1949.
179. A. Dadgar, A. Strittmatter, J. Bläsing, M. Poschenrieder, O. Contreras, P. Veit, T. Riemann, F. Bertram, A. Reiher, A. Krtschil, A. Diez, T. Hempel, T. Finger, A. Kasic, M. Schubert, D. Bimberg, F. A. Ponce, J. Christen, and A. Krost. *Metalorganic chemical vapor phase epitaxy of gallium-nitride on silicon.* Physica Status Solidi C, September 2003, Vol. **0** (6), 1583-1606.
180. R. Liu, A. Bell, F. A. Ponce, H. Amano, I. Akasaki, and D. Cherns. *Thick crack-free AlGaN films deposited by facet-controlled epitaxial lateral overgrowth*. Physica Status Solidi C, December 2003, Vol. 0 (7), 2136-2140.
181. S. Srinivasan, L. Geng, F. A. Ponce, Y. Narukawa, and S. Tanaka. *Glide along non-basal slip planes in InGaN epilayers.* Physica Status Solidi C, December 2003, Vol. **0** (7), 2440-2443.
182. S. Srinivasan, L. Geng, R. Liu, F. A. Ponce, Y. Narukawa, and S. Tanaka. *Slip systems and misfit dislocations in InGaN epilayers.* Applied Physics Letters, 22 December 2003, Vol. **83** (25), 5187-5189. DOI: 10.1063/1.1633029.
183. F. A. Ponce, S. Srinivasan, A. Bell, L. Geng, R. Liu, M. Stevens, J. Cai, H. Omiya, H. Marui, and S. Tanaka. *Microstructure and electronic properties of InGaN alloys.* Physica Status Solidi B, November 2003, Vol. **240** (2), 273-284. DOI: 10.1002/pssb.200303527.
184. R. Liu, F. A. Ponce, A. Dadgar, and A. Krost. *Atomic arrangement at the AlN/Si(111) interface*. Applied Physics Letters, 4 August 2003, Vol. **83** (5): 860-862. DOI: 10.1063/1.1597749.
185. H. M. Ng, A. Bell, F. A. Ponce, and S. N. G. Chu. *Structural and optical characterization of nonpolar GaN/AlN quantum wells*. Applied Physics Letters, 28 July 2003, Vol. **83** (4): 653-655. DOI: 10.1063/1.1595154.
186. Y. Tomida, S. Nitta, S. Kamiyama, H. Amano, I. Akasaki, S. Otani, H. Kinoshita, R. Liu, A. Bell, and F. A. Ponce. *Growth of GaN on ZrB_2 substrate by metal-organic vapor phase epitaxy*. Applied Surface Science, 30 June 2003, Vol. **216** (1-4): 502-507. DOI: 10.1016/S0169-4332(03)00466-5.
187. M. Tsuda, K. Watanabe, S. Kamiyama, H. Amano, I. Akasaki, S. Otani, H. Kinoshita, R. Liu, A. Bell, and F. A. Ponce. *Mechanism of H-2 pre-annealing on the growth of GaN on sapphire by MOVPE*. Applied Surface Science, 30 June 2003, Vol. **216** (1-4): 585-589. DOI: 10.1016/S0169-4332(03)00449-5.
188. C. W. Hu, A. Bell, L. Shi, F. A. Ponce, D. J. Smith, and I. S. T. Tsong. *Structural and optical properties of coherent GaN islands grown on 6H-SiC(0001).* Applied Physics Letters, 28 April 2003, Vol. **82** (17): 2889-2891. DOI: 10.1063/1.1570000.

189. A. Dadgar, M. Poschenrieder, J. Blasing, O. Contreras, F. Bertram, T. Riemann, A. Reiher, M. Kunze, I. Daumiller, A. Krtschi, A. Diez, A. Kaluza, A. Modlich, M. Kamp, J. Christen, F. A. Ponce, E. Kohn, and A. Krost. *MOVPE growth of GaN on Si(111) substrates.* Journal of Crystal Growth, February 2003, Vol **248**: 556-562. DOI: 10.1016/S0022-0248(02)01894-8.
190. A. Bell, R. Liu, F. A. Ponce, H. Amano, I. Akasaki, and D. Cherns. *Light emission and microstructure of Mg-doped AlGaN grown on patterned sapphire.* Applied Physics Letters, 20 January 2003, Vol. **82** (3): 349-351. DOI: 10.1063/1.1537517.
191. A. Bell, J. L. Smit, R. Liu, J. Mei, F. A. Ponce, H. M. Ng, A. Chowdhury, and N. G. Weimann, *Optical and microstructural properties of N- and Ga-polarity GaN*. MRS Proc. Vol. **798**, Y5.52 (2003). DOI: 10.1557/PROC-798-Y5.52.
192. R. Liu, F. A. Ponce, D. Cherns, H. H. Wills, H. Amano, and I. Akasaki, *Platelet inversion domains induced by Mg-doping in ELOG AlGaN films*. MRS Proc. Vol. **798**, Y5.21 (2003). DOI: 10.1557/PROC-798-Y5.21.
193. R. Liu, F. A. Ponce, S-L. Sahonta, D. Cherns, H. Amano, and I. Akasaki, *Effects of Si-doping on the microstructure of AlGaN/GaN multiple-quantum-well*. MRS Proc. Vol. **798**, Y5.33 (2003). DOI: 10.1557/PROC-798-Y5.33.
194. S. Srinivasan, J. Cai, O. Contreras, F.A. Ponce, D.C. Look, R.J. Molnar. *Luminescence Properties of Charged Dislocations in Semi-Insulating GaN : Zn*. Physica Status Solidi C, December 2002, Vol. **0** (1), 508-511.
195. D. Cherns, M. Q. Baines, Y. Q. Wang, F. A. Ponce, H. Amano, and I. Akasaki. *Mg incorporation in AlGaN layers grown on grooved sapphire substrates*. Physica Status Solidi B, December 2002, **234** (3): 850-854. DOI: 10.1002/1521-3951(200212)234:3<850::AID-PSSB850>3.0.CO;2-G.
196. D. Cherns, C. G. Jiao, H. Mokhtari, J. Cai, and F. A. Ponce. *Electron holography studies of the charge on dislocations in GaN*. Physica Status Solidi B, December 2002, **234** (3): 924-930. DOI: 10.1002/1521-3951(200212)234:3<924::AID-PSSB924>3.0.CO;2-8.
197. S. L. Sahonta, M. Q. Baines, D. Cherns, H. Amano, and F. A. Ponce. *Migration of dislocations in strained GaN heteroepitaxial layers*. Physica Status Solidi B, December 2002, **234** (3): 952-955. DOI: 10.1002/1521-3951(200212)234:3<952::AID-PSSB952>3.0.CO;2-4.
198. O. Contreras, F. A. Ponce, J. Christen, A. Dadgar, and A. Krost. *Dislocation annihilation by silicon delta-doping in GaN epitaxy on silicon.* Applied Physics Letters, 16 December 2002, Vol. **81** (25): 4712-4714. DOI: 10.1063/1.1529309.
199. D. Cherns, Y. Q. Wang, R. Liu, and F. A. Ponce. *Observation of coreless edge and mixed dislocations in Mg-doped AlGaN.* Applied Physics Letters, 9 December 2002, Vol. **81** (24): 4541-4543. DOI: 10.1063/1.1527978.
200. C. W. Hu, A. Bell, F. A. Ponce, D. J. Smith, and I. S. T. Tsong. *Growth of self-assembled GaN quantum dots via the vapor-liquid-solid mechanism*. Applied Physics Letters, 21 October 2002, Vol. **81** (17), 3236-3238. DOI: 10.1063/1.1514394.
201. R. Liu, A. Bell, F. A. Ponce, S. Kamiyama, H. Amano, and I. Akasaki. *Atomic arrangement at the AlN/ZrB_2 interface.* Applied Physics Letters, 21 October 2002, Vol. **81** (17), 3182-3184. DOI: 10.1063/1.1516876.
202. O. Contreras, S. Srinivasan, F. A. Ponce, J. Christen, A. Dadgar, and A. Krost. *Microstructural properties of Eu-doped GaN luminescent powders.* Applied Physics Letters, 9 September 2002, Vol. **81** (11), 1993-1995. DOI: 10.1063/1.1507355.
203. S. Srinivasan, F. Bertram, A. Bell, F. A. Ponce, *Response to "Comment on 'Low Stokes shift in thick and homogeneous InGaN epilayers'"* Applied Physics Letters, 12 August 2002, Vol **21** (7), 1355-1356. DOI: 10.1063/1.1498004.
204. J. Cai and F.A. Ponce. *Determination by electron holography of the electronic charge distribution at threading dislocations in epitaxial GaN.* Physica Status Solidi A, August 2002, Vol. **192** (2), 407-411. DOI: 10.1002/1521-396X(200208)192:2<407::AID-PSSA407>3.0.CO;2-M.
205. A. Dadgar, M. Poschenrieder, O. Contreras, J. Christen, K. Fehse, J. Bläsing, A. Diez, F. Schulze, T. Riemann, F.A. Ponce, and A. Krost. *Bright, crack-free InGaN/GaN light emitters on Si(111)*. Physica Status Solidi A, August 2002, Vol. **192** (2), 308-313. DOI: 10.1002/1521-396X(200208)192:2<308::AID-PSSA308>3.0.CO;2-M.
206. L. J. Brillson, S. T. Bradley, S. H. Goss, X. Sun, M. J. Murphy, W. J. Schaff, L. F. Eastman, D. C. Look, R. J. Molnar, F. A. Ponce, N. Ikeo, and Y. Sakai. *Low-energy electron-excited nanoluminescence studies of GaN and related materials.* Applied Surface Science, 8 May 2002, Vol. **190** (1-4): 498-507. DOI: 10.1016/S0169-4332(01)00925-4.
207. F. Bertram, S. Srinivasan, R. Liu, L. Geng, F. A. Ponce, T. Riemann, J. Christen, S. Tanaka, H. Omiya, Y. Nakagawa. *Spatial variation of luminescence of InGaN alloys measured by highly-spatially-resolved scanning cathodoluminescence.* Materials Science and Engineering B – Solid State Materials for Advanced Technology, 30 May 2002, Vol. **93** (1-3): 19-23. DOI: 10.1016/S0921-5107(02)00009-0.
208. S. V. Noviko, A. J. Winser, A. Bell, I. Harrison, T. Li, R. P. Campion, C. R. Staddon, C. S. Davis, F. A. Ponce, and C. T. Foxon . *The transition from As-doped GaN, showing blue emission, to GaNAs alloys in films grown by molecular beam epitaxy.* Journal of Crystal Growth, May 2002, Vol. **240** (3-4): 423-430. DOI: 10.1016/S0022-0248(02)01079-5.
209. J. Cai and F. A. Ponce. *Study of charge distribution across interfaces in GaN/InGaN/GaN single quantum wells using electron holography*. Journal of Applied Physics, 15 June 2002, Vol. **91** (12): 9856-9862. DOI: 10.1063/1.1477602.
210. F. Bertram, S. Srinivasan, L. Geng, F. A. Ponce, T. Riemann and J. Christen. *Microscopic correlation of red-shifted luminescence and surface defects in thick $In_xGa_{1-x}N$ layers*. Applied Physics Letters, 13 May 2002, Vol. **80** (19): 3524-3526. DOI: 10.1063/1.1479199.
211. S. E. Ulloa and F. A. Ponce. *Papers presented at Proceedings of the Pan-American Advanced Studies Institute (PASI) on Physics and Technology at the Nanometer scale, San Jose (Costa Rica), June 25-July 3, 2001 – Preface*. Physica Status Solidi B, April 2002, Vol. **230** (2): 307-307. DOI: 10.1002/1521-3951(200204)230:2<307::AID-PSSB307>3.0.CO;2-Y.
212. S. Srinivasan, F. Bertram, A. Bell, F. A. Ponce, S. Tanaka, H. Omiya, and Y. Nakagawa. *Low Stokes Shift in thick and homogeneous InGaN epilayers*. Applied Physics Letters, 28 Jan. 2002, Vol. **80** (4): 550-552. DOI: 10.1063/1.1436531.
213. N. Jiang, T. J. Eustis, J. Cai, F. A. Ponce, J. C. H. Spence, and J. Silcox. *Polarity determination by atomic location by channeling-enhanced microanalysis*. Applied Physics Letters, 21 Jan. 2002, Vol. **80**: 389-391. DOI: 10.1063/1.1433919.

214. D. Cherns, Y. Q. Wang, R. Liu, F. A. Ponce, H. Amano, and I. Akasaki, *Hollow core dislocations in Mg-doped AlGaN*. MRS Proc. Vol. **743**, L.10.9 (2002). DOI: 10.1557/PROC-743-L10.9.
215. R. Liu, A. Bell, F. A. Ponce, D. Cherns, H. Amano, and I. Akasaki, *Distinct magnesium incorporation behavior in laterally grown AlGaN*. MRS Proc. Vol. **743**, L1.11 (2002). DOI: 10.1557/PROC-743-L1.11.
216. G. A. Hirata, F. Ramos, R. Garcia, E. J. Bosze, J. McKittrick, O. Contreras, and F. A. Ponce. *A new combustion synthesis method for GaN:Eu^{3+} and Ga2O3:Eu^{3+} luminescent powders.* Physica Status Solidi A, 22 Nov 2001, **188** (1): 179-182. DOI: 10.1002/1521-396X(200111)188:1<179::AID-PSSA179>3.3.CO;2-T.
217. F. Bertram, S. Srinivasan, L. Geng, F. A. Ponce, T. Riemann, J. Christen, S. Tanaka, H. Omiya, and Y. Nakagawa. *Spatial variation of luminescence of InGaN alloys measured by highly-spatially-resolved scanning cathodoluminescence*. Physica Status Solidi B, 5 Nov 2001, Vol. **228**, 35-39. DOI: 10.1002/1521-3951(200111)228:1<35::AID-PSSB35>3.0.CO;2-1.
218. L. Geng, F.A. Ponce, S. Tanaka, H. Omiya, and Y. Nakagawa. *Surface morphology of AlxGa1-xN films grown by MOCVD*. Physica Status Solidi A, 22 Nov 2001, **188** (2), 803-806. DOI: 10.1002/1521-396X(200112)188:2<803::AID-PSSA803>3.3.CO;2-E.
219. S. Srinivasan, R. Liu, F. Bertram, F. A. Ponce, S. Tanaka, H. Omiya, and Y. Nakagawa. *A comparison of Rutherford backscattering spectroscopy and X-Ray diffraction to determine the composition of thick InGaN epilayers*. Physica Status Solidi B, 5 Nov. 2001, Vol. **228**, 41-44. DOI: 10.1002/1521-3951(200111)228:1<41::AID-PSSB41>3.0.CO;2-N.
220. A. Bell, F. A. Ponce, S. V. Novikov, C. T. Foxon, and I. Harrison. *Spatially resolved cathodoluminescence study of As doped GaN*. Physica Status Solidi B, 5 Nov. 2001, Vol. **228**, 207-211. DOI: 10.1002/1521-3951(200111)228:1<207::AID-PSSB207>3.0.CO;2-Z.
221. J. Cai, F. A. Ponce, S. Tanaka, H. Omiya, and Y. Nakagawa. *Mapping the internal potential across GaN/AlGaN heterostructures by electron holography*. Physica Status Solidi A, 22 Nov 2001, **188** (2), 833-837. DOI: 10.1002/1521-396X(200112)188:2<833::AID-PSSA833>3.0.CO;2-B.
222. F. A. Ponce. *Papers presented at the Fourth International Conference on Nitride Semiconductors (ICNS-4) - Denver, Colorado, USA, July 16-20, 2001 (Part A. 1) - Preface*. Physica Status Solidi A, November 2001, Vol. **188** (1): XI-XI.
223. F. A. Ponce. *Papers presented at the Fourth International Conference on Nitride Semiconductors (ICNS-4) Denver, Colorado, USA, July 16-20, 2001 (Part B.1) – Preface*. Physica Status Solidi B, November 2001, Vol. **228** (1): IX-IX.
224. A. Bell, F. A. Ponce, S. V. Novikov, C. T. Foxon, and I. Harrison. *The nature of arsenic incorporation in GaN*. Applied Physics Letters, 12 November 2001, Vol. **79** (21), 3239-3241. DOI: 10.1063/1.1418030.
225. S. J. Henley, A. Bewick, D. Cherns, and F. A. Ponce. *Luminescence studies of defects and piezoelectric fields in InGaN/GaN single quantum wells.* J. Crystal Growth, September 2001, Vol. **230** (3-4), 481-486. DOI: 10.1016/S0022-0248(01)01245-3.
226. L. Shi, C. D. Poweleit, F. A. Ponce, J. Menendez, and W. W. Chow. *Anisotropic diffusion and drift of photogenerated carriers near coreless dislocations in InGaN quantum well.* Applied Physics Letters, 2 July 2001, Vol. **79** (1) 75-77. DOI: 10.1063/1.1381422.
227. L. J. Brillson, A. P. Young, G. H. Jessen, L. M. Levin, S. T. Bradley, S. H. Goss, J. Bae, F. A. Ponce, M. J. Murphy, W. J. Schaff, and L. F. Eastman. *Low energy electron-excited nano-luminescence spectroscopy of GaN surfaces and interfaces.* Applied Surface Science, 15 May 2001, Vol. **175**, 442-449. DOI: 10.1016/S0169-4332(01)00098-8.
228. D. Cherns, S. J. Henley, and F. A. Ponce. *Edge and screw dislocations as nonradiative centers in InGaN/GaN quantum well luminescence.* Applied Physics Letters, 30 April 2001, Vol. **78** (18) 2691-2693. DOI: 10.1063/1.1369610.
229. F. Bertram, S. Srinivasan, F.A. Ponce, T. Riemann, J. Christen, and R. J. Molnar, *Spatial variation of luminescence in thick GaN films.* Applied Physics Letters, 26 February 2001, Vol. **78** (9) 1222-1224. DOI: 10.1063/1.1350594.
230. L. J. Brillson, A. P. Young, T. M. Levin, G. H. Jessen, J. Schafer, Y. Yang, S. H. Xu, H. Cruguel, G. J. Lapeyre, F. A. Ponce, Y. Naoi, C. Tu, J. D. McKenzie, and C. R. Abernathy, *Localized states at GaN surfaces, Schottky barriers, and quantum well interfaces*. Materials Science and Engineering B, 1 June 2000, Vol. **75** (2-3) 218-223. DOI: 10.1016/S0921-5107(00)00367-6.
231. J. Cai, M. R. McCartney, and F. A. Ponce, *Profiling electric fields in GaN/InGaN/GaN single quantum wells by electron holography*. MRS Proc. Vol. **639**, G11.20 (2000). DOI:10.1557/PROC-639-G11.20.
232. M. R. McCartney, F. A. Ponce, J. Cai, and D. P. Bour, *Mapping of electrostatic potential across a AlGaN/InGaN/ AlGaN diode by electron holography*. Applied Physics Letters, 22 May 2000, Vol. **76** (21), 3055-3057. DOI: 10.1063/1.126577.
233. J. N. Stirman, F. A. Ponce, A. Pavlovska, I.S. T. Tsong, and D. J. Smith. *Polarity determination and atomic arrangement at a GaN/SiC Interface using high resolution Image matching.* Applied Physics Letters, 14 February 2000, Vol. **76** (7), 822-824. DOI: 10.1063/1.125596.
234. L. J. Brillson, T. M. Levin, G. H. Jessen, A. P. Young, C. Tu, Y. Naoi, F. A. Ponce, Y. Yang, G. J. Lapeyre, J. D. MacKenzi, and C. A. Abernathy. *Defect formation near GaN surfaces and interfaces.* Physica B, 1 December 1999, Vol. **273-4**, 70-74. DOI: 10.1016/S0921-4526(99)00409-3.
235. T. M. Levin, G. H. Jessen, F. A. Ponce, and L. J. Brillson. *Depth-resolved electron-excited nanoscale-luminescence spectroscopy studies of defects near GaN/InGaN/GaN quantum wells*. Journal of Vacuum Science and Technology B, 1 November 1999, Vol. **17**: (6) 2545-2552. DOI: 10.1116/1.591125.
236. L. J. Brillson, T. M. Levin, G. H. Jessen, and F. A. Ponce. *Localized states at InGaN/GaN quantum well interfaces.* Applied Physics Letters, 1 December 1999, Vol. 75 (24), 3835-3937. DOI: 10.1063/1.125472.
237. D. Cherns, J. Barnard, and F. A. Ponce. *Measurement of the piezoelectric field across strained InGaN/GaN layers by electron holography*. Solid State Communications **111**, 281-285 (1999). DOI: 10.1016/S0038-1098(99)00130-1.
238. A. Hangleiter, J. Y. Duboz, K. Kishino, and F. A. Ponce*, Nitrides and related wide band gap materials, June 16-19, 1998, Strasbourg, France – Preface*. Materials Science and Engineering B, 1999 May 6, Vol. **59** (9) 1-3.
239. D. Cherns, W. T. Young, J. W. Steeds, F. A. Ponce, and S. Nakamura, *Determination of the atomic structure of inversion domain boundaries in GaN by transmission electron microscopy*. Philosophical Magazine **A77** (1), 273-286 (1998).

240. F. A. Ponce, D. Cherns, W. Goetz, and R. S. Kern, *Microstructure of InGaN quantum wells*. MRS Symp. Proc. 482, 453-458 (1997).
241. D. Cherns, W. T. Young, and F. A. Ponce, *Characterization of dislocations, nanopipes and inversion domains in GaN by transmission electron microscopy*. Materials Science and Engineering B, 18 December 1997, Vol. **50**, 76-81 (1997). DOI: 10.1016/S0921-5107(97)00171-2.
242. D. Cherns, W. T. Young, M. A. Saunders, F. A. Ponce, and S. Nakamura, *The analysis of nanopipes and inversion domains in GaN thin films*. Institute of Physics Conference Series, Vol **157**, 187-190 (1997).
243. C. H. Booth, F. Bridges, Z. Kvitky, F. A. Ponce, and L. Romano. *Environment about indium in $Ga_{1-x}In_xN$ from In and Ga K-edge XAFS.* Journal de Physique IV, Vol. **7** (C2) 1253-54 (1997). DOI: 10.1051/jp4:19972219.
244. D. Cherns, W. T. Young, J. W. Steeds, F. A. Ponce, and S. Nakamura, *Observation of coreless dislocations in GaN*. Journal of Crystal Growth, Vol. **178** (1,2), 201-206 (1997). DOI: 10.1016/S0022-0248(97)00081-X.
245. F. A. Ponce and D. P. Bour, *Nitride-based semiconductors for blue and green light emitting devices*. Nature, 27 March 1997, Vol. **386**: 351-359. (Invited Review Article). DOI: 10.1038/386351a0.
246. F. A. Ponce, *Defects and interfaces in GaN epitaxy.* Materials Research Society Bulletin. 1 February 1997, Vol. **22**: 51-57. (Invited Review Article)
247. F. A. Ponce, D. Cherns, W. Goetz, and R. S. Kern, *Microstructure of InGaN quantum wells*. MRS Proc. Vol. **482**, 453 (1997). DOI: 10.1557/PROC-482-453.
248. F. A. Ponce, S. A. Galloway, W. Goetz, and R. S. Kern, *Cathodoluminescence studies of InGaN quantum wells*. MRS Proc. Vol. **482**, 625 (1997). DOI: 10.1557/PROC-482-625.
249. F. A. Ponce, J. W. Steeds, C. D. Dyer, and G. D. Pitt, *Direct imaging of impurity-induced Raman scattering in GaN.* Applied Physics Letters. 1996 October 28, Vol. **69** (18): 2650-2652. DOI: 10.1063/1.117547.
250. F. A. Ponce, M. A. O'Keefe, and E. C. Nelson. *Transmission electron microscopy of the AlN/SiC interface.* Philosophical Magazine A. 1996 September, Vol. **74** (3) 777-789.
251. F. A. Ponce, D. Cherns, W. T. Young, and J. W. Steeds, *Characterization of dislocations in GaN by transmission electron diffraction and microscopy techniques.* Applied Physics Letters. 1996 August 5, Vol. **69** (6) 770-772. DOI: 10.1063/1.117886.
252. F. A. Ponce, D. P. Bour, W. T. Young, M. Saunders, and J. W. Steeds, *Determination of lattice polarity for growth of GaN bulk single crystals and epitaxial layers.* Applied Physics Letters. 1996 July 15, Vol. **69** (3) 337-339. DOI: 10.1063/1.118052.
253. F. M. Ross, K. M. Krishnan, N. Thangaraj, R. F. C. Farrow, R. F. Marks, A. Cebollada, S. S. P. Parkin, M. F. Toney, M. Huffman, C. A. Paz de Araujo, L. D. McMillan, J. Cuchiaro, M. C. Scott, C. Echer, F. A. Ponce, M. A. O'Keefe, and E. C. Nelson. *Applications of electron microscopy in collaborative industrial research*. MRS Bulletin. 1996 May 1, Vol. **21** (5): 17-23.
254. F. A. Ponce, C. G. Van de Walle, and J. E. Northrup. *Atomic arrangement at the AlN/SiC interface.* Physical Review B. 1996 March 15, Vol. **53** (11): 7473-7478. DOI: 10.1103/PhysRevB.53.7473.
255. F. A. Ponce, D. P. Bour, W. Götz, N. M. Johnson, H. I. Helava, I. Grzegory, J. Jun, and S. Porowski. *Homoepitaxy of GaN on polished single crystals by metalorganic chemical vapor deposition.* Applied Physics Letters. 1996 February 12, Vol. **68** (7): 917-919. DOI: 10.1063/1.116230.
256. F. A. Ponce, D. P. Bour, W. Götz, and P. J. Wright. *Spatial distribution of the luminescence in GaN thin films.* Applied Physics Letters. 1996 January 1, Vol. **68** (1): 57-59. DOI: 10.1063/1.116756.
257. D. P. Bour, H. F. Chung, W. Götz, L. Romano, B. S. Krusor, D. Hofstetter, S. Rudaz, C. P. Kuo, F. A. Ponce, N. M. Johnson, M. G. Craford, and R. D. Bringans, *Characterization of OMVPE-grown AlGaInN heterostructures*. MRS Proc. Vol. **449**, 509(1996). DOI: 10.1557/PROC-449-509.
258. F. A. Ponce, J. W. Steeds, C. D. Dyer, and G. D. Pitt, *Mapping of donor impurities in GaN by Raman imaging*. MRS Proc. Vol. **449**, 731 (1996). DOI: 10.1557/PROC-449-731.
259. F. A. Ponce, W. T. Young, D. Cherns, J. W. Steeds, and S. Nakamura, *Nanopipes and inversion domains in high-quality GaN epitaxial layers*. MRS Proc. Vol. **449**, 405 (1996). DOI: 10.1557/PROC-449-405.
260. K. J. Duxstad, E. E. Haller, K.M. Yu, M. T. Hirsch, W. R. Imler, D. A. Steigerwald, F. A. Ponce, and L. T. Romano. *Thermal stability of Pt, Pd, and Ni on GaN*. MRS Proc. Vol. **449**, 1049 (1996). DOI: 10.1557/PROC-449-1049.
261. F. A. Ponce, B. S. Krusor, J. S. Major, Jr., W. E. Plano, and D. F. Welch. *Microstructure of GaN epitaxy on SiC using AlN buffer layers.* Applied Physics Letters. 1995 July 17, Vol. **67** (3): 410-412.
262. K. G. Fertitta, A. L. Holmes, F. J. Ciuba, R. D. Dupuis, and F. A. Ponce. *High-quality GaN heteroepitaxial films grown by metalorganic chemical vapor deposition.* J. Electron. Materials. 1995 March 1, Vol. **24** (4): 257-261.
263. S. D. Lester, F. A. Ponce, M. G. Craford, and D. A. Steigelwald. *High dislocation densities in high efficiency GaN-based LED's.* Applied Physics Letters. 1995 March 6, Vol. **66** (10):1249-1251.
264. R. D. Dupuis, A.L. Holmes,and P.A Grudowski, K.G. Fertitta, and F.A. Ponce, *High-quality III-V nitrides grown by metalorganic chemical vapor deposition*. MRS Proc. Vol. **395**, 183 (1995). DOI: 10.1557/PROC-395-183.
265. R. L. Thornton, D. P. Bour, D. Treat, F. A. Ponce, J. C. Tramontana, and F. J. Endicott. *Defect generation and suppression during the impurity induced layer disordering of quantum sized GaAs/GaInP layers.* Applied Physics Letters. 1994 November 21, Vol. **65** (21): 2696-2698.
266. F. A. Ponce, J. S. Major, Jr., W. E. Plano, and D. F. Welch. *Crystalline structure of AlGaN epitaxy on sapphire using AlN buffer layers.* Applied Physics Letters. 1994 October 31, Vol. **65** (18): 2302-2304.
267. J. J. Kingston, D. K. Fork, F. Leplingard, and F. A. Ponce, *$C-$ Outgrowths in C+ thin films of $LiNbO_3$ on Al_2O_3-c*. MRS Proc. Vol. **341**, 289 (1994). DOI: 10.1557/PROC-341-289.

268. F. A. Ponce, L. Gonzalez, A. Mazuelas, and F. Briones. *Generation of misfit dislocations in ultra-thin semiconductor films*. Institute of Physics Conference Series. 1993; Vol. **134**: 313-316.
269. D. P. Bour, R. S. Geels, D. W. Treat, T. L. Paoli, F. Ponce, R. L. Thornton, B. S. Krusor, R. D. Bringans, and D. F. Welch. *Strained $Ga_xIn_{1-x}P/AlGa_{0.5}In_{0.5}P$ heterostructures and quantum well laser diodes.* IEEE J. Quantum Electronics. 1994 February; **30** (2): 593-607.
270. H. I. Liu, D. K. Biegelsen, F. A. Ponce, N. M. Johnson and R. F. W. Pease. *Self-limiting oxidation for fabricating sub-5 nm silicon nanowires*. Applied Physics Letters. 1994 March 14, **64** (11): 1383-1385.
271. H. I. Liu, D. K. Biegelsen, N. M. Johnson, F. A. Ponce, and R. F. W. Pease. *Self-limiting oxidation of silicon nanowires*. Journal of Vacuum Science and Technology. 1993 November-December, **B 11** (6): 2532-2537.
272. K. Nashimoto, D. K. Fork, F. A. Ponce, and J. C. Tramontana. *Epitaxial $BaTiO_3$ MgO structure grown on GaAs (100) by pulsed-laser deposition.* Japanese Journal of Applied Physics. 1993 September; Vol. **32** (9B): 4099-4102.
273. A. Mazuelas, L. Gonzalez, F. A. Ponce, L. Tapfer, and F. Briones. *Critical thickness determination of InAs, InP and GaP on GaAs by X-ray interference effects and transmission electron microscopy.* Journal of Crystal Growth. 1993 August; Vol. **131** (3-4): 465-469.
274. F. A. Ponce and H. Hikashi. *On-line processing and computer control in high-resolution transmission electron microscopy.* Scanning Microscopy, 1993 December, Supplement Vol. **6**: 339-345.
275. A. Mazuelas, A. Ruiz, F. Ponce, and F. Briones. *Structural characterization of GaAs/GaP superlattices.* Journal of Physics D: Applied Physics. 1993 April 14; Vol. **26** (4A): A167-172.
276. R. L. Thornton, F. A. Ponce, G. B. Anderson, and F. J. Endicott. *Strain and defect generation during interdiffusion at GaAs-AlInP interfaces.* Applied Physics Letters. 1993 April 26; Vol. **62** (17): 2060-2062.
277. H. I. Liu, N. I. Maluf, R. F. W. Pease, D. K. Biegelsen, N. M. Johnson and F. A. Ponce. *Oxidation of sub-50nm Si columns for light emission study*. Journal of Vacuum Science Technology B, 1992 November/December, Vol. **10** (6): 2846-2850.
278. S. I. Molina, G. Aragon, Y. Gonzalez, L. Gonzalez, F. Briones, F. A. Ponce, and R. Garcia. *Experimental evidence of the structure of annihilation of antiphase boundaries in GaAs on silicon*. Materials Letters. 1993 January; Vol. **15** (5-6): 353-355.
279. S. Hahn, H. J. Stein, S. C. Shatas, and F. A. Ponce. *Thermal donor formation and annihilation in oxygen implanted FZ silicon.* Journal of Applied Physics, 1992 September 1, Vol. **72** (5): 1758-1765.
280. R. S. Bringans, D. K. Biegelsen, L.-E. Swartz, F. A. Ponce, and J. C. Tramontana. *Use of ZnSe as an interlayer for GaAs growth on Si.* Applied Physics Letters, 1992 July 13, Vol. **61** (2): 195-197.
281. R. S. Bringans, D. K. Biegelsen, L.-E. Swartz, F. A. Ponce, and J. C. Tramontana. *Effect of interface chemistry on the growth of ZnSe on the Si(100) surface.* Physical Review B, 1992 June 15, Vol. **45** (23): 13,400-13,406.
282. H. I. Liu, D. K. Biegelsen, N. M. Johnson, F. A. Ponce, N. I. Maluf, and R. F. W. Pease, *Silicon quantum wires oxidation and transport studies*. MRS Proc. Vol. **283**, 57 (1992). DOI: 10.1557/PROC-283-57.
283. J. Qiao, E. M. Ajimine, P. P. Patel, M. A. Segovia, C. Y. Yang, D. K. Fork, F. A. Ponce, and J. C. Tramontana, *Temperature dependent C-V characteristics of YBCO/YSZ/Si MIS capacitors*. MRS Proc. Vol. **275**, 583 (1992). DOI: 10.1557/PROC-275-583.
284. R. D. Bringans, D. K. Biegelsen, L.-E. Swartz, F. A. Ponce, and J. C. Tramontana, *Initial stages of growth of ZnSe on Si*. MRS Proc. Vol. **242**, 191 (1992). DOI: 10.1557/PROC-242-191.
285. R. L. Thornton, D. P. Bour, D. Treat, F. A. Ponce, J. C. Tramontana, and F. J. Endicott, *Defect generation and suppression during the impurity-induced layer disordering of quantum sized GaAs/GalnP layers*. MRS Proc. Vol. **280**, 445 (1992). DOI: 10.1557/PROC-280-445.
286. N. M. Johnson, C. Doland, F. A. Ponce, J. Walker, and G. B. Anderson. *Hydrogen in crystalline semiconductors.* Physica B. 1991 April; Vol. **170** (1-4): 3-20.
287. C. B. Carter, G. B. Anderson, and F. A. Ponce. *Accommodation of misfit during the initial growth of GaAs on {111}-Si.* Philosophical Magazine A, 1991 February 1, Vol. **63** (2): 279-298.
288. D. K. Fork, F. A. Ponce, J. C. Tramontana, N. Newman, Julia M. Phillips, and T. H. Geballe. *High critical currents in $YBa_2Cu_3O_{7-x}$ thin films on silicon on sapphire.* Applied Physics Letters, 1991 May 27; Vol. **58** (21): 2432-2434.
289. D. K. Fork, F. A. Ponce, J. C. Tramontana, and T. H. Geballe. *Epitaxial MgO on Si(100) for Y-Ba-Cu-O thin film growth by pulsed laser deposition.* Applied Physics Letters, 1991 May 20; Vol. **58** (20): 2294-2296.
290. D. B. Fenner, A. M. Viano, D. K. Fork, G. A. N. Connell, J. B. Boyce, F. A. Ponce, and J. C. Tramontana. *Reactions at the Interfaces of thin films of Y-Ba-Cu-O and Zr-oxides with silicon substrates.* Journal of Applied Physics. 1991 February 15; Vol. **69** (4): 2176-2182.
291. K. Nashimoto, D. K. Fork, F. A. Ponce, and T. H. Geballe, *Epitaxial growth of ferroelectric thin films on GaAs with MgO buffer layers by pulsed laser deposition*. MRS Proc. Vol. **243**, 495 (1991). DOI: 10.1557/PROC-243-495.
292. R. L. Thornton, F. A. Ponce, G. B. Anderson, and F.J. Endicott, *Microstructure of impurity induced disordering at the GaAs/InGaAIP interface*. MRS Proc. Vol. **221**, 349 (1991). DOI: 10.1557/PROC-221-349.
293. F. A. Ponce and M. Cardona, eds. *Lectures on Surface Sciences and Applications.* Springer Proc. Phys. (Springer, Berlin, Heidelberg 1990); pp. 1-525 (ISBN 0-387-53604-3).
294. K. Winer, G. B. Anderson, S. E. Ready, R. Z. Bachrach, R. I. Johnson, F. A. Ponce, and J. B. Boyce. *Excimer-laser-induced crystallization of hydrogenated amorphous silicon.* Applied Physics Letters, 1990 Nov. 19; Vol. **57** (21): 2222-2224.
295. D. Gerthsen, D. K. Biegelsen, F. A Ponce, and J. C. Tramontana. *Misfit dislocations in GaAs heteroepitaxy on (001) silicon*. Journal of Crystal Growth, 1990 Nov. 1; Vol. **106**, 157-165.
296. D. B. Fenner, D. K. Fork, G. A. N. Connell, J. B. Boyce, F. A. Ponce, J. C. Tramontana, A. M. Viano, and T. H. Geballe, *Heteroepitaxial metal oxides on silicon by laser ablation*. MRS Proc. Vol. **191**, 187 (1990). DOI: 10.1557/PROC-191-187.

297. G. B. Anderson, R. Z. Bachrach, K. Winer, J. B. Boyce, F. A. Ponce, R. I. Johnson, and S. E. Ready, *Transmission electron microscopy of excimer laser crystallized amorphous Si thin films*. MRS Proc. Vol. **192**, 669 (1990). DOI: 10.1557/PROC-192-669.
298. R. D. Bringans, D. K. Biegelsen, F. A. Ponce, L.-E. Swartz, and J. C. Tramontana, *Interface formation and the heteroepitaxy of ZnSe on Si*. MRS Proc. Vol. 198, 195 (1990). DOI: 10.1557/PROC-198-195.
299. R. L. Thornton, F. A. Ponce, G. B. Anderson, and H. F. Chung, *Properties of interfaces between superlattice heterostructures and uniform alloy materials as realized by impurity induced disordering*. MRS Proc. Vol. **198**, 85 (1990). DOI: 10.1557/PROC-198-85.
300. R. Herrera, M. Avalos-Borja, F. Ponce, P. Schabes-Retchkiman, D. Romeu, and M. Jose-Yacaman. *On the structure of small palladium particles*. Scripta Metallurgy; 1989 October 1; Vol. **23**: 1555-1558.
301. J. E. Epler, R. D. Bringans, F. A. Ponce, G. B. Anderson, D. W. Treat, and T. L. Paoli. *Laser patterned desorption within an upflow metalorganic chemical vapor deposition reactor.* Applied Surface Science, 1989 December 15; Vol. **43** (1989) 432-438.
302. F. A. Ponce and S. Hahn. *Microscopic aspects of oxygen precipitation in silicon.* Materials Science and Engineering, 1989 December **15**; Vol. B4: 11-17.
303. J. Partanen, T. Tuomi, M. Tilli, S. Hahn, C. C. D. Wong, and F. A. Ponce. *Thin film backside gettering in n-type (100) Czochralski silicon during simulated CMOS process cycles.* Journal of Materials Research; 1989 May/June; Vol. **4** (3): 623-633.
304. D. E. Gerthsen, F. A. Ponce, and G. B. Anderson. *High resolution transmission electron microscopy of 60-degrees dislocations in semi-insulating GaAs*. Philosophical Magazine; 1989 May 1; Vol. **59** (5): 1045-1059.
305. D. K. Biegelsen, F. A. Ponce, and J. C. Tramontana. *Simple ion milling preparation of <111> tungsten tips for scanning tunneling microscopy.* Applied Physics Letters, 1989 March 27; Vol. **54** (13): 1223-1225.
306. D. K. Fork, T. H. Geballe, J. B. Boyce, F. A. Ponce, and R. I. Johnson. *Fabrication and properties of Bi-Sr-Ca-Cu-O thin-films made using pulsed laser deposition.* IEEE Transactions on Magnetism; 1989 March; Vol. **25** (2): 2426-2428.
307. D. Gerthsen, F. A. Ponce, and G. B. Anderson. *Atomic-structure of dislocations in GaAs.* Institute of Physics Conference Series. 1989; Vol. **100**: 23-28.
308. D. K. Fork, T. H. Geballe, K. Char, S. S. Laderman, R. Taber, F. Bridges, F. A. Ponce, J. B. Boyce, and G. A. N. Connell, *Growth and properties of epitaxial $YBa_2Cu_3O_7$ thin films on {1102}Al_2O_3*. MRS Proc. Vol. **169**, 473 (1989). DOI: 10.1557/PROC-169-473.
309. D.B. Fenner, A.M. Viano, G.A.N. Connell, J.B. Boyce, D.K. Fork, F.A. Ponce, and J.C. Tramontana, *XPS analysis of Y-Ba-Cu-O and Zr-O thin films and interfaces with silicon substrates*. MRS Proc. Vol. **169**, 1005 (1989). DOI: 10.1557/PROC-169-1005.
310. D.B. Fenner, D.K. Biegelsen, B.S. Krusor, F.A. Ponce, and J.C. Tramontana, *Very thin 2D GaAs films on Si during the early stages of growth by MBE*. MRS Proc. Vol. **159**, 15 (1989). DOI: 10.1557/PROC-159-15.
311. G. A. N. Connell, D. B. Fenner, D. K. Fork, J.B. Boyce, F.A. Ponce, F. Bridges, and T.H. Geballe, *YBCO films and buffer-layers grown in-situ by pulsed laser deposition*. MRS Proc. Vol. 169, 485 (1989). DOI: 10.1557/PROC-169-485.
312. M. Avalos-Borja, D. Su, F. A. Ponce, J. C. Tramontana, Q.-H. Guo, K. Heinemann, H. Poppa, and M. Boudart, *Applications of in-situ UHV and high-resolution TEM to the study of small particles*. MRS Proc. Vol. **139**, 81 (1989). DOI: 10.1557/PROC-139-81.
313. R.Z. Bachrach, K. Winer, J.B. Boyce, F.A. Ponce, S.E. Ready, R. Johnson, and G.B. Anderson, *Excimer laser induced crystallization of amorphous silicon near threshold*. MRS Proc. Vol. **157**, 467 (1989). DOI: 10.1557/PROC-157-467.
314. S. Hahn, F. A. Ponce, W. A. Tiller, V. Stojanoff, D. A. P. Bulla, and W. E. Castro. *Effects of heavy boron doping upon oxygen precipitation in Czochralski silicon.* Journal of Applied Physics; 1988 November 1; Vol. **64** (9): 4454-4465.
315. J. E. Epler, F. A. Ponce, F. J. Endicott, and T. L. Paoli. *Layer disordering of GaAs-AlGaAs superlattices by diffusion of laser incorporated silicon.* Journal of Applied Physics, 1988 October 1; Vol. **64** (7): 3439-3444.
316. R. D. Bringans, M. A. Olmstead, F. A. Ponce, D. K. Biegelsen, B. S. Krusor, and R. D. Yingling. *The effect of a gallium prelayer on the beginning of GaAs epitaxy on silicon.* Journal of Applied Physics; 1988 October 1; Vol. **64** (7): 3472-3475.
317. D. E. Gerthsen, F. A. Ponce, G. B. Anderson, and H. Chung. *Structure of the (100) GaAs on GaP interface*. Journal of Vacuum Science and Technology; 1988 July-August; Vol. **B6** (4): 1310-1314.
318. D. K. Fork, J. B. Boyce, F. A. Ponce, and R. I. Johnson. *Preparation of oriented Bi-Ca-Sr-Cu-O thin films using pulsed laser deposition.* Applied Physics Letters; 1988 July 25; Vol. **53** (4): 337-339.
319. D. K. Biegelsen, F. A. Ponce, B. S. Krusor, J. C. Tramontana, and R. D. Yingling. *Graded thickness samples for molecular beam epitaxy growth studies of GaAs/Si heteroepitaxy*. Applied Physics Letters; 1988 May 23; Vol. **52** (21): 1779-1781.
320. C. C. Tsai, R. Thompson, C. Doland, F. A. Ponce, G. B. Anderson, and B. Wacker, *Transition from amorphous to crystalline silicon: Effect of hydrogen on film growth*. MRS Proc. Vol. **118**, 49 (1988). DOI: 10.1557/PROC-118-49.
321. D. Gerthsen, F.A. Ponce, G.B. Anderson, and H.F. Chung, *Lattice mismatch effects in GaAs epitaxy on Si and GaP*. MRS Proc. Vol. **122**, 21 (1988). DOI: 10.1557/PROC-122-21.
322. J. E. Epler, F. A. Ponce, J. C. Tramontana, F. J. Endicott, and T. L. Paoli, *Laser incorporation of silicon into GaAs-AlGaAs heterostructures*. MRS Proc. Vol. **126**, 77 (1988). DOI: 10.1557/PROC-126-77.
323. O. K. Biegelsen, F. A. Ponce, B. S. Krusor, J. C. Tramontana, R. D. Yingling, R. D. Bringans, and D. B. Fenner, *Initial stages of GaAs epitaxy on Si*. MRS Proc. Vol. **116**, 33 (1988). DOI: 10.1557/PROC-116-33.
324. R. D. Bringans, M. A. Olmstead, F. A. Ponce, D. K. Biegelsen, B. S. Krusor,and R. D. Yingling, *The Influence of substrate surface chemistry on GaAs-on-Si growth*. MRS Proc. Vol. **116**, 51 (1988). DOI: 10.1557/PROC-116-51.

325. D. A. P. Bulla, W. E. Castro, V. Stojanoff, F. A. Ponce, S. Hahn, and W. A. Tiller. *Effects of boron concentration upon oxygen precipitation in CZ silicon*. Journal of Crystal Growth. 1987 November; Vol. **85** (1-2): 91-96.
326. R. J. Nemanich, C. M. Doland, and F. A. Ponce. *Reactive interface formation - Pt/Si <111>: nucleation and morphology.* Journal of Vacuum Science and Technology B. 1987 July/August; Vol. **5** (4): 1039-1043.
327. S. J. Eglash, N. Newman, S. Pan, D. Mo, K. Shenai, W. E. Spicer, F. A. Ponce, and D. M. Collins. *Engineered Schottky barrier diodes for the modification and control of Schottky barrier heights.* Journal of Applied Physics. 1987 May; Vol. **61**(11): 5159-5211.
328. F. A. Ponce, N. M. Johnson, J. C. Tramontana, and J. Walker. *High-resolution TEM of hydrogen-induced microdefects in silicon.* Institute of Physics Conference Series. 1987: 49-54.
329. F. A. Ponce. *Probing the atomic structure of solids by transmission electron microscopy.* Vuoto, 1987 March; Vol. **17** (1): 3-10.
330. D. K. Biegelsen, F. A. Ponce, J. C. Tramontana, and S. M. Koch. *Ion milled tips for scanning tunneling microscopy.* Applied Physics Letters. 1987 March 16; Vol. **50** (11): 696-698.
331. N. M. Johnson, F. A. Ponce, R. A. Street, and R. J. Nemanich. *Defects in single-crystal silicon induced by hydrogenation*. Physical Review B. 1987 March 15; Vol. **35**: 4166-4169.
332. D. K. Biegelsen, F. A. Ponce, A. J. Smith, and J. C. Tramontana. *Initial stages of epitaxial growth of GaAs on (100) silicon*. Journal of Applied Physics. 1987 March 1; Vol. **61** (5): 1856-1858.
333. D. K. Biegelsen, F. A. Ponce, B. S. Krusor, J. C. Tramontana, and R. D. Yingling, *Study of initial stages of heteroepitaxy using graded thickness samples*. MRS Proc. Vol. **102**, 437 (1987). DOI: 10.1557/PROC-102-437.
334. R. J. Nemanich, C. M. Doland, and F.A. Ponce, *The initial stages of silicide epitaxy - nucleation and morphology*. MRS Proc. Vol. **94**, 139 (1987). DOI: 10.1557/PROC-94-139.
335. F. A. Ponce, G. B. Anderson, P. Haasen, and H. G. Brion. *Structure of dislocations in plastically deformed, high purity GaAs*. Materials Science Forum, 1986 December; Vol. **11**: 775-780.
336. F. A. Ponce, D. K. Biegelsen, J. C. Tramontana, and A. J. Smith. *Defect generation in the initial stages of epitaxial growth of GaAs on silicon by MBE*. Materials Science Forum, 1986 December; Vol. **10**: 205-210.
337. M. L. Wroge, D. J. Leopold, J. M. Ballingall, D. J. Peterman, B. J. Morris, J. G. Broerman, F. A. Ponce, and G. B. Anderson. *HgTe-CdTe superlattices grown on lattice-mismatched GaAs substrates.* Journal of Vacuum Science and Technology. 1986 November/December; Vol. **B4** (6): 1306-1309.
338. A. R. Bonnefoi, D. H. Chow, T. G. McGill, R. D. Burnham, and F. A. Ponce. *Current transport mechanisms in GaAs/AlAs tunnel structures grown by metal-organic chemical vapor deposition*. Journal of Vacuum Science and Technology. 1986 July/August; Vol. **B4** (4): 988-995.
339. F. A. Ponce, G. B. Anderson, M. A. O'Keefe, and L. J. Schowalter. *High-resolution electron microscopy of CaF_2/silicon interfaces*. Journal of Vacuum Science and Technology. 1986 July/August; Vol. **B 4** (4): 1121-1122.
340. F. A. Ponce, G. B. Anderson, and J. M. Ballingall. *Interface structure in heteroepitaxial CdTe on GaAs (100).* Surface Science. 1986 March; Vol. **168** (1-3): 564-570.
341. W. A. Tiller, S. Hahn, and F. A. Ponce. *Thermodynamic and kinetic considerations on the equilibrium shape for thermally induced microdefects in Czochralski silicon.* Journal of Applied Physics. 1986 May 1; Vol. **59** (9): 3255-3266.
342. C. C. Tsai, R. A. Street, F. A. Ponce, and G. B. Anderson. *Properties of the Interface Between Amorphous Silicon and Nitride*, Materials Research Society Proceedings **70**, 351-356 (1986), Published online: 28 February 2011. DOI:10. 1557/PROC-70-351.
343. V. Stojanoff, C. A. Pimentel, D. A. Bulla, W. A. Castro, S. Hahn, and F. A. Ponce. *Oxygen precipitation in heavily boron-doped Czochralski silicon.* J. Electrochemical Society. 1986 March; Vol. **133** (3): C103-C103.
344. C. C. Tsai, R. A. Street, F. A. Ponce, and G. B. Anderson, *Properties of the interface between amorphous silicon and nitride*. MRS Proc. Vol. **86**, 351 (1986). DOI: 10.1557/PROC-70-351.
345. C.-C. D. Wong, S. Hahn, F. A. Ponce, and Z. U. Rek, *Effectiveness of CVD thin film backside gettering and its interaction with intrinsic gettering*. MRS Proc. Vol. **71**, 33 (1986). DOI: 10.1557/PROC-71-33.
346. D. K. Biegelsen, F. A. Ponce, A. J. Smith, and J. C. Tramontana, *Initial stages of epitaxial growth of GaAs on (100) silicon*. MRS Proc. Vol. **67**, 45 (1986). DOI: 10.1557/PROC-67-45.
347. F. A. Ponce, G. B. Anderson, and J. M. Ballingall, *Atomic structure of HgTe and CdTe epitaxial layers grown by MBE on GaAs substrates*. MRS Proc. Vol. **90**, 199 (1986). DOI: 10.1557/PROC-90-199.
348. L. J. Schowalter, R. W. Fathauer, F. A. Ponce, G. Anderson, and Shin Hashimoto, *Electrical properties and structural defects in epitaxial CaF_2 on Si*. MRS Proc. Vol. **67**, 125 (1986). DOI: 10.1557/PROC-67-125.
349. C. C. Tsai, M. J. Thompson, R. A. Street, M. Stutzmann, and F. A. Ponce. *Interface effects in amorphous-silicon nitride multilayers.* Journal of Non-Crystalline Solids. 1985 December; Vol. **77-78**: 995-998.
350. W. Stutius and F. A. Ponce. *Crystal orientation dependence of the electrical transport and lattice structure of zinc selenide films grown by metalorganic chemical vapor deposition*. Journal of Applied Physics. 1985 August; Vol. **58** (4): 1548-1553.
351. F. A. Ponce. *Structure of microdefects in semiconducting materials.* Institute of Physics Conference Series, Vol. **76**, 1-10 (1983).
352. A. R. Bonnefoi, R. T. Collins, T. C. McGill, R. D. Burnham, and F. A. Ponce. *Resonant tunneling in GaAs/AlAs heterostructures grown by metalorganic chemical vapor deposition.* Applied Physics Letters, Vol. **46** (3), 285-287 (1985).
353. R. J. Nemanich, C. M. Doland, R. T. Fulks, and F. A. Ponce, *Initial nucleation and the effects on epitaxial silicide formation*. MRS Proc. Vol. **54**, 255 (1985). DOI: 10.1557/PROC-54-255.
354. S. Hahn, C.-C. D. Wong, F. A. Ponce, and Z. U. Rek, *Interaction between deposited film extrinsic gettering and intrinsic gettering in CZ silicon during simulated CMOS process cycles*. MRS Proc. Vol. **59**, 353 (1985). DOI: 10.1557/PROC-59-353.

355. F. A. Ponce, H. Hahn, T. Yamashita, M. Scott, and J. R. Carruthers. *Thermally induced micro-defects in CZ silicon – A high-resolution electron-microscopy study.* Institute of Physics Conference Series, Vol. **67**, 65-70 (1983).
356. R. Sinclair, F. A. Ponce, T. Yamashita, and D. J. Smith. *High-resolution electron-microscopy of II-VI compound semiconductors.* Institute of Physics Conference Series, Vol. **67**, 103-108 (1983).
357. F. A. Ponce, T. Yamashita, and S. Hahn. *Structure of thermally induced microdefects in Czochralski silicon after high-temperature annealing*. Applied Physics Letters, Vol. **43** (11), 1051-1053 (1983).
358. J. G. Werthen, W. Stutius, and F. A. Ponce. *Interface properties of ZnSe–Ge heterojunctions grown by organometallic chemical vapor deposition.* Journal of Vacuum Science and Technology, Vol. **B1** (3), 656-660 (1983).
359. K. W. Carey, F. A. Ponce, J. Amano, and J. Aranovich. *Characterization of low defect density silicon-on-sapphire layers.* Journal of Applied Physics, Vol. **54** (8), 4414-4420 (1983).
360. F. A. Ponce and S. J. Eglash. *Lattice structure and electrical-properties of epitaxial aluminum on GaAs.* Thin Solid Films, Vol **104** (3-4), 317-317 (1983).
361. F. A. Ponce, W. Stutius, and J. G. Werthen. *Lattice structure at ZnSe–GaAs heterojunction interfaces prepared by organometallic CVD.* Thin Solid Films, Vol. **104** (1-2), 133-143 (1983).
362. F. A. Ponce, T. Yamashita, and S. Hahn. *Structure of oxygen-induced microdefects in CZ silicon*. Journal of the Electrochemical Society, Vol. **130** (6), C239-C239 (1983).
363. F. A. Ponce and S. Hahn, *Structure of thermally-induced microdefects in Czochralski silicon*, MRS Proc. Vol. **31**, 153 (1983). DOI: 10.1557/PROC-31-153.
364. F. A. Ponce. *Imaging of interfaces in semiconductor materials using high-resolution transmission electron microscopy.* Ultramicroscopy, Vol. **9** (3), 215-219 (1982).
365. F. A. Ponce. *Fault–free silicon at the silicon-sapphire interface*. Applied Physics Letters, Vol. **41** (4), 371-373 (1982).
366. R. Sinclair, F. A. Ponce, T. Yamashita, D. J. Smith, R. A. Camps, L. A. Freeman, S. J. Erasmus, K. C. A. Smith, and W. C. Nixon. *Dynamic observation of defect annealing in CdTe at lattice resolution.* Nature, Vol. **298** (5870) 127-131 (1982).
367. T. Yamashita, F. A. Ponce, P. Pirouz, and R. Sinclair. *High-resolution imaging of cadmium telluride.* Philosophical Magazine, Vol. **45** (4), 693-711 (1982).
368. F. A. Ponce and T. Yamashita, *Crystalline particles in thermally grown silicon dioxide*, MRS Proc. Vol. **14**, 201 (1982). DOI: 10.1557/PROC-14-201.
369. F. A. Ponce, W. Stutius, and J. G. Werthen, *Lattice structure at ZnSe-GaAs heterojunction interfaces prepared by organometallic chemical vapor seposition*. MRS Proc. Vol. **18**, 133 (1982). DOI: 10.1557/PROC-18-133.
370. F. A. Ponce and S. J. Eglash, *Lattice structure and electrical properties of epitaxial aluminum on GaAs*, MRS Proc. Vol. **18**, 317 (1982). DOI: 10.1557/PROC-18-317.
371. F.A. Ponce. *Imaging of interfaces in semiconductor materials using high resolution transmission microscopy.* Proc. Workshop on Imaging and Microanalysis with High Spatial Resolution, Castle Hot Springs, Arizona: pp. 51-54, (1982).
372. F. A. Ponce, R. Sinclair, and R. H. Bube. *Native tellurium dioxide layer on cadmium telluride: A high-resolution electron microscopy study.* Applied Physics Letters, Vol. **39** (12), 951-953 (1981).
373. R. Sinclair, F. A. Ponce, T. Yamashita, and P. Pirouz. *TEM-STEM analysis of electronic materials. JOM – Journal of Mineral Metals and Materials Society*, Vol. **33** (9), A59-A59 (1981).
374. R. Sinclair, F. A. Ponce, J. C. Bravman, T. Yamashita, and P. Pirouz. *High resolution transmission electron microscopy of semiconductor materials*, Inst. Phys. Conf. Series Vol. **60** (3), 147-152 (1981).
375. R. Sinclair, F. A. Ponce, T. Yamashita, and P. Pirouz. *TEM-STEM analysis of electronic materials. American Ceramics Society Bulletin*, Vol. **60** (8), 858-858 (1981).
376. F. A. Ponce and J. Aranovich. *Imaging of the silicon-on-sapphire interface by high-resolution transmission electron microscopy.* Applied Physics Letters, Vol. **38** (6), 439-441 (1981).
377. R. Sinclair, T. Yamashita, and F. A. Ponce. *Atomic motion on the surface of a cadmium telluride single crystal.* Nature, Vol. **290** (5805), 386-388 (1981).
378. F. A. Ponce. Silicon-sapphire interface: A high resolution electron microscopy study. MRS Proceedings Vol. **2**, 285. doi:10.1557/PROC-2-285
379. W. Streifer, F. A. Ponce, and D. R. Scifres. *Reduction of GaAs diode laser spontaneous emission*. Applied Physics Letters, Vol. **37** (1), 10-14 (1980).
380. D. R. Scifres, F. A. Ponce, and W. Stutius. *Integrated output power detection for AlGaAs laser array*. IEEE Journal of Quantum Electronics, Vol. **16**, (5), 502-504 (1980).
381. F. A. Ponce, *Silicon-sapphire interface: A high-resolution electron microscopy study*, MRS Proc. Vol. **2**, 285 (1980). DOI: 10.1557/PROC-2-285.
382. F. A. Ponce, T. Yamashita, R. H. Bube, and R. Sinclair, *Imaging of defects in cadmium telluride using high-resolution transmission electron microscopy*. MRS Proc. Vol. **2**, 503 (1980). DOI: 10.1557/PROC-2-503.
383. T. Yamashita, F. A. Ponce, and R. Sinclair. *Lattice imaging of semiconductor materials.* Journal of Materials - Journal of the Minerals, Metals, and Materials Society, Vol. **31** (12), 83-84 (1979).
384. F. A. Ponce, D. R. Scifres, and W. Streifer. *Lateral mode stabilization of diode lasers by means of apertured facet reflectors*. IEEE Journal of Quantum Electronics, Vol. **15** (11), 1205 – 1207 (1979).
385. R. C. DeMattei, D. Elwell, R. S. Feigelson, and F. A. Ponce. *Thin-film growth of III-V semiconductors by molten-salt electrolysis.* Journal of the Electrochemical Society, Vol. **125** (3), C147-C148 (1978).

386. F. A. Ponce, S. M. Bhagat, and P. Lubitz. *Temperature dependence of thin film ferromagnetic resonance linewidths.* Solid State Communications **18** (4), 521-522 (1976).
387. F. A. Ponce. Dynamic Pinning and Temperature Dependence of the Linewidth in Spin-Wave Resonance of Permalloy Films. Master of Science Thesis, University of Maryland (1975).

INVITED TALKS – In reverse chronological order, at professional conferences, colloquia, and workshops.

1. *Diamond as a semiconductor material,* 15th International Scientific Encounter (ECI 2021i). Lima, Peru, 30 July - 1 August 2021.
2. *The future of semiconductors: from silicon to diamond.* International Congress on the Bicentennial of Peruvian Independence, (CCBIPERU2021), Cusco, Peru, 19-22 July 2021.
3. *Perspectives about energy and climate change,* 14th International Scientific Encounter (ECI 2020i). Lima, Peru, 30 July - 1 August 2020.
4. *Novel semiconductors for sustainable solar energy technologies.* Peruvian Workshop on Solar Energy (JOPES), Lima, Peru, 10-11 May 2018.
5. *Electron Holography of Semiconductors: Profiling the electronic band structure with nanometer resolution*. Advanced Research Project Agency for Energy, PNDIODES Kickoff Meeting, New York, 7-8 November 2017.
6. *The Physics of Nitride Semiconductors – Current status and challenges*. 2nd Workshop on Nitride Materials and their Applications, Suzhou, China, 25-27 October 2017.
7. *Key Issues in the Physics of InGaN for Applications in LEDs*. Seminar at HC SemiTek, Yi-Wu, China, 23 October 2017.
8. *III-Nitride Optoelectronic Devices for Ultraviolet Systems*. Presented by S.-C. Shen at the 2017 IEEE Electron Device and Solid-State Circuits (EDSSC-13), Hsinchu, Taiwan, 18-20 October 2017.
9. *Novel semiconductors for sustainable solar energy technologies.* III-Nitride Semiconductor Materials and Devices Symposium, Boston, Massachusetts, 2 December 2016.
10. *Growth and Characterization of III-N Ultraviolet Lasers and Avalanche Photodiodes by MOCVD*, presented by R. D. Dupuis at the China International Forum on SSL 2016, Beijing, China, 14-18 November 2016.
11. *Novel semiconductors for sustainable solar energy technologies.* First Caribbean Conference on Functional Materials (CARIBMAT 2016), Santo Domingo, Dominican Republic, 8-11 November 2016.
12. *Science and Technology in the 21st Century.* Encounter on Science and Technology (ECITEC), Lima, Peru, 2-4 November 2016.
13. *Growth and Characterization of III-N Ultraviolet Lasers and Avalanche Photodiodes by MOCVD*, presented by R. D. Dupuis at the 4th International Conference on Nanotechnologies (Nano-2016), Georgian Technical University, Tbilisi, Georgia, 24-27 October 2016.
14. *Growth and Characterization of III-N Ultraviolet Lasers and Avalanche Photodiodes by MOCVD*, presented by R. D. Dupuis at the European Materials Research Society Meeting Fall 2016, Warsaw University, Poland, 19-22 September 2016.
15. *Growth and Properties of III-N Deep-UV Lasers and Avalanche Photodiodes Grown by MOCVD*, presented by R. D. Dupuis at the 6th International Symposium on the Growth of III-Nitrides (ISGN-6), Hamamatsu, Japan, 8-12 November 2015.
16. *Effect of lattice misfit relaxation on the electronic properties of III-V nanostructures.* International CRC-787 Symposium. Berlin, Germany, 2 November 2015.
17. *Novel semiconductors for sustainable solar energy technologies.* 14th Meeting of the Brazilian Materials Research Society Meeting (SBPMat-14), Rio de Janeiro, Brazil, September 2015.
18. *Growth and characterization of III-N ultraviolet lasers and avalanche photodiodes on free-standing GaN substrates.* 11th International Conference on Nitride Semiconductors (ICNS-11), Beijing, China, 2 September 2015. Presented by Jeomoh Kim.
19. *Optically Pumped Low-Threshold UV Lasers*, presented by R. D. Dupuis at the IEEE Photonics Society Summer Topical Meeting, Nassau, Bahamas, 13-15 July 2015.
20. *Lattice Misfit Strain and its Relaxation in InAs Quantum Dots. 25th* Brazilian Microscopy Meeting. Buzios, Brazil. June 7-10, 2015.
21. *The Physics of the Blue LED.* Brazilian Physical Society Meeting, 38th ENFMC. Foz do Iguaçu, Brazil. May 24-28, 2015.
22. *The Physics of the Blue LED and of Solid-State Lighting.* Physics Colloquium, Arizona State University. 15 January 2015.
23. *Achieving excellence in innovation.* Universidad Nacional de Ingenieria. Lima, Peru. 10 November 2014.
24. *The Physics of InGaN: LEDs and Solar Cells.* Materials Science and Engineering Colloquium, Stanford University, Stanford, California. 4 October 2014.
25. *The Development of MOCVD for the Growth of III-V Compound Semiconductor Superlattices and Nanostructures*, presented by R. D. Dupuis at the International Conference on Semiconductor Nanostructures and Nanodevices 2014, Savannah GA, 3-8 August 2014.
26. *Wide-Bandgap III-N Ultraviolet Light Emitters and Power Electronic Devices*, presented by R. D. Dupuis at the 43rd Jaszowiec International School and Conference on the Physics of Semiconductors, Wisla, Poland, 7-12 June 2014.
27. *Optically-pumped deep-ultraviolet AlGaN multi-quantum-well lasers grown by metalorganic chemical vapor deposition.* 2014 Photonic West, paper #9002-16 presented by R. D. Dupuis. San Francisco, California, 3 February 2014.
28. *III-Nitride Semiconductors: Applications to solid state lighting and photovoltaics. 7th International* Conference of Materials (CIM 2013). Medellín, Colombia. 29 October – 1 November 2013.

29. *Exploring the properties of solids with atomic resolution.* Lecture series, Physics Department, Pontificia Universidade Católica do Rio de Janeiro, Rio de Janeiro, Brazil. July-August 2013.
30. *Nanoindentation and nanoscratching of semiconductor materials*. Physics Colloquium, Pontificia Universidade Católica do Rio de Janeiro, Rio de Janeiro, Brazil. 4 July 2013.
31. *Semiconductors for high efficiency solar cells.* Physics Seminar, Universidad Nacional de Ingenieria, Lima, Peru. 28 June 2013.
32. *Nanoscale plastic deformation for nucleation and growth of semiconductor nanostructures*. Nanoscale Science Seminar, Arizona State University, Tempe, Arizona. 15 April 2013.
33. *Science, Technology, and Innovation – Current trends.* Workshop on Science, Technology and Innovation, Consejo Nacional de Ciencia y Tecnología (CONCYTEC). Lima, Peru, 20 June 2012.
34. *Compositional instability in InGaN and InAlN thick films.* Deutsche Physikalische Gesellschaft, Berlin 12, German Physical Society Meeting, Berlin, 29 March, 2012.
35. *Study of polarization fields in nitride semiconductors using electron holography in the transmission electron microscope.* Seminar at the Paul-Drude-Institut fur Festkorperelektronik. Berlin, 28 March, 2012.
36. *Polarization fields in AlGaN/GaN superlattices in GaN nanowires.* Workshop on Compound Semiconductor Materials and Devices (WOCSEMAD), Napa Valley, California. 19-22 February, 2012.
37. *Determination of the electronic band structure of semiconductor heterostructures using electron holography in the TEM.* 20th Peruvian Physics Symposium (XX-SPF). Tacna, Peru. 24-29 Sept. 2011.
38. *Challenges in the effective use and sustainable generation of energy using semiconducting materials,* 10th International Scientific Encounter (ECI 2011i). Lima, Peru, 2-5 August 2011.
39. *Materials challenges for high efficiency light emitting devices.* XV Physics Encounter, Universidad Nacional de Ingeniería, Lima, Peru, 1-3 August 2011.
40. *Microstructure and polarization fields in nitride semiconductors.* 17th International Conference on Microscopy of Semiconducting Materials (MSM-17). Cambridge, England. 4-7 April 2011.
41. *Spontaneous and piezoelectric fields in nitride semiconductors.* 47th Annual Workshop on Compound Semiconductor Materials and Devices, WOCSEMMAD 2011. Savannah, Georgia. 20-23 February 2011.
42. *Polarization effects in group-III nitride semiconductor heterostructure devices.* 3rd International Symposium on Advanced Plasma Science and its Applications for Nitrides and Nanomaterials (ISPlasma2011). Nagoya, Japan. 6-9 March 2011.
43. *Microstructure and piezoelectric fields in InGaN-based LEDs.* 15th Conference on Light-Emitting Diodes: Materials Devices and Applications for Solid State Lighting. SPIE Photonics-West 2011. San Francisco, California. 22-27 January 2011.
44. *Lattice mismatch and piezoelectric fields in InGaN-based light emitting devices.* Summer School on Polarization Field Control in Nitride Light Emitters, German Research Foundation (DFR). Reisensburg Castle, Ulm, Germany. 12-14 October 2010.
45. *Electrostatic energy profiling of semiconductors by electron holography*. Symposium Celebrating Manuel Cardona. Santiago de Querétaro, Mexico. 17-21 August 2010.
46. *Energy efficient illumination technologies.* Workshop on Energy Efficiency. The Peruvian Academy of Science and the Ministry of Energy and Mines. Lima, Peru. 18-19 March 2010.
47. *Lectures on Microscopy of Semiconductor thin films.* Microscopía 2010. Santiago de Cali, Colombia. 24-27 February 2010. www.cenm.org/micro2010/
48. *Materials challenges for high efficiency InGaN LEDs.* 4th International Confrence on LED and Solid State Lighting (LED 2010). COEX, Seoul, Korea. 3-5 February 2010. www.led-korea.org/
49. *Properties of III-N materials for wide band gap devices.* Fifth Workshop on Frontiers in Electronics (WOFE-09). Rincon, Puerto Rico. 13-16 December 2009. www.ecse.rpl.edu/shur/wofe09/default.htm
50. *Materials challenges for InGaN-based green light emitting devices.* Materials Science and Engineering Colloquium, Boston University. 30 October 2009. Boston, Massachusetts. www.bu.edu/mse/news/seminarseries.html.
51. *Innovation and the wealth of nations.* Innovation Workshop on Advanced Materials and Devices. 11th Int. Conf. on Adv. Materials. Rio de Janeiro, Brazil. 20-25 September 2009. www.icam2009.com/program/workshop_1.php
52. *Moderator,* International Roundtable on Innovation in Advanced Materials. *Innovation Workshop on Advanced Materials and Devices.* 11th International Conference on Advanced Materials. Rio de Janeiro, Brazil. 20-25 September 2009. www.icam2009.com/program/workshop_1.php
53. *Initial Stages of nanoindentation in cubic semiconductors*. Symposium B – Mechanical Properties of Materials at the Nanometer Length Scales. 11th International Conference on Advanced Materials. Rio de Janeiro, Brazil. 20-25 September 2009. www.icam2009.com/program/symposium_detail.php?code=M
54. *Materials challenges for InGaN-based green-light emitting materials*. 6th International Meeting on Nanostructured Materials and Nanotechnology (NANOTECH 2009). San Carlos, Sonora, Mexico. 17-20 September 2009. www.cio.mx/NANOTECH2009/1.html
55. *The physics of nitride semiconductors.* Nano & Giga Challenges in Electronics, Photonics, and Renewable Energy Symposium and Summer School. Hamilton, Ontario, Canada. 10-14 August 2009. http://asdn.net/ngc2009/.
56. *Where is nanotechnology going?* International Scientific Seminar – Winter 2009. INICTEL-UNI, Lima Peru. 1 August 2009. http://www.ceprecyt.org/SCI/SCI2009i/SCI2009i.html
57. *The role of dislocations in nitride semiconductors for light emitting applications*. II International Workshop: Relation Microstructure-Properties and Multiscale Modeling of Plasticity. Fuenteheridos, Huelva, Spain. 17-21 June 2009.

58. *Materials challenges for InGaN-based green light emitting devices*. Halbleiter-Nanophotonik Colloquium, Institute for Solid State Physics, Technical University of Berlin. Berlin, Germany. 5 June 2009.
59. *Piezoelectric effects in InGaN-based green light emitting heterostructures.* Forchungsseminar von AHE und AFP, Otto von-Guericke University Magdeburg. Magdeburg, Germany. 4 June 2009.
60. *Polarization fields and the internal quantum efficiency of InGaN-based LEDs.* 5th Asia-Pacific Workshop on Nitride Semiconductors (APWS-2009). Zhang Jia Jie, Hunan, China. 24-28 May 2009. http://www.apws2009.com.cn
61. Z. H. Wu, A. M. Fischer, and F. A. Ponce. *Structural and optical properties of non-polar GaN.* 5th Asia-Pacific Workshop on Nitride Semiconductors (APWS-2009). Zhang Jia Jie, Hunan, China. 24-28 May 2009. http://www.apws2009.com.cn
62. *Materials challenges for InGaN-based green light emitting devices.* Wuhan Optoelectonics Forum, Huazhong Univ. of Science and Technology. Wuhan, China. 31 May 2009. http://222.20.94.9/whof/content_info.asp?id=788
63. *Luminescence spectroscopy with high spatial and temporal resolution.* International Conference on Spectroscopy and its Applications. Lima, Peru. 9-13 March 2009. http://www.espectroscopiaperu.org/
64. *Materials and light,* Peruvian Academy of Sciences, Member Induction Ceremony. Lima, Peru. 10 March 2009.
65. *Lectures on electron microscopy and spectroscopy*, 2nd Andean Workshop on Spectroscopy. Lima, Peru. 2-6 March 2009. http://www.espectroscopiaperu.org/
66. *The physics of solid-state lighting.* Physics Colloquium, Texas Tech University. Lubbock, Texas. 30 October 2008.
67. *Nano-structured semiconductors for optoelectronics and microelectronics*. 8th School of Condensed Matter Physics (VIII ENFMC). Pereira, Colombia. 22-26 September 2008.
68. *Lectures on microscopy of semiconductor nanostructures.* NSF Pan American Advanced Studies Institute (PASI) on Microscopy of Nanostructures. Cancun, Mexico. 21-29 August 2008.
69. *Lectures on Lattice polarity and growth of GaN, Strain and piezoelectric fields in InGaN, and Crystal defect structure and growth technology.* 2008 Workshop on Wide-band-gap Semiconductor Physics and Devices (WSPD2008). Dalian, China. 6-19 August 2008.
70. *Materials Challenges in InGaN-based light emitting devices*. Japan-Brazil Symposium on Science and Technology, Commemorating 100 Years of Japanese Immigration to Brazil. São Paulo, Brazil. 21-25 June 2008.
71. *Correlation of structural, electrical, and optical properties of GaN nanostructures.* 9th International Conference on Nano-Structured Materials (Nano 2008). Rio de Janeiro, Brazil. 2-6 June 2008.
72. *The physics of semiconductor lighting technologies*. Physics Colloquium, Pontifícia Universidade Católica do Rio de Janeiro. Rio de Janeiro, Brazil. May 29, 2008.
73. *Polarization fields and the internal quantum efficiency of InGaN visible LEDs.* 213th meeting of the Electrochemical Society. Phoenix Convention Center. Phoenix, Arizona. 19 May 2008.
74. Z. Wu and F. A. Ponce, *Structural and optical properties of non-polar GaN thin films.* Seventh International Symposium on Semiconductor Light Emitting Devices. Phoenix, Arizona. April 27-May 2, 2008.
75. *Strain and piezoelectric fields in InGaN-based light emitting structures*. 1st GCOE International Symposium on Photonics and Electronics Science and Engineering. Kyoto, Japan. March 4, 2008.
76. *Internal polarization fields and their effect on nitride semiconductor device characteristics.* Conference on Display and Solid State Lighting (DSSL 2008). Seoul, Korea. 31 January 2008.
77. *Recent advances in GaN materials and devices.* International Workshop on Industrial Technologies for Optoelectronic Semiconductors (IWITOS 2008)). Seoul, Korea. 29 January 2008.
78. *The physics of solid-state lighting.* Physics Colloquium. Physics Department. Utah State University. Logan, Utah. 13 November 2007.
79. *Properties limiting the performance of AlInGaN green lasers.* Visible InGaN Injection Lasers (VIGIL) Kickoff Meeting. Arlington, Virginia. 5-6 November 2007.
80. *Science, technology and innovation, in the development of the Cusco Region—the role of the university*. Receiving the Tri-Centennial Medal, National University San Antonio Abad of Cusco. Cusco, Peru. 26 September 2007.
81. *Lattice mismatch and misfit dislocations in hexagonal nitride semiconductors.* Ninth Interamerican Congress on Electron Microscopy (CIASEM-9). Cusco, Peru. 24-28 September 2007.
82. *Establishing the correlation at the nanometer scale between the structural and the electronic properties of semiconductors for solid state lighting applications. XXI* Congreso da Sociedade Brasileira de Microscopia e Microanálise (CSBMM-2007). Buzios, Rio de Janeiro, Brazil. 26-30 August 2007.
83. *Frontiers of nanotechnology for high-efficiency solid-state lighting.* Conference on Technological Innovation and Strategic Areas (CITARE-2007). Gávea, Rio de Janeiro, Brazil. 11-14 June 2007.
84. *Structural and electronic properties of defects and strained interfaces in nitride semiconductors.* Third Asia-Pacific Workshop on Widegap Semiconductors (APWS-2007). Jeonju, Korea. 11-14 March 2007.
85. *Imaging defects and interfaces in semiconductors.* The Robert Sinclair Symposium. Stanford University, California. 16 February 2007.
86. *Materials issues affecting the internal quantum efficiency of InGaN-based visible LEDs.* First International Conference on Display LEDs (ICDL-2007). Seoul, Korea. 31 January to 2 February 2007.
87. *Applications of high-resolution electron microscopy.* 6th Congreso Bi-Nacional de Materiales y Metalurgia (CONAMET-2006). Santiago, Chile. 28 November 2006.
88. *Advances and challenges in nanotechnology.* 6th Congreso Bi-Nacional de Materiales y Metalurgia (CONAMET-2006). Santiago, Chile. 28 November 2006.

89. *The physics of solid-state lighting.* 18th Latin American Symposium on Solid State Physics. Puebla, Mexico. Puebla, Mexico. 20-24 November 2006.
90. *Lattice relaxation and electronic properties of thick InN epilayers grown on GaN by MOCVD.* 3rd International Indium Nitride Workshop (IINW-3). Ilhabela, Brazil. 12-16 November 2006.
91. *Properties of semipolar InGaN quantum wells.* International Workshop of Nitride Semiconductors (IWN-2006). Osaka, Japan. 23-29 October 2006.
92. *Microstructure of AlN grown by lateral epitaxial overgrowth.* International Workshop of Nitride Semiconductors (IWN-2006). Osaka, Japan. 23-29 October 2006.
93. *Nanoscale properties of InGaN quantum wells for white light generation.* Encontro SBPMat 2006 (Brazilian MRS meeting). Florianopolis, Brazil. 9-12 October 2006.
94. *The human potential in science and technology,* International Scientific Encounter (ECI-2006i), Universidad Nacional de Ingenieria. Lima, Peru. August, 2006.
95. *Generation of white light with semiconductors.* Colloquium, Universidad Ricardo Palma. Lima, Peru. 24 August 2006.
96. *Intellectual property and the wealth of nations.* National Institute for the Defense of Intellectual Property (INDECOPI). Lima, Peru. August, 2006.
97. *Trends and perspectives in nanotechnology.* International Scientific Encounter (ECI-2006i), Universidad Nacional de Ingenieria. Lima, Peru. August, 2006.
98. *Microscopic aspect of solid-state lighting.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
99. *Determination of optical properties with high spatial resolution.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
100. *Electron holography in the TEM.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
101. *HRTEM of defects and interfaces.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
102. *High resolution transmission electron microscopy.* Pan American Advance Studies Institute (PASI) on Applications of Transmission Electron Microscopy. Santiago, Chile. July 2006.
103. *The physics of solid-state lighting,* Physics Colloquium, Universidade Federal do Rio de Janeiro. Rio de Janeiro, Brazil. 22 June 2006.
104. S. Srinivasan and F. A. Ponce, *Probing the optical properties of III-nitride structures with high spatial resolution,* International Symposium on Blue Lasers and Light Emitting Diodes (ISBLLED-2006). Montpelier, France, May 2006
105. *Misfit strain relaxation mechanisms in InGaN epitaxy on GaN.* The Workshop on Compound Semiconductor Materials and Devices (WOCSEMMAD 06), Fountain Hills, Arizona. February 2006.
106. *Methods to produce white light via semiconductor radiation.* International Scientific Encounter (ECI 2006v), Universidad Nacional de Ingeniería, Lima, Peru. 2-5 January 2006.
107. *Misfit dislocation generation mechanisms in InGaN epilayers*. 12th Latin American Congress on Surface Science and its Applications. Angra dos Reis, Brazil. 5-9 December 2005.
108. *The physics of solid state lighting*. 4th Annual Meeting of the Brazilian Materials Research Society. Recife, Brazil. 16-19 October 2005.
109. *The physics of solid-state lighting*. Conference on Nanostructured Materials and Nanotechnology. Ensenada, Baja California, Mexico. 20-22 September 2005.
110. *Influence of Microstructure on the Internal Quantum Efficiency of InGaN-based LEDs*. Conference on Nanostructured Materials and Nanotechnology. Ensenada, Baja California, Mexico. 20-22 September 2005.
111. *The physics of solid-state lighting*. International Institute of Advanced Studies for Semiconductor Nano-Structure and Optoelectronic Devices. Tsinghua University, Beijing, China. 2-10 August 2005.
112. *Materials for the 21st Century*. International Conference on Spectroscopy. Lima, Peru, 22-27 May 2005.
113. *High efficiency GaN/InGaN light emitting devices*, Colloquium Department of Materials Science and Engineering, Zhejiang University, Hangzhou, China. 15 April 2005.
114. *The development of solid state lighting*, Seminar, Silan Azure Corporation, Hangzhou, China. 14 April 2005.
115. *Influence of microstructure on the internal quantum efficiency of light emitting devices based on nitride semiconductors*, 2005 International Forum on LED and Solid-State Lighting, Xiamen, China. 13 April 2005.
116. *The development of solid-state lighting*, Colloquium Department of Electrical Engineering, Tsinghua University, Beijing, China. 11 April 2005.
117. *Influence of microstructure on the internal quantum efficiency of GaN/InGaN LED structures.* 4th Meijo International Symposium on Nitride Semiconductors. Nagoya, Japan. 15 December 2004.
118. *Microstructure and the optical properties of AlGaN alloys for UV light emitting devices.* Akasaki Research Center International Symposium on New Horizons on Nitride Research. Nagoya, Japan. 13 December 2004.
119. *The physics of semiconductor lighting.* Opening Ceremony of the New Korean Optoelectronics Technology Institute (KOPTI). Gwangju, Korea. 25 November 2004.
120. *Influence microstructure on the internal quantum efficiency of GaN/InGaN light emitting devices.* IQE 100 – Workshop on High Brightness LEDs. Regensburg, Germany. 3 November 2004.

121. *Microstructure and the electronic properties of InGaN quantum wells.* International Forum on Semiconductor Lighting. The Sixth China Hi-Tech Fair. Shenzhen, China. 13-14 October 2004. (Opening Plenary Talk).
122. *Fields and compositional inhomogeneities in InGaN quantum wells.* 4th International Workshop on Physics of Light-Matter Coupling in Nitrides (PLMCN-4). St. Petersburg, Russia, 29 June - 3 July 2004.
123. *Microstructure and the electronic properties of InGaN.* 12th International Conference on Metal Organic Vapor Phase Epitaxy (MOVPE XII). Lahaina, Maui, Hawaii. 30 May- 4 June 2004.
124. *The nature of InGaN quantum wells for visible lighting technologies.* International Symposium on Blue Laser and Light Emitting Diodes (ISBLLED-2004). Gyeongju, Korea. 16-19 March 2004.
125. *The physics and technology of semiconductor lighting.* 11th International Scientific Encounter (XI Encuentro Científico International). Plenary talk. Lima, Peru. 2-5 January 2004.
126. *The nature of nitride semiconductor epitaxy*. 11th Latin American Congress on Surface Science and Applications. Pucón, Chile. 8-12 December 2003
127. *Properties of InN epitaxial layers*. ONR Indium Nitride Workshop. Freemantle, Australia. 16-20 November 2003.
128. *Microstructure and the electronic properties of InGaN quantum wells*. 2nd Annual Meeting of the Brazilian Materials Research Society. Rio de Janeiro, Brazil, 27-29 October 2003.
129. *Microstructure and the electronic properties of InGaN*. 19th Congress of the Brazilian Society of Microscopy and Microanalysis. Caxambu, Brazil, 21-24 September 2003.
130. *The Physics of next-generation lighting*, Physics and Astronomy Colloquium, Arizona State University. Tempe, Arizona, 11 September 2003.
131. *Electrostatic potential and charge distribution at dislocations in group III nitrides*. ONR Workshop on Extended Defects in Wide Gap Semiconductors II. Irvington, Virginia, July 13-17, 2003.
132. *Microstructure and the electronic properties of InGaN*. Pan-American Advanced Studies Institute (PASI) on Physics at the Nanometer Scale. Bariloche, Argentina. 8-18 June 2003.
133. *Microstructure and electronic properties of InGaN alloys*. 5th International Conference on Nitride Semiconductors (ICNS-5). Opening Plenary. Nara, Japan. 25-30 May 2003.
134. J. Cai and F. A. Ponce. *Electrostatic potential and charge distribution at interfaces and dislocations in group III nitrides: A study using electron holography.* American Physical Society, March Meeting. Austin, Texas, 4 March 2003.
135. *Big projects on widegap semiconductors in the USA*, First Asia-Pacific Workshop on Widegap Semiconductors (APWS-2003). Hyogo, Japan. March 9-12, 2003.
136. *Microstructural issues in blue/UV light emitting semiconductors*, First Asia-Pacific Workshop on Widegap Semiconductors (APWS-2003). Hyogo, Japan. March 9-12, 2003.
137. *Microstructure and the electronic properties of nitride semiconductors*. Physics and Chemistry Colloquium, Sandia National Laboratories, Albuquerque, New Mexico. 13 February 2003.
138. *Direct determination of fields and charges in semiconductors using electron holography*, Latin American Symposium on Surface Physics, Merida, Venezuela, 2-5 December 2002.
139. *Electrostatic potential and charge distribution at interfaces and dislocations in group III nitrides.* First Meeting of the Brazilian Materials Research Society. Rio de Janeiro, Brazil. 7-10 July 2002.
140. *Probing physical properties at the nanometer scale.* Latin American School of Physics (ELAF-2002), Lima, Peru. 15-28 June 2002.
141. *Microscopic optical properties of InGaN*. 2nd International Workshop on Physics of Light-Matter Coupling in Nitrides. Crete, Greece, 26 May – 2 June 2002.
142. *Microstructure and the optical properties of InGaN alloys*. 201st Meeting of the Electrochemical Society. Philadelphia, Pennsylvania. 12-15 May 2002.
143. *Searching for true representation of Hispanic Americans in physics*. APS March Meeting, Indianapolis, Indiana. 18-22 March 2002.
144. *Properties on InGaN alloys for optoelectronic applications*. Symposium in Honor of Prof. Isamu Akasaki, Meijo University. Nagoya, Japan. 2 November 2001.
145. *The prospects for nanotechnology in microelectronics and optoelectronics*. Central American School of Physics. San Jose, Costa Rica. 6-10 November 2000.
146. *Microstructure and device performance in nitride semiconductor optoelectronic devices*. Meijo Workshop on Nitride Semiconductor (MSN2000). Nagoya, Japan. 28 September 2000.
147. *The effects of strain in the optical properties of InGaN quantum Wells.* Workshop on Polarization Effects in Semiconductors. Glacier National Park, Montana. 27-31 August 2000.
148. *The role of defects in GaN epitaxy.* International Conference on Extended Defects in Semiconductors. Brighton, England. 18-22 July 2000.
149. *Film defects, growth dynamics, and device performance in GaN epitaxy.* American Conference on Crystal Growth, California. Fallen Leaf Lake, California. 4-7 June 2000.
150. *Designing a Materials Physics Curriculum.* Materials Research Society Spring Meeting, Symposium on Materials Science and Engineering Education in the New Millennium; Materials Research Society: San Francisco, California. 24-28 April 2000.
151. *Microstructure and electronic properties of InGaN Quantum* Wells. American Physical Society, March Meeting. Paper A28.1. Minneapolis, Minnesota. 20 March 2000.

152. *Properties of high optoelectronic quality GaN thin films.* Focused German Meeting on Gallium Nitride. Bremen, Germany. 19-24 October 1999.
153. *Determination of the structure of defects and interfaces in semiconductor epitaxy.* Advances in Microstructural Characterization of Optoelectronic Materials. NATO Advanced Summer School. Avila, Spain. 6-11 September 1999.
154. *Film defects and growth dynamics in wide bandgap epitaxy.* XVIII Congress of the international Union of Crystallography. Glasgow, Scotland. 4-13 August 1999.
155. *Materials needs in opto-electronics and storage technologies.* Solid State Studies in Ceramics, Gordon Conference. Kimball Union Academy, New Hampshire. 1-6 August 1999.
156. *Film defects and growth dynamics in wide bandgap semiconductors.* 9th Latin American Congress on Surface Science and Applications (CLACSA-9). La Habana, Cuba. 5-9 July 1999.
157. *The GaN revolution in light-emitting devices*. National Congress on Energy. Merida, México. 25-29 April 1999.
158. *Critical issues in the epitaxy of nitrides semiconductors*. Lawrence Symposium on Critical Issues in Epitaxy. Mesa, Arizona. 6-8 January 1999.
159. *Materials issues in III-V nitride epitaxy*. 45th American Vacuum Society Symposium. Baltimore, Maryland. 2-6 November 1998.
160. *Electron Microscopy and the Race for Gallium Nitride*, Symposium on Electron Microscopy in Science and Technology, Lawrence Berkeley National Laboratory. Berkeley, California. 19 June 1998.
161. *Materials for communication*. Workshop on Frontiers in Materials Research, Technologies, and Education. NSF Sponsored Meeting to Advance Pan American Collaboration. Rio de Janeiro, Brazil. 8-10 June 1998.
162. *Dislocations and the electrical/optical properties of GaN*. 1998 March Meeting of the American Physical Society. Los Angeles, California. 16-20 March 1998.
163. *Characterization of defects and their influence on GaN-based light emitters*, Workshop on III-V Nitrides-Based Short-Wavelength Optoelectronic Devices, Tokushima, Japan. 1 November 1997.
164. *Nitride semiconductors for green and blue light emission*, Open National Forum, Tokushima, Japan, 26 October 1997.
165. *Microstructure and spatial variation of luminescence in $In_xGa_{1-x}N$ quantum wells*, Symposium on III-V Nitrides Semiconductors and Ceramics, European Materials Research Society Meeting, Strasbourg, France. 16-20 June 1997.
166. *Interfaces and Dislocations in III-V Nitrides*. Symposium on III-V Nitrides, Materials Research Society, San Francisco, April 1997.
167. *Microstructure of epitaxial III-V nitride films*. Colloquium, Department of Materials Science and Engineering, Stanford University, Stanford, California. 4 October 1996.
168. *Microstructure of III-V nitrides*. 32nd Annual Symposium of the New Mexico Chapter of the American Vacuum Society. Albuquerque, New Mexico. 2-4 April 1996.
169. *Defects in II-VI and III-N blue laser diode heterostructures.* International Symposium on Blue Laser and Light Emitting Diodes. Chiba, Japan. 5-7 March 1996.
170. *Materials issues in optoelectronics*. First U. S. A. - Argentina Bilateral Symposium on Materials Science and Engineering. Buenos Aires, Argentina. 12-16 November 1995.
171. *TEM observation of defects in III-V nitrides.* Topical Workshop on III-V Nitrides. Nagoya, Japan. 21-23 September 1995.
172. *Determination of the atomic structure of interfaces using transmission electron microscopy*. 3rd Interamerican Congress on Electron Microscopy. Caxambú, Brazil. 2-6 September 1995.
173. *Dislocation structure in GaN thin film epitaxy.* Materials Research Society Spring Meeting, Symposium on Visible Light Emitting Materials and Devices; Materials Research Society: San Francisco, California. 17-20 April 1995.
174. *Microstructure of GaN-based heteroepitaxy for blue and ultraviolet light emitting devices.* 9th International Conference on Microscopy of Semiconducting Materials. Oxford, England. 20-23 March 1995.
175. *Microstructure of GaN thin films for blue and ultraviolet light emitting devices.* Workshop on Diode Based Visible Sources. Palo Alto, California. 10 February 1995.
176. *Lattice structure of GaN heteroepitaxy.* 2nd Workshop on Wide Bandgap Nitrides. St. Louis, Missouri. 17 October 1994.
177. *A new mechanism for the generation of misfit dislocations in semiconductor heteroepitaxy.* Materials Research Society Spring Meeting, Symposium on Compound Semiconductor Epitaxy: Materials and Properties, paper E9.1; Materials Research Society: 1994 April 3-7; San Francisco, California.
178. *Generation of misfit dislocations in semiconductor heteroepitaxy*. 2nd Interamerican Congress on Electron Microscopy; 1993 September 26-30; Cancun, Mexico.
179. *Defect generation in thin film epitaxy.* International Symposium on Growth and Characterization of Thin Films. Department of Physics, CINVESTAV. 1993 May 25; Mexico, D. F., Mexico.
180. *Misfit dislocation generation in semiconductor heteroepitaxy.* 1993 Stanford Symposium on Applications of Contemporary Electron Microscopy; Stanford; California; 1993 February 11.
181. *Trends in physical sciences research in industry.* 5th Symposium on Pan-American Cooperation in Experimental Physics: 1992 August 18-21. Cartagena, Colombia.
182. *High-resolution electron microscopy of semiconductors.* Northern California Society for Electron Microscopy Annual Meeting: 1992 June 4; Palo Alto, California.
183. *On-line image processing and computer control in high resolution TEM.* 10th Pfefferkorn Conference on Signal and Image Processing in Microscopy and Microanalysis, Scanning Microscopy International: 1991 September 16-19; Cambridge, England.
184. *High-resolution electron microscopy of semiconductor interfaces*. 17th Congress of Electron Microscopy; 1989 October 4-7; Lecce, Italy. Societá Italiana di Microscopia Elettronica.

185. *Determination of the atomic arrangement in thin films and interfaces by high-resolution electron microscopy.* 11th International Vacuum Congress (ICV-11) and 7th International Conference on Solid Surfaces (ICSS-7). 1989 September 25-29; Köln, Germany.
186. *Lectures on defects and interfaces in semiconductors.* Institute of Crystallography, Academy of Sciences of the USSR, Moscow, USSR. 1989 June 5-17.
187. *Microscopic aspects of oxygen precipitation in silicon.* Symposium on Science and Technology of Defects in Silicon. European Materials Research Society Conference. 1989 May 30-June 2; Strasbourg, France.
188. *Early stages of growth in semiconductor heteroepitaxy.* NATO Advanced Research Workshop on The Evaluation of Advanced Semiconductor Materials by Electron Microscopy. Bristol University; 1988 September 12-17; England.
189. *Structure of hydrogen-induced microdefects in silicon.* Electron Microscopy Society of America Annual Meeting. 1988 August 8-12. Milwaukee, Wisconsin.
190. *Early stages of growth in semiconductor heteroepitaxy.* 1st Ibero-American Workshop on Surfaces, Interfaces and Small Clusters. 1988 July 18-22. Paipa, Colombia.
191. *Atomic arrangement at semiconductor surfaces and interfaces.* 5th Latin American Symposium on Surface Physics (SLAFS-V). 1988 July 11-15. Bogota, Colombia.
192. *Lectures on high-resolution TEM of defects and interfaces in semiconductors.* International School on Crystal Growth, Madras, India. 1988 February 1-7.
193. *Atomic arrangement at semiconductor defects and interfaces.* Materials Science Department Colloquium, University of Illinois. 1987 November 10; Champaign, Illinois.
194. *Study of small particles and non-crystalline materials by high-resolution electron microscopy*. International Conference on Defects and Structure in Non-Crystalline Materials. 1987 August 11-15; Ensenada, B.C., Mexico.
195. *Early stages of epitaxial growth of GaAs on silicon by MOCVD.* Workshop on Future Opportunities Through GaAs on Si silicon. 1987 June 18-19; Marina del Rey, California.
196. *Microstructural aspects of the initial stages of heteroepitaxy in semiconductors.* Symposium on Initial Stages of Epitaxial Growth. Spring Meeting of the Materials Research Society; 1987 April 21-24; Anaheim, California.
197. *Atomic arrangement at semiconductor heterojunction interfaces.* Symposium on Materials for Infrared Sources and Detectors. Fall Meeting of the Materials Research Society; 1986 December 2-7; Boston, Massachusetts.
198. *Atomic-resolution electron microscopy of surfaces and interfaces in semiconductors*. Workshop on New Developments in Surface Analysis; 1986 September 25, American Vacuum Society; Malibu, California.
199. *Ultra-high-vacuum, high-resolution transmission electron microscopy at 400 kV.* 44th Annual Meeting of the Electron Microscopy Society of America; 1986 August 10-15; Albuquerque, New Mexico.
200. *Achieving atomic resolution in the transmission electron microscope.* 44th Annual Meeting of the Electron Microscopy Society of America; 1986 August 10-15; Albuquerque, New Mexico.
201. *Applications of high-resolution electron microscopy to the study of semiconductor heterojunctions.* Workshop on Vacuum Science and Technology, American Vacuum Society; 1986 June 9-11; Nashua, New Hampshire.
202. *Applications of high-resolution electron microscopy to the study of surfaces and interfaces in semiconductors.* 8th Surface/Interface Research Meeting, Northern California Chapter of the American Vacuum Society; 1986 May 29; Stanford, California.
203. *Direct observation of superlattice structures by high-resolution electron microscopy.* III-V Superlattice Workshop; 1986 May 5; Palo Alto, California.
204. *Achieving atomic resolution in the electron microscope.* Symposium on Materials Characterization, Spring Meeting of the Materials Research Society; 1986 April 16-17; Palo Alto, California.
205. *Atomic resolution electron microscopy of crystalline solids.* Annual Meeting of the New England Society for Electron Microscopy; 1985 December 4; Boston, Massachusetts.
206. *Atomic arrangement at semiconductor heterojunction interfaces.* Symposium on Materials Problem Solving with the Transmission Electron Microscope. Fall Meeting of the Materials Research Society; 1985 December 2-7; Boston, MA.
207. *Structure of thin films and interfaces in semiconductor heteroepitaxy.* Annual Meeting of the Southern California Crystal Growers Association; 1985 August 27; Los Angeles, California.
208. *Lattice imaging of misfit dislocations in semiconductor heteroepitaxy.* 8th Conference on Crystal Growth of the American Association on Crystal Growth; 1985 June 4-7; Fallen Leaf Lake, California.
209. *Structure of microdefects in crystalline semiconducting materials.* 4th International Conference on Microscopy of Semiconducting Materials; Oxford, England; 25-27 March 1985.
210. *Simultaneous structural and chemical characterization using high spatial resolution electron microscopy techniques.* SPIE Conference on Spectroscopic Techniques for Semiconductor Technology; Los Angeles; 21-22 January 1985.
211. *HREM of defects and interfaces in semiconductor materials.* Northern California Crystal Growth Association Meeting; San Jose, California; 18 October 1984.
212. *Direct observation of the structure of interfaces using atomic-resolution electron microscopy.* 1st International Conference on the Structure of Surfaces (ICSOS—1); Berkeley, California; 13—16 August 1984.
213. *TEM imaging of the atomic structure of the silicon/insulator interfaces.* Gordon Research Conference of Metal-Insulator-Semiconductor Systems; Tilton, New Hampshire; 16 July 1984.
214. *High resolution TEM of microdefects in semiconductors.* Electronic Materials Conference; Santa Barbara, California; 20 June 1984.

215. *Direct observation of the atomic structure of semiconductor materials.* Workshop on Advanced Analytical Techniques, California Institute of Technology; Pasadena, California; 9 -11 May 1984.
216. *Structure of lattice defects in semi-insulating LEC GaAs.* 3rd International Conference on Semi-Insulating III-V Materials, Warm Springs, Oregon, 24-26 April 1984.
217. *Atomic resolution imaging of defects and interfaces.* Physics Colloquium, University of Wisconsin, 13 April 1984.
218. *Atomic structure at semiconductor interfaces.* 30th National Vacuum Symposium of the American Vacuum Society; Boston, MA; 1-4 November 1983.
219. *Lattice imaging of defects and interfaces in semiconductor materials.* American Association of Crystal Growth Conference; Lake Tahoe, California; 1-3 June 1983.
220. *Direct observation of the lattice structure of defects and interfaces in semiconductors.* Symposium on Contemporary Electron Microscopy; Santa Barbara, California; 2 May 1983.
221. *Lattice mismatch and misfit dislocations in semiconductor heteroepitaxy*. Condensed Matter Seminar, Max Planck Institute, Stuttgart, Germany; 19 March 1983.
222. *Lattice mismatch and misfit dislocations in semiconductor heteroepitaxy.* International Conference on Properties and Structure of Dislocations in Semiconductors; Aussois, France; 7–11 March 1983.
223. *Applications of high-resolution electron microscopy to the study of electronic materials.* 1983 Stanford Symposium on Applications of Contemporary Electron Microscopy; Stanford; California; 24 February 1983.
224. *Imaging of interfaces in semiconductor materials using high resolution transmission microscopy.* Workshop on Imaging and Microanalysis with High Spatial Resolution, Castle Hot Springs, Arizona: 5-9 January, 1982.
225. *Atomic arrangement at the CdTe/TeO_2 interface.* U. S. Workshop on the Physics and Chemistry of Mercury Cadmium Telluride; October 1981; Minneapolis, Minnesota.